



229TH MEETING

AMERICAN ASTRONOMICAL SOCIETY
GRAPEVINE, TX • 3-7 JANUARY 2017

IN CONJUNCTION WITH:

with High Energy Astrophysics Division (HEAD)
and Historical Astronomy Division (HAD)

pubs.acs.org/acsearthspacechem

ACS
EARTH
AND
SPACE
CHEMISTRY

GET READY FOR

LIFT-OFF

Submit your out-of-this-world research today!



ACS Publications
Most Trusted. Most Cited. Most Read.

229th Meeting of the
American Astronomical Society
with High Energy Astrophysics Division (HEAD)
and Historical Astronomy Division (HAD)

3 - 7 January 2017 | Grapevine, TX

Session Numbering Key

- 100s Wednesday
- 200s Thursday
- 300s Friday
- 400s Saturday

Sessions are numbered in the Program Book by day and time.

Changes after 7 December are included only in the online program and mobile app.



Follow us on Twitter
@aas_office
#aas229

OFFICERS & COUNCILORS	2
MAYOR WELCOME LETTER	3
ATTENDEE SERVICES	4
MEETING FLOOR PLANS	5
SPONSORS	7
SPONSORS BIO	8
EXHIBIT FLOOR PLAN	11
EXHIBITORS.....	12
RODGER DOXSEY PRIZE	16
MEETING ETIQUETTE	18
SCHEDULE AT-A-GLANCE	24
MONDAY.....	38
TUESDAY	39
WEDNESDAY	46
THURSDAY.....	116
FRIDAY	183
SATURDAY	250
AUTHORS INDEX	286

AAS OFFICERS & COUNCILORS

Officers

President (2016-2018)

Christine Jones, Harvard-Smithsonian, CfA

Past President (2016-2017)

C. Megan Urry, Yale University

Senior Vice-President (2014-2017)

Jack O. Burns, University of Colorado

Second Vice-President (2015-2018)

Chick Woodward, University of Minnesota

Third Vice-President (2016-2019)

James D. Lowenthal, Smith College

Treasurer (2014-2017)

Nancy D. Morrison, University of Toledo

Secretary (2010-2017)

G. Fritz Benedict, University of Texas, Austin

Publications Board Chair (2016-2020)

Tim Bastian, NRAO

Education Officer (2015-2018)

Charles Liu, CUNY College of Staten Island

Executive Officer (2006-Present)

Kevin B. Marvel, American Astronomical Society

Councilors

2014-2017

Kelly Holley-Bockelmann, Vanderbilt University

Buell T. Jannuzi, Steward Observatory

Stephen Unwin, Jet Propulsion Laboratory

2015-2018

Daniela Calzetti, University of Massachusetts

Sally Oey, University of Michigan

Nancy Chanover, New Mexico State University

2016-2019

Adam Burgasser, UC San Diego

Jenny E. Greene, Princeton University

Jessica Kirkpatrick, Hired Inc.

WELCOME LETTER FROM MAYOR



January 3, 2017

Dear American Astronomical Society attendees:

On behalf of the City Council and the citizens of Grapevine, I am pleased to officially welcome you to our city and express our support for the **229th American Astronomical Society Meeting** at the **Gaylord Texan Resort, January 3-7.**

Grapevine is honored to serve as your convention destination. We trust that your stay with us will be enjoyable and memorable.

In Grapevine, visitors and locals alike find a sophisticated charm and convenient escape from the big city. During your free time, you are sure to enjoy Historic Downtown Grapevine with over 80 unique boutiques, galleries, the Urban Wine Trail and restaurants. When you add the Grapevine Vintage Railroad, Grapevine Mills, the LEGOLAND® Discovery Center DFW, the SEA LIFE Grapevine Aquarium, Bass Pro Shops Outdoor World, 81 holes of golf and 8,000 acres of beautiful Lake Grapevine scenery, you have the ideal location! Most of all, our friendly community allows you to feel at home.

We invite you to return to Grapevine throughout the year to take advantage of our many exciting and award-winning events including Main Street Fest, GrapeFest® and the Christmas Capital of Texas®. Please be sure to visit **www.GrapevineTexasUSA.com** for detailed information.

Enjoy your convention. May it be productive and successful.

Sincerely,



A handwritten signature in black ink, which appears to read "William D. Tate".

William D. Tate
Mayor of Grapevine

WDT:mrh



ATTENDEE SERVICES

Wear your badge at all times during the meeting. Attendees who do not have their name badges on will be denied entrance to meeting rooms, the exhibit hall, etc. Please do not leave personal items unattended. The AAS is not responsible for lost or stolen property.

Registration

Texas Ballroom Foyer

Tuesday: 1:00 pm - 8:00 pm

Wednesday: 7:30 am - 5:00 pm

Thursday & Friday: 8:00 am - 5:00 pm

Saturday: 8:00 am - 12:00 pm

Exhibit Hall

Longhorn Exhibit Hall D

Tuesday Evening: 7:00 pm - 9:00 pm

Wednesday - Friday: 9:00 am - 6:30 pm

Saturday: 9:00 am - 2:00 pm

Exhibit Hall Events

- **Opening Reception**
Tuesday: 7:00 pm - 9:00 pm
- **Morning Coffee Breaks**
Wednesday - Saturday:
9:30 am - 10:00 am
- **Poster Sessions**
Wednesday - Friday:
5:30 pm - 6:30 pm with cash bar
Saturday: 1:00 pm - 2:00 pm
*Posters not removed by closing
time each day will be recycled.*

Speaker Ready Room

Austin 1

Tuesday: 3:00 pm - 5:00 pm

Wednesday - Friday: 7:30 am - 4:00 pm

Saturday: 7:30 am - 2:00 pm

Donor and Sponsor Lounge

Attendance by Invitation Only

Austin 4

Wednesday - Friday: 7:30 am - 5:30 pm

Saturday: 7:30 am - 5:30 pm

Shuttle Information

Complimentary shuttle provided by AAS:

Destinations

Downtown Grapevine and
Tate Avenue/Highway 114

Hours of Operation

All hours listed are for
Wednesday - Friday

- **Downtown Grapevine Shuttle**

Shuttle # 1

6:00 pm - 12:00 am depart Gaylord Tour
Bus Lobby :00 and :30 each hour

Shuttle # 2

6:00 pm - 10:00 pm depart Gaylord Tour
Bus Lobby :15 and :45 each hour

- **Tate Avenue/Highway 114 Shuttle**

6:00 pm - 10:00 pm depart Gaylord Tour
Bus Lobby :00 and :30 each hour

Shuttle provided by Grapevine Convention and Visitors Bureau:

*Passes and additional information can
be found at the Gaylord Texan Resort
Tour Lobby*

Destinations

Grapevine Mills, Historic Downtown
Grapevine, and Grapevine Towne Center

Fees

Individual Day Pass: \$5 or Family Day
Pass: \$10 (up to 2 adults and their
children 18 and under)

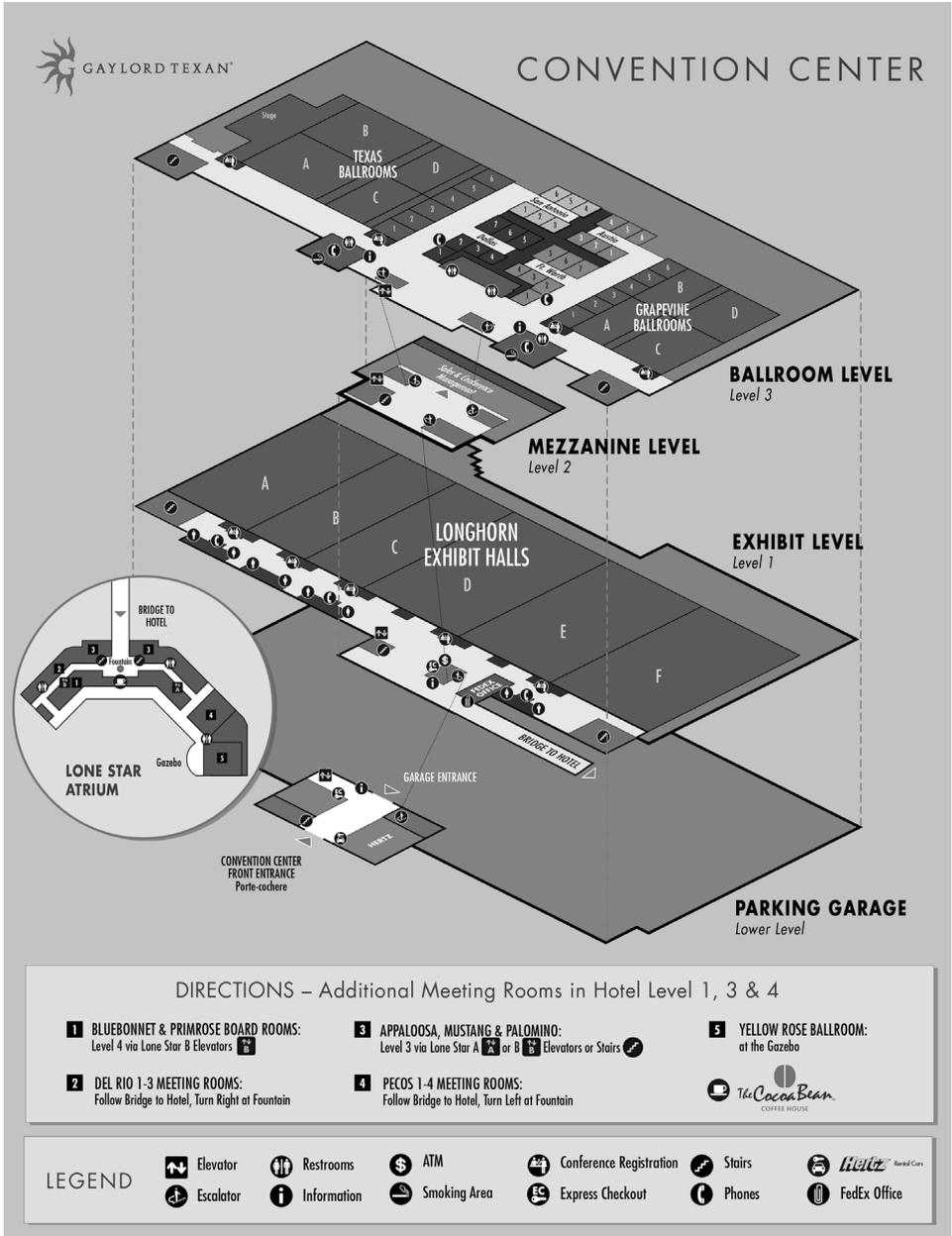
Hours of Operation

Sunday: 11:00 am - 7:00 pm

Monday - Thursday: 3:00 pm - 11:00 pm

Friday & Saturday: 10:00 am - 11:00 pm

MEETING FLOOR PLAN



SPONSORS

PLATINUM SPONSOR



THE VALUE OF PERFORMANCE.

NORTHROP GRUMMAN

GOLD SPONSORS

nature
astronomy

SILVER SPONSORS



BRONZE SPONSORS



CONTRIBUTORS



SOCIETY PARTNERS

IOP Publishing



SPONSORS BIOS

We would like to thank our Platinum and Gold sponsors for their generous support of the 229th AAS meeting.

AAS Publishing

The American Astronomical Society (AAS) is committed to enhancing and sharing humanity's scientific understanding of the universe. Our publishing arm provides researchers with the opportunity to communicate their work worldwide, supported by an established set of journals (The Astronomical Journal, The Astrophysical Journal, The Astrophysical Journal Letters and The Astrophysical Journal Supplement Series) and the ground breaking AAS-IOP ebooks program.

We go beyond traditional publishing, developing resources such as the astronomy image explorer, interactive figures in our journals, and AAS Nova, and supporting community initiatives including the World Wide Telescope, astrobits and the Unified Astronomy Thesaurus.

Research is welcomed from the full spectrum of astronomy and astrophysics, including but not limited to planetary research, cosmology, stellar physics, solar physics, astrobiology, exoplanets and interstellar matter.

Visit us at booth 317 to discover how we can communicate your work to the world.

AAS IOP ebooks

The new AAS-IOP ebook collection is the official book program of the American Astronomical Society (AAS). Combining the award-winning IOP ebooks™ program with the vast experience of the AAS allows community experts to explore and share in depth the most fascinating areas of astronomy, astrophysics and planetary science. The series includes publications in the following topics:

- Galaxies and cosmology
- Interstellar matter and the local universe
- High-energy phenomena and fundamental physics
- The sun and the heliosphere
- Stars and stellar physics
- Instrumentation, software, laboratory astrophysics, and data
- Planetary systems, exoplanets and astrobiology
- Education, outreach and heritage

For more information on AAS-IOP ebooks, including forthcoming titles, details on the digital publishing capabilities, including interactive figures and data visualizations, or how to get published in this exciting collection visit iopscience.org/books/aas or email us at aas.ebooks@iop.org

Northrop Grumman

Northrop Grumman is a leading global security company providing innovative systems, products and solutions in unmanned systems, cyber, C4ISR, and logistics and modernization to government and commercial customers worldwide. We pride ourselves on partnering with NASA and the scientific community to build sophisticated space-based telescopes, like NASA's James Webb Telescope, NASA's Chandra X-ray Observatory and other innovations. Over the past 30 years, we have enabled tremendous discoveries and we are now working on the next generation of astrophysics platforms. These platforms will make use of novel and evolvable technologies to support future large aperture space innovations. Please visit www.northropgrumman.com for more information.

Nature Astronomy

Astronomy is arguably the oldest science, and has featured strongly throughout the history of Nature — the first quasar, the first exoplanet, the nature of spiral nebulae, to name but a few of the advances reported in its pages. The launch of Nature Astronomy now enables much expanded coverage of the modern discipline: the journal welcomes research across astronomy, astrophysics and planetary science, with the aim of fostering closer interaction between the researchers in each of these areas.

Like all Nature-branded journals, Nature Astronomy is characterized by a dedicated team of professional editors, a fair and rigorous peer-review process, high standards of copy-editing and production, swift publication and editorial independence.

Publishing online monthly, Nature Astronomy offers a range of content types including original research, Review Articles, Perspectives, Comments, News & Views and Research Highlights. We do not charge for publication, and we encourage authors to post their papers on preprint servers, for example arXiv, at any point during the submission process.

For more information, please visit our website: www.nature.com/natureastronomy

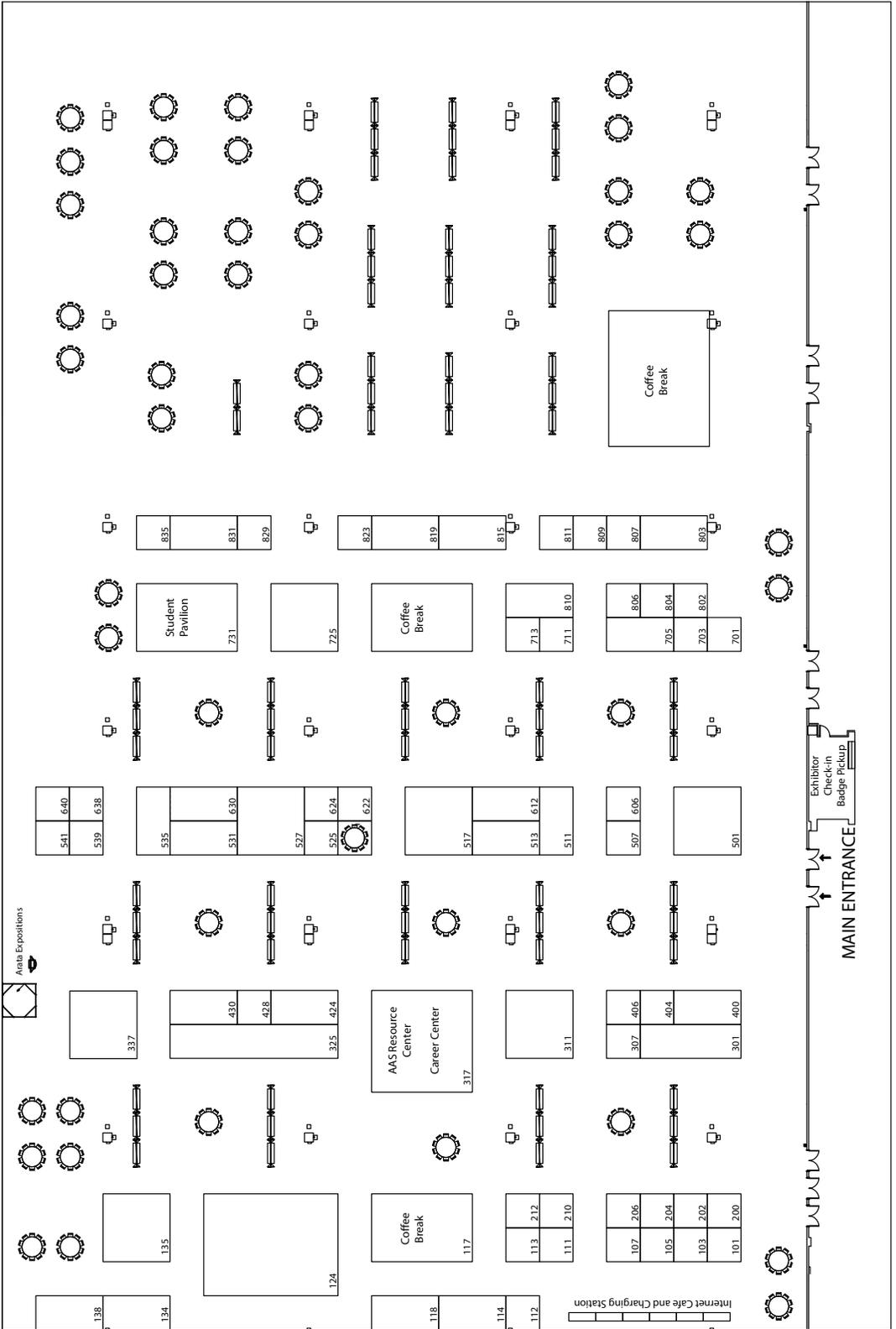
SPONSORED ACTIVITIES

Speaker Ready Room & Laser Pointer AAS Publishing	Badge Holders & Lanyards Ball Aerospace
Poster Sessions AAS IOP ebooks	Career Networking and Job Fair Capital One
Internet Cafe and Charging Stations Northrop Grumman	Press Office USRA
Hack Day Northrop Grumman	Hotel Key Cards Astro Haven Enterprises
Tote Bags Nature Astronomy	Wednesday Morning Coffee Break University of Texas at Arlington
Program Booklet SBIG Imaging Systems	Student Pavilion AURA
Student Education and Public Outreach Event Associated Universities, Inc.	Mobile Device Charging Station Teledyne Imaging Sensors, GMTO Corporation, DFM Engineering

STUDENT ORIENTATION RECEPTION AND PAVILION ORGANIZATIONS

AAS - Committee for Sexual-Orientation & Gender Minorities in Astronomy - SGMA	National Radio Astronomy Observatory - NRAO	University of Arizona, Steward Observatory
AAS - Committee on the Status of Minorities in Astronomy	New Mexico Institute of Mining & Technology	University of California Berkeley
Arizona State University	New Mexico State University	University of Colorado
Astrobites	Northwestern University / CIERA	University of Denver
Boston University	Pennsylvania State University	University of Hawaii
Brigham Young University	Princeton University	University of Illinois
Caltech	Rutgers, The State University of New Jersey	University of Kansas
Columbia University	San Diego State University	University of Maryland, College Park
Embry-Riddle Aeronautical University	Society of Physics Students	University of Massachusetts, Amherst
Georgia State University	Texas A&M University	University of Michigan
Harvard University	Texas Christian University	University of Oklahoma
Indiana University	Texas Tech University	University of Texas, Austin
Institute for Research on Exoplanets - IREx	The George Washington University	University of Utah
Johns Hopkins University	The University of Chicago	University of Virginia
Maria Mitchell Observatory	The University of Texas at Dallas	University of Wisconsin, Madison
		University of Wyoming
		Yale University

EXHIBIT HALL FLOOR PLAN



EXHIBITORS (ALPHABETICALLY)

Booth Name	Booth #
ALPAO	107
American Astronomical Society and AAS Publishing	317
American Institute of Physics & GradSchoolShopper	831
Andor	307
Arecibo Observatory	525
Associated Universities, Inc.	511
Astro Haven Enterprises	311
ASTRON	810
Astronomy@UNT	105
Astrophysics Data System	711
Association of Universities for Research in Astronomy - AURA	622
Ball Aerospace	501
Cambridge University Press	204
Centre de Données astronomiques de Strasbourg - CDS	713
Chandra X-ray Center	815
DFM Engineering, Inc.	606
Digitalis	725
e2v	806
Eureka Scientific	703
Finger Lakes Instrumentation	206
Frontiers	835
Gemini Observatory	531
GMTO Corporation	400
Green Bank Observatory	612
IAU General Assembly 2018 Vienna	112
IOP Publishing	424
Infrared Processing and Analysis Center - IPAC	337
KiwiStar Optics	103
Large Binocular Telescope Observatory	118
Las Cumbres Observatory	210
Long Baseline Observatory	513
Large Synoptic Survey Telescope - LSST	535
My Cuba Astronomical Foundation	809
NANOGrav Physics Frontiers Center	638
NASA Science Mission Directorate	124

Booth Name	Booth #
NASA SOFIA	430
NASA's High Energy Observatories: Fermi, NuSTAR and SWIFT	135
National Optical Astronomy Observatory	630
National Radio Astronomy Observatory	517
National Solar Observatory	624
NExSci / Kepler/ K2	138
Northrop Grumman	301
National Science Foundation - NSF	527
OmniGlobe	111
Oxford University Press	202
PlaneWave Instruments	802
Princeton University Press	200
SBIG Imaging Systems	404
SCHOTT	134
SciServer	829
SETI Institute	807
Sloan Digital Sky Survey	819
Space Science Institute	428
Space Telescope Science Institute	325
SPIE - The International Society for Optics and Photonics	701
Springer Nature	705
Square Kilometre Array	811
STARtorialist	803
Submillimeter Array	804
Teledyne Imaging Sensors	212
The Big Eclipse	SHARED BOOK EXHIBIT
The National Academies of Sciences, Engineering, and Medicine	113
Thirty Meter Telescope - TMT	823
University of Arizona Press	SHARED BOOK EXHIBIT
University of Hawaii Pan-STARRS	114
University of Texas at Arlington Planetarium	406
Universities Space Research Association - USRA	507
W. W. Norton	101
Woodland Hills Cameras and Telescopes	539

EXHIBITORS (BY BOOTH NUMBER)

Booth #	Booth Name
111	OmniGlobe
101	W. W. Norton
103	KiwiStar Optics
105	Astronomy@UNT
107	ALPAO
112	IAU General Assembly 2018 Vienna
113	The National Academies of Sciences, Engineering, and Medicine
114	University of Hawaii Pan-STARRS
118	Large Binocular Telescope Observatory
124	NASA Science Mission Directorate
134	SCHOTT
135	NASA's High Energy Observatories: Fermi, NuSTAR and SWIFT
138	NExScI / Kepler/ K2
200	Princeton University Press
202	Oxford University Press
204	Cambridge University Press
206	Finger Lakes Instrumentation
210	Las Cumbres Observatory
212	Teledyne Imaging Sensors
301	Northrop Grumman
307	Andor
311	Astro Haven Enterprises
317	American Astronomical Society and AAS Publishing
325	Space Telescope Science Institute
337	Infrared Processing and Analysis Center - IPAC
400	GMTO Corporation
404	SBIG Imaging Systems
406	University of Texas at Arlington Planetarium
424	IOP Publishing
428	Space Science Institute
430	NASA SOFIA
501	Ball Aerospace
507	Universities Space Research Association - USRA
511	Associated Universities, Inc.

Booth #	Booth Name
513	Long Baseline Observatory
517	National Radio Astronomy Observatory
525	Arecibo Observatory
527	National Science Foundation - NSF
531	Gemini Observatory
535	Large Synoptic Survey Telescope - LSST
539	Woodland Hills Cameras and Telescopes
606	DFM Engineering, Inc.
612	Green Bank Observatory
622	Association of Universities for Research in Astronomy - AURA
624	National Solar Observatory
630	National Optical Astronomy Observatory
638	NANOGrav Physics Frontiers Center
701	SPIE - The International Society for Optics and Photonics
703	Eureka Scientific
705	Springer Nature
711	Astrophysics Data System
713	Centre de Données astronomiques de Strasbourg - CDS
725	Digitalis
802	PlaneWave Instruments
803	STARtorialist
804	Submillimeter Array
806	e2v
807	SETI Institute
809	My Cuba Astronomical Foundation
810	ASTRON
811	Square Kilometre Array
815	Chandra X-ray Center
819	Sloan Digital Sky Survey
823	Thirty Meter Telescope - TMT
829	SciServer
831	American Institute of Physics & GradSchoolShopper
835	Frontiers
SHARED BOOK EXHIBIT	University of Arizona Press
SHARED BOOK EXHIBIT	The Big Eclipse

RODGER DOXSEY TRAVEL PRIZE

The Rodger Doxsey Travel Prize, established through the support of his father, John Doxsey, and other friends, family, and colleagues, provides graduate students within one year of receiving or receipt of their PhD a monetary prize to enable the oral presentation of their dissertation research at a winter AAS meeting.

WINNERS:



Vivienne Baldassare



Paige Godfrey



V. Zach Golkhou



Yanxia Li



Jingzhe Ma



Sukrit Ranjan



Anna Rosen



Arpita Roy



Allison Strom



Jacqueline Villadsen

HONORABLE MENTIONS:



Joseph Booker



Christopher Faesi



Krista Smith



Hyewon Suh



Sarah Wellons

AAS ANTI-HARASSMENT STATEMENT OF POLICY

It is the policy of the American Astronomical Society (AAS) that all participants in Society activities will enjoy an environment free from all forms of discrimination, harassment, and retaliation. As a professional society, the AAS is committed to providing an atmosphere that encourages the free expression and exchange of scientific ideas. In pursuit of that ideal, the AAS is dedicated to the philosophy of equality of opportunity and treatment for all members, regardless of gender, gender identity or expression, race, color, national or ethnic origin, religion or religious belief, age, marital status, sexual orientation, disabilities, veteran status, or any other reason not related to scientific merit. Harassment, sexual or otherwise, is a form of misconduct that undermines the integrity of Society meetings. Violators of this policy will be subject to discipline.

Any individual covered by this policy who believes that he or she has been subjected to harassment should contact the AAS Executive Officer at kevin.marvel@aaas.org / 202-688-1993 or other Society Officer.

Full the full AAS Anti-Harassment Statement, please visit <http://aaas.org/policies/anti-harassment-policy>

A GUIDE TO AAS MEETING ETIQUETTE

AAS meetings are the largest and most logistically complex astronomy meetings in the world. We ask all attendees to work together to enhance the value of the meetings by keeping in mind the following points.

Executive Summary

- Do wear your AAS identification badge at all times during the meeting.
- Do obey the “golden rule,” i.e., treat others as you would have them treat you.
- Do not hog wireless bandwidth; use the AAS wireless service sparingly.
- Do be quiet during presentations; use computers and mobile devices discreetly.
- Do silence all cell phones and other electronic devices with audible alerts.
- Do not blog, tweet, or otherwise post private conversations online.
- Do not panic if reporters attend your talk on results under journal embargo.
- Do pick up after yourself by depositing trash in the appropriate receptacles.

General Considerations

Meetings of the American Astronomical Society are not public events. All attendees must register at the applicable rate; registration types are structured to cover all situations. The only exceptions involve sessions or other activities specifically noted as being open to the public, such as public talks or star parties held in collaboration with local amateur astronomers.

Identification badges must be worn at all times during the meeting. These badges help meeting attendees, AAS staff, and security personnel identify registered participants. Attendees not wearing their name badges will be denied entrance to session rooms, the exhibit hall, and other meeting venues. If you lose your name badge, visit the AAS registration desk to obtain a new one. Note that the design of AAS meeting badges changes regularly to prevent the inappropriate reuse of old badges.

Attendance at AAS meetings is not a right but a privilege, and attendees are expected to behave professionally. The AAS is committed to providing an atmosphere that encourages the free expression and exchange of scientific ideas. The AAS is further dedicated to the philosophy of equality of opportunity and treatment for all members and other meeting attendees, regardless of gender, race, ethnic origin, religion, age, marital status, sexual orientation, disabilities, or any other reason not related to scientific merit. It is AAS policy that all participants in Society activities will enjoy an environment free from all forms of discrimination, harassment, and retaliation. Harassment, sexual or otherwise, is a form of misconduct that undermines the integrity of Society meetings. Violators will be subject to discipline.

AAS-meeting staff are trained professionals, expert at organizing and conducting scientific meetings. They work with professional contractors who specialize in providing audio-visual and other services, and with professional hotel and convention-center staff as well. The AAS retains security services, sometimes through the meeting venue and sometimes privately, to ensure the safety and security of all meeting attendees and exhibitors. Help us ensure a safe, secure, and professional environment by acting appropriately, reporting inappropriate behavior, and paying attention to those around you and your environment.

Attendees who are notably disrespectful or who act in an unprofessional manner toward meeting staff, contractors, other attendees, or hotel or convention-center staff will be required to leave the meeting and may have their registration rescinded without refund. In extreme cases, the AAS may call law-enforcement authorities and/or pursue legal action.

Note that all sessions except those marked “private” by the AAS are open to all registered attendees, including scientists, educators, students, journalists, and guests. All are due the same level of professional respect and courtesy. Only with your help can we ensure the most productive scientific conference.

Computers & Internet Service

The AAS provides wireless Internet service throughout each meeting, but we cannot guarantee full coverage in all locations. We provide priority access in common areas, such as the Exhibit Hall, and in session rooms. This means you may experience limited connectivity in other areas. Wireless access information is printed on the back of your meeting badge. Please note that the wireless service is not encrypted.

If you do make use of wireless Internet access during a presentation, or even if you are just taking notes on your computer, please keep your activities as quiet as possible so as to minimize distractions to other attendees and the speaker. If you must use a computer during a session, please consider sitting near the back of the room so as not to distract the speaker or session chair. These same guidelines apply to mobile phones, tablets, and other electronic devices.

One of the cost drivers for meeting registration is provision of adequate bandwidth, which — believe it or not — costs tens of thousands of dollars per meeting. Excessive downloading or uploading of files, software updates, streaming video, and other bandwidth-hungry activities (e.g., gaming, exploring virtual worlds) increases the costs for all attendees. The AAS reserves the right to ban excessive users from its meeting network and to use site blocking, port blocking, and traffic shaping to ensure adequate bandwidth for all.

AAS staff monitor the network throughout the meeting and reserve the right to disconnect any device that is causing network problems or harm to other devices.

In addition to the foregoing, please follow these guidelines:

- Keep your software up to date and use a firewall and virus/spyware protection when necessary.
- No device should be running as a server for off-site clients.
- Absolutely no routers may be attached to the network without prior authorization from the AAS IT staff.
- Due to FCC regulations and physical laws, some of the available wireless spectrum can become overcrowded and temporarily unusable, which limits connectivity and download/upload speeds. We work hard to avoid this without breaking the laws set by the government or physics.
- Wireless connections will be dropped after 40 minutes of inactivity.

Mobile Phones & Related Devices

Cell phones, tablets, pagers, and similar electronic devices should be silenced. Before each session begins and before you enter an active session, please silence your cell phone and any other devices that have audible alerts. Switching phones to vibrate rather than ring is not sufficient, as the vibrations can be heard or felt by those nearby.

Do not dial or take a phone call during a session. Please exit the session room before beginning or answering a call. All modern mobile phones have caller-ID and call-back features — please make use of them.

Blogging & Tweeting

If you blog, tweet, or otherwise post near-real-time material from the meeting online, you must follow the guidelines above concerning the use of computers, tablets, mobile phones, and AAS wireless bandwidth.

Please do not publicly report private conversations — only scheduled presentations and public comments are fair game for blogging, tweeting, etc.

Remember that many presentations at AAS meetings concern work that has not yet been peer-reviewed. So think twice before posting a blog entry or tweet that is critical of such work. It is helpful to receive constructive criticism during the Q&A after your talk or while standing next to your poster, but it is hurtful to be raked over the coals online before your session is even over and with no easy way to respond.

New York Times editor Bill Keller said it well. When it comes to meetings among colleagues, he explained, “We need a zone of trust, where people can say what is on their minds without fear of having an unscripted remark or a partially baked idea zapped into cyberspace. Think of it as common courtesy.”

Sessions & Questions

If you are giving a presentation, please be sure you have read our speaker and AV instructions. All oral presentations must be uploaded to the internal network in the Speaker Ready Room. Personal laptops and USB drives will not be permitted for presentations in session rooms. We ask that you upload your presentation at least 24 hours in advance. Be sure to show up at your session on time.

The session chair is in charge of the session. He or she is empowered to stop questioning and to rearrange or otherwise adjust time slots (or not) based on tardiness or non-attendance of a scheduled speaker. The chair cannot extend talk times beyond the common limits of 10 minutes for regular contributions and 20 minutes for dissertation contributions (including time allotted for Q&A).

When asking questions of speakers please be professional, courteous, and polite. This is especially important when questioning students presenting their dissertation research.

Be considerate of other people wishing to ask questions. If you have multiple or detailed questions, speak with the presenter after the session.

Journalists & Embargoes

If your presentation covers results that have been, or will be, submitted to Nature or Science or any other journal with a strict embargo policy, be sure you understand how that policy applies to scientific meetings. No journal wishes to hinder communication between scientists. For example, both Science and Nature state explicitly that conference presentations do not violate their embargo policies.

Both journals also state that if your presentation covers work that has been, or will be, submitted to them, you should limit your interaction with reporters to clarifying the specifics of your presentation. As Science puts it, “We ask that you do not expand beyond the content of your talk or give copies of the paper, data, overheads, or slides to reporters.” That does not mean you should be rude if a reporter asks you for such materials or poses a question that you do not want to answer — just explain that your results are under embargo at Science or Nature, and the reporter will understand why you cannot be more forthcoming.

Photography & Video

Many events and presentations at AAS meetings are recorded for posterity by a Society photographer. Some sessions, and all press conferences, are videotaped and eventually posted on the AAS members website as a member benefit. Your attendance at an AAS meeting signifies your agreement to be photographed or videotaped in the course of normal meeting business. Invited and prize lecturers will be asked to sign a form for legal clarity.

If you take pictures during the meeting, please be considerate of others. Do not use a flash when taking pictures during sessions.

Eating, Drinking & Smoking

Because our meetings are so full of great content, it can be hard to find time to eat breakfast or lunch. If you must eat or drink while attending a session, please do so quietly and be sure to deposit your trash properly after the session ends. Additional cleaning services cost the AAS money and increase registration costs.

Some venues have strict policies against eating or drinking in particular areas. Meeting attendees are expected to follow these policies. Attendees may not bring their own alcoholic beverages or drink them at the meeting venue outside of areas or times when they are sold. Obviously this does not apply to bars, restaurants, or other facilities co-located with our meeting venues.

AAS meetings are strictly non-smoking, consistent with laws in the localities where we hold our conferences. When possible, smoking areas will be clearly identified.

Activities Other than Official AAS Events

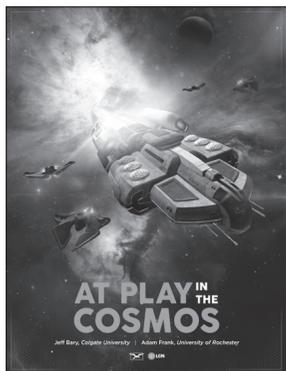
Social interactions that occur outside of official AAS activities are not sponsored by the AAS and should not be considered AAS activities. AAS’s business and social programs and activities are limited to those that are planned and officially publicized through the AAS, and the AAS is not responsible for any other activities that may take place before or after such programs and activities. Participation in any such outside activities is purely voluntary. Any such outside gatherings or events are solely the responsibility of those who decide to participate in them.

If you choose to attend any outside gathering or participate in any such non-AAS-sponsored activity, however, please be mindful that as AAS members you are still expected to uphold the same standards of personal conduct with respect to fellow members as you would at an AAS-sponsored program or activity. Please also be extremely mindful of your own safety as well as that of your colleagues at all times: if you choose to use alcohol, do so only in moderation, and keep the safety and behavior of yourself and your colleagues uppermost in your mind.

A Special Thank You To Our AAS Paper Sorters

Tri L Astraatmadja	Kathryn Grasha	Jacob Noel-Storr
Tom Armstrong	Nimish Hathi	Barry Rothberg
Gina Brissenden	Chryssa Kouveliotou	Kenneth Rumstay
James Davenport	Sebastien Lepine	Farid Salama
Dina Drozdov	Tom Montemayor	J. Allyn Smith
Lisbeth Gavilan	Huan Meng	Jason Ybarra

NEW *from* NORTON

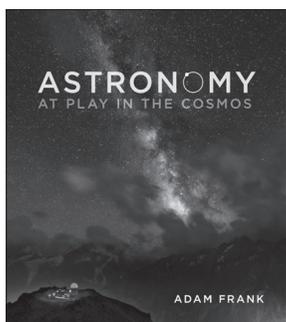


At Play in the Cosmos: The Videgame

Jeff Bary, *Colgate University* • Adam Frank, *University of Rochester* • Learning Games Network

A first-of-its-kind videogame

At Play in the Cosmos is a videogame designed to engage students taking the introductory astronomy course. In the game, students confront challenges and fly missions that span the scope of the course, from basic physics to cosmology. In each of 20 missions, students must complete an objective—fix their spaceship, find a habitable planet, pursue an alien civilization—that involves the application of knowledge acquired from their reading.



Astronomy: At Play in the Cosmos

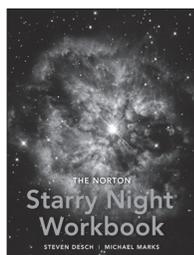
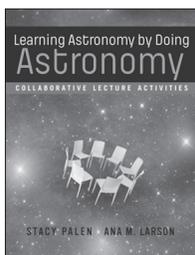
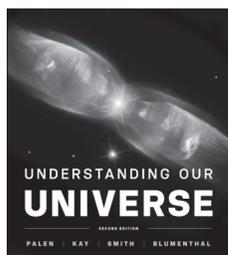
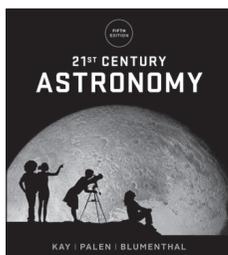
First Edition • Available now

Adam Frank, *University of Rochester*

A textbook not written like a textbook

Science is a human endeavor. Adam Frank introduces students to the people who do science, making *Astronomy: At Play in the Cosmos* unlike any other textbook. In every chapter the interviews with scientists provide a fascinating second voice that drives the narrative while making astronomy feel immediate, relevant, and real for students. The text is accompanied by an innovative ancillary package, including a videogame, interactive simulations, and Smartworks online homework.

Also available



Teach Introduction to Astronomy? Stop by booth 101 to fly a mission of *At Play in the Cosmos: The Videgame*.

SCHEDULE AT-A-GLANCE

Monday, 2 January 2017 and Tuesday, 3 January 2017

Monday, 2 January 2017	
1:00 pm	Workshop: Identifying Habitable Planets of Nearby M Dwarfs, 1:00 pm - 5:00 pm, Texas C
2:00 pm	Exoplanet Exploration Program Analysis Group 15 (day 1 of 2), 2:00 pm - 7:30 pm, Texas D
Tuesday, 3 January 2017	
8:00 am	AAS Council Meeting, 8:00 am - 5:00 pm, Yellow Rose Ballroom
	Workshop: Introduction to Software Carpentry, 8:00 am - 5:30 pm, Appaloosa 1
8:30 am	Workshop: Using Python for Astronomical Data Analysis, 8:30 am - 5:00 pm, Texas C
	Workshop: 2017 AAS Astronomy Ambassadors Workshop (day 1 of 2), 8:30 am - 6:00 pm, Appaloosa 4
	Workshop: 2017 NSF Postdoctoral Fellows Symposium, 8:30 am - 5:30 pm, Dallas 6
9:00 am	LSST AGN Science Collaboration Roadmap Development, 9:00 am - 6:00 pm, Appaloosa 2
	Exoplanet Exploration Program Analysis Group 15 (day 2 of 2), 9:00 am - 5:00 pm, Texas D
10:00 am	Workshop: The Performing Art of Science Presentation, 10:00 am - 5:00 pm, Texas 4
12:30 pm	Workshop: Impacting Broader Audiences with Your Research, 12:30 pm - 4:00 pm, Mustang 4
1:00 pm	Registration, 1:00 pm - 8:00 pm, Texas Ballroom Foyer
	Workshop: Light Pollution Solutions Communities Can Use, 1:00 pm - 5:00 pm, Mustang 6
	DIY Your Own Zooniverse Project, 1:00 pm - 3:00 pm, Mustang 2
	Workshop: ZTF Community Workshop, 1:00 pm - 5:00 pm, Mustang 3
2:30 pm	90 HAD I: The 2017 Osterbrock Prize: The Biographical Encyclopedia of Astronomers, 2:30 pm - 4:30 pm, Texas 3
3:00 pm	Speaker Ready Room, 3:00 pm - 5:00 pm, Austin 1
4:30 pm	K-12 Astronomy Educator Reception, 4:30 pm - 6:30 pm, Dallas 1
5:30 pm	Student Reception - Orientation and Grad School Fair, 5:30 pm - 7:30 pm, Texas A
6:00 pm	WG for the Preservation of Astronomical Heritage, 6:00 pm - 7:00 pm, Appaloosa 3
7:00 pm	AAS Opening Reception, 7:00 pm - 8:30 pm, Longhorn Exhibit Hall D

SCHEDULE AT-A-GLANCE

Wednesday, 4 January 2017

Wednesday, 4 January 2017		
7:30 am	Session Chair Breakfast, 7:30 am - 8:00 am, Appaloosa 4 (Invitation Only)	
	Speaker Ready Room, 7:30 am - 4:00 pm, Austin 1	
	Registration, 7:30 am - 5:00 pm, Texas Ballroom Foyer	
8:00 am	100 Plenary Session: Welcome Address by AAS President Christine Jones (Harvard-Smithsonian, CfA), 8:00 am - 8:30 am, Texas A	
8:30 am	101 Plenary Session: Kavli Foundation Lecture: Early Solar System Bombardment: Exploring the Echos of Planetary Migration and Lost Ice Giants, William Bottke (SwRI), 8:30 am - 9:20 am, Texas A	
9:00 am	Exhibit Hall, Posters & Internet Café, 9:00 am - 6:30 pm, Longhorn Exhibit Hall D	
9:30 am	Coffee Break, 9:30 am - 10:00 am, Longhorn Exhibit Hall D	
	Flexible Multi-dimensional Modeling of Complex Data in Astronomy, 9:30 am - 11:30 am, Grapevine 4	
	Workshop: Career 101: Career Planning Workshop and Panel for Graduate Students and Postdocs, 9:30 am - 11:30 am, San Antonio 1	
10:00 am	Concurrent Sessions 102 - 116, 10:00 am - 11:30 am	
	102 Star Formation I, Texas A	103 Mergers, AGN, and GRB Host Galaxies, Texas C
	104 Extrasolar Planets Detection: Transit, Texas D	105 Galaxy Clusters I, Grapevine A
	106 Ground Based and Airborne Instruments, Grapevine B	107 Black Holes I, Grapevine C
	108 HEAD I: Astronomy Across the Gravitational Spectrum, Grapevine D	109 New, Fundamental, Cutting-Edge Science from Arecibo Observatory, Texas 1
	110 Geoengineering the Atmosphere to Fight Climate Change: Should Astronomers Worry About It?, Texas 5	111 HAD II: Some Notes on the History of Infrared Astronomy from Above the Atmosphere, Texas 3
	112 The Solar System, Texas 4	113 Intergalactic Medium, QSO Absorption Line Systems, Grapevine 1
	114 Elliptical and Spiral Galaxies, Grapevine 2	115 Supernovae and Planetary Nebulae, Fort Worth 6
	116 Planetary Environments and Habitability, Dallas 6	
	AAS Astronomy Education Board Forum, 10:00 am - 11:30 am, Dallas 1	
10:15 am	Press Conference, 10:15 am - 11:15 am, Austin 5	
11:40 am	117 Plenary Session: Annie Jump Cannon Award: The Tumultuous Lives and Deaths of Stars, Laura Lopez (Ohio State University), 11:40 am - 12:30 pm, Texas A	

SCHEDULE AT-A-GLANCE

Wednesday, 4 January 2017

Wednesday, 4 January 2017 (continued)																	
12:30 pm	<p>Workshop: Introducing Current Research Into Your Classroom, 12:30 pm - 2:00 pm, Appaloosa 1</p> <p>Workshop: New Methods for Teaching About Exoplanets, 12:30 pm - 2:00 pm, Dallas 1</p>																
12:45 pm	<p>118 Town Hall: NSF Town Hall, 12:45 pm - 1:45 pm, Texas C</p> <p>119 Town Hall: HAD Town Hall, 12:45 pm - 1:45 pm, Texas 3</p> <p>Workshop: 2017 AAS Astronomy Ambassadors Workshop (day 2 of 2), 12:45 pm - 5:30 pm, Appaloosa 4</p>																
1:00 pm	Science of X-ray Surveyor, 1:00 pm - 3:30 pm, San Antonio 1																
2:00 pm	<p>Concurrent Sessions 120 - 134 , 2:00 pm - 3:30 pm</p> <table border="1"> <tr> <td>120 Extrasolar Planets: Characterization and Theory I, Texas A</td> <td>121 AGN, QSO, Blazars: Obscured, Texas C</td> </tr> <tr> <td>122 GW-SMBH-Lensing-PTA, Texas D</td> <td>123 Dwarf and Irregular Galaxies I, Grapevine A</td> </tr> <tr> <td>124 Star Associations, Star Clusters - Galactic & Extragalactic I, Grapevine B</td> <td>125 Cosmology I, Grapevine C</td> </tr> <tr> <td>126 Science with the Discovery Channel Telescope and Beyond , Grapevine D</td> <td>127 Linking the Scales of Star Formation, Texas 1</td> </tr> <tr> <td>128 Surveys and Data - Catalogs, Archives, Searched, Texas 5</td> <td>129 HAD III: History, Texas 3</td> </tr> <tr> <td>130 Variable Stars, Asteroseismology, Texas 4</td> <td>131 Cool Stars I, Grapevine 1</td> </tr> <tr> <td>132 CO-HI Observations of Galaxies, Grapevine 2</td> <td>133 Dust and Magnetic Fields, Fort Worth 6</td> </tr> <tr> <td>134 Structure of the Milky Way, and Stellar Astrometry, Dallas 6</td> <td></td> </tr> </table>	120 Extrasolar Planets: Characterization and Theory I, Texas A	121 AGN, QSO, Blazars: Obscured, Texas C	122 GW-SMBH-Lensing-PTA, Texas D	123 Dwarf and Irregular Galaxies I, Grapevine A	124 Star Associations, Star Clusters - Galactic & Extragalactic I, Grapevine B	125 Cosmology I, Grapevine C	126 Science with the Discovery Channel Telescope and Beyond , Grapevine D	127 Linking the Scales of Star Formation, Texas 1	128 Surveys and Data - Catalogs, Archives, Searched, Texas 5	129 HAD III: History, Texas 3	130 Variable Stars, Asteroseismology, Texas 4	131 Cool Stars I, Grapevine 1	132 CO-HI Observations of Galaxies, Grapevine 2	133 Dust and Magnetic Fields, Fort Worth 6	134 Structure of the Milky Way, and Stellar Astrometry, Dallas 6	
	120 Extrasolar Planets: Characterization and Theory I, Texas A	121 AGN, QSO, Blazars: Obscured, Texas C															
	122 GW-SMBH-Lensing-PTA, Texas D	123 Dwarf and Irregular Galaxies I, Grapevine A															
	124 Star Associations, Star Clusters - Galactic & Extragalactic I, Grapevine B	125 Cosmology I, Grapevine C															
	126 Science with the Discovery Channel Telescope and Beyond , Grapevine D	127 Linking the Scales of Star Formation, Texas 1															
	128 Surveys and Data - Catalogs, Archives, Searched, Texas 5	129 HAD III: History, Texas 3															
	130 Variable Stars, Asteroseismology, Texas 4	131 Cool Stars I, Grapevine 1															
	132 CO-HI Observations of Galaxies, Grapevine 2	133 Dust and Magnetic Fields, Fort Worth 6															
	134 Structure of the Milky Way, and Stellar Astrometry, Dallas 6																
	Astronomy Education in the NSF IUUSE:EHR Program, 2:00 pm - 3:30 pm, Grapevine 4																
Big Bang to Biology: What Can I Do With LUVOR?, 2:00 pm - 3:30 pm, Mustang 4																	
2:15 pm	Press Conference, 2:15 pm - 3:15 pm, Austin 5																
3:40 pm	135 Plenary Session: Henry Norris Russell Lectureship: How Stars Form, Christopher McKee (University of California, Berkeley), 3:40 pm - 4:30 pm, Texas A																
4:30 pm	136 Town Hall: Racism = Prejudice + Power: A Discussion of Racism in the Field of Astronomy, 4:30 pm - 5:30 pm, Texas A																

SCHEDULE AT-A-GLANCE

Wednesday, 4 January 2017

Wednesday, 4 January 2017 (continued)			
	<p>Evening Poster Session 137 - 157 , 5:30 pm - 6:30 pm, Longhorn Exhibit Hall D</p>		
5:30 pm	<table border="1"> <tr> <td> <p>137 New, Fundamental, Cutting-Edge Science from Arecibo Observatory Poster Session</p> <p>138 Astrobiology Poster Session</p> <p>139 Laboratory Astrophysics Poster Session</p> <p>140 Preparing for, and Engaging in, the 2017 Solar Eclipse Poster Session</p> <p>141 Relativistic Astrophysics, Gravitational Lenses, and Waves Poster Session</p> <p>142 The Milky Way, The Galactic Center Poster Session</p> <p>143 Elliptical Galaxies Poster Session</p> <p>144 Spiral Galaxies Poster Session</p> <p>145 Dwarf and Irregular Galaxies Poster Session</p> <p>146 Extrasolar Planets: Detection Poster Session</p> </td> <td> <p>147 The Solar System Poster Session</p> <p>148 Planetary Nebulae, Supernova Remnants Poster Session</p> <p>149 Gamma Ray Bursts Poster Session</p> <p>150 Intergalactic Medium, QSO Absorption Lines Poster Session</p> <p>151 Stellar Atmospheres, Winds, Be Stars, and Rayet Phenomena Poster Session</p> <p>152 Pulsating & Variable Stars Poster Session</p> <p>153 Star Formation Poster Session</p> <p>154 Stellar Evolution, Stellar Populations Poster Session</p> <p>155 Ground Based Facilities and Instrumentation Poster Session</p> <p>156 Catalogs Poster Session</p> <p>157 Societal Matters Poster Session</p> <p>158 HAD IV: Poster Session</p> </td> </tr> </table>	<p>137 New, Fundamental, Cutting-Edge Science from Arecibo Observatory Poster Session</p> <p>138 Astrobiology Poster Session</p> <p>139 Laboratory Astrophysics Poster Session</p> <p>140 Preparing for, and Engaging in, the 2017 Solar Eclipse Poster Session</p> <p>141 Relativistic Astrophysics, Gravitational Lenses, and Waves Poster Session</p> <p>142 The Milky Way, The Galactic Center Poster Session</p> <p>143 Elliptical Galaxies Poster Session</p> <p>144 Spiral Galaxies Poster Session</p> <p>145 Dwarf and Irregular Galaxies Poster Session</p> <p>146 Extrasolar Planets: Detection Poster Session</p>	<p>147 The Solar System Poster Session</p> <p>148 Planetary Nebulae, Supernova Remnants Poster Session</p> <p>149 Gamma Ray Bursts Poster Session</p> <p>150 Intergalactic Medium, QSO Absorption Lines Poster Session</p> <p>151 Stellar Atmospheres, Winds, Be Stars, and Rayet Phenomena Poster Session</p> <p>152 Pulsating & Variable Stars Poster Session</p> <p>153 Star Formation Poster Session</p> <p>154 Stellar Evolution, Stellar Populations Poster Session</p> <p>155 Ground Based Facilities and Instrumentation Poster Session</p> <p>156 Catalogs Poster Session</p> <p>157 Societal Matters Poster Session</p> <p>158 HAD IV: Poster Session</p>
<p>137 New, Fundamental, Cutting-Edge Science from Arecibo Observatory Poster Session</p> <p>138 Astrobiology Poster Session</p> <p>139 Laboratory Astrophysics Poster Session</p> <p>140 Preparing for, and Engaging in, the 2017 Solar Eclipse Poster Session</p> <p>141 Relativistic Astrophysics, Gravitational Lenses, and Waves Poster Session</p> <p>142 The Milky Way, The Galactic Center Poster Session</p> <p>143 Elliptical Galaxies Poster Session</p> <p>144 Spiral Galaxies Poster Session</p> <p>145 Dwarf and Irregular Galaxies Poster Session</p> <p>146 Extrasolar Planets: Detection Poster Session</p>	<p>147 The Solar System Poster Session</p> <p>148 Planetary Nebulae, Supernova Remnants Poster Session</p> <p>149 Gamma Ray Bursts Poster Session</p> <p>150 Intergalactic Medium, QSO Absorption Lines Poster Session</p> <p>151 Stellar Atmospheres, Winds, Be Stars, and Rayet Phenomena Poster Session</p> <p>152 Pulsating & Variable Stars Poster Session</p> <p>153 Star Formation Poster Session</p> <p>154 Stellar Evolution, Stellar Populations Poster Session</p> <p>155 Ground Based Facilities and Instrumentation Poster Session</p> <p>156 Catalogs Poster Session</p> <p>157 Societal Matters Poster Session</p> <p>158 HAD IV: Poster Session</p>		
	<p>Workshop: Career Hour 1: Leveraging Social Media for Networking and Career Advancement, 5:30 pm - 6:30 pm, San Antonio 1</p>		
6:30 pm	<p>Career Networking and Job Fair, 6:30 pm - 8:00 pm, Grapevine C</p> <p>CSMA Meet & Greet, 6:30 pm - 7:30 pm, San Antonio 5</p> <p>SPS Evening of Undergraduate Science, 6:30 pm - 8:30 pm, Yellow Rose Ballroom</p> <p>LGBTQA Networking Dinner, 6:30 pm - Meet at AAS Registration Desk</p>		
7:30 pm	<p>Science Opportunities with the NASA K2 and TESS Missions, 7:30 pm - 9:00 pm, Texas C</p> <p>159 Town Hall: LSST Town Hall, 7:30 pm - 9:00 pm, Grapevine A</p>		
8:00 pm	<p>Film Screening: StarMen, 8:00 pm - 10:00 pm, Grapevine D</p>		

SCHEDULE AT-A-GLANCE

Thursday, 5 January 2017

Thursday, 5 January 2017		
7:30 am	Speaker Ready Room, 7:30 am - 4:00 pm, Austin 1	
8:00 am	Registration, 8:00 am - 5:00 pm, Texas Ballroom Foyer	
	Session Chair Breakfast, 8:00 am - 8:30 am, Appaloosa 4 (Invitation Only)	
8:30 am	200 Plenary Session: The LED Outdoor Lighting Revolution: Opportunities, Threats and Mitigation, Martin Aubé (Cégep de Sherbrook), 8:30 am - 9:20 am, Texas A	
9:00 am	Exhibit Hall, Posters & Internet Café, 9:00 am - 6:30 pm, Longhorn Exhibit Hall D	
9:20 am	201 Plenary Session: AAS Prize Presentations: Buchalter Cosmology, Weber, George Van Biesbroeck, Tinsley, LAD Astrophysics Prize, Education, 9:20 am - 9:40 am, Texas A	
9:40 am	Coffee Break, 9:40 am - 10:00 am, Longhorn Exhibit Hall D	
10:00 am	Concurrent Sessions 202 - 216, 10:00 am - 11:30 am	
	202 Extrasolar Planets: Characterization and Theory II, Texas A	203 AGN, QSO, Blazars: Energetics and Physics, Texas C
	204 Star Formation: Galactic to Extragalactic, Texas D	205 First Galaxies and Early Universe, Grapevine A
	206 Space Missions from Cubesats to LUVOIR, Texas 5	207 Black Holes II, Grapevine C
	208 HEAD II: The Physics of the Perseus Cluster, and Other Highlights, From Hitomi, Grapevine D	209 Making Great Observations Even Better: Hubble's Hand in Studying the Multi-Wavelength Universe, Texas 1
	210 The Presidential Transition: What Can We Expect?, Grapevine B	211 The Value of Astronomical Data and Long Term Preservation, Texas 3
	212 Young Stellar Objects, Very Young Stars, T-Stars, H-H Objects, Texas 4	213 Innovations in Astronomy Teaching and Learning, Grapevine 1
	214 Galaxies at High Redshift, Grapevine 2	215 Cataclysmic Variables, Novae, and Symbiotic Stars, Forth Worth 6
	216 The Galactic Disk, Galactic Bulge, and Galactic Center, Dallas 6	
	2017 Eclipse of the Sun: Education and Outreach, 10:00 am - 11:30 am, San Antonio 1	
10:15 am	Press Conference, 10:15 am - 11:15 am, Austin 5	

SCHEDULE AT-A-GLANCE

Thursday, 5 January 2017

Thursday, 5 January 2017 (continued)		
11:40 am	217 Plenary Session: What We Don't Know About the Beginning of the Universe, Sean Carroll (Caltech), 11:40 am - 12:30 pm, Texas A	
	Education and Public Outreach Event, Student Welcome, 11:40 am - 12:10 pm, Grapevine C (followed by event in Exhibit Hall until 2:00 pm)	
12:30 pm	Workshop: Career Hour 2: Interviewing: What You Need to Do Before, During, and After to Get the Job, 12:30 pm - 1:30 pm, San Antonio 1	
	Workshop: New Methods for Teaching in the Flipped Classroom, 12:30 pm - 2:00 pm, Dallas 1	
12:45 pm	218 Town Hall: NASA Town Hall, 12:45 pm - 1:45 pm, Texas C	
2:00 pm	Concurrent Sessions 219 - 233, 2:00 pm - 3:30 pm	
	219 Extrasolar Planets: Characterization and Theory III, Texas A	220 AGN, QSO, Blazars: High Redshift, Texas C
	221 Star Associations, Star Clusters - Galactic and Extragalactic II, Texas D	222 Starburst Galaxies Near and Far, Grapevine A
	223 Surveys and Data - From the Ground, Grapevine B	224 Large Scale Structure, Cosmic Distance Scale, Grapevine C
	225 Extremes of Time Domain Astrophysics: Stellar Mergers to Black Hole Outbursts, Grapevine D	226 Science with the Hyper Suprime-Cam (HSC) Survey, Texas 1
	227 W. M. Keck Observatory: A Resource for NASA and the Entire US Community, Texas 5	228 White Dwarfs, Texas 3
	229 Star-forming Galaxies at $z \sim 2$, Texas 4	230 Cool Stars II, Grapevine 1
	231 Galaxy Clusters and Local Environment, Grapevine 2	232 Stellar Evolution, Stellar Populations, Forth Worth 6
	233 Neutron Stars (Pulsars, Magnetars, Pulsar Wind Nebulae) I, Dallas 6	
	Annual Meeting of the USVOA, 2:00 pm - 3:30 pm, Appaloosa 1	
2:15 pm	Press Conference, 2:15 pm - 3:15 pm, Austin 5	
3:40 pm	234 Plenary Session: Dannie Heineman Prize for Astrophysics: Increasing Accuracy and Increasing Tension in H_0 , Wendy Freedman (University of Chicago), 3:40 pm - 4:30 pm, Texas A	

SCHEDULE AT-A-GLANCE

Thursday, 5 January 2017

Thursday, 5 January 2017 (continued)		
4:30 pm	235 Plenary Session: HEAD Bruno Rossi Prize: A Good Hard Look at Growing Supermassive Black Holes in the Distant Universe, W. Neil Brandt (Pennsylvania State University), 4:30 pm - 5:20 pm, Texas A	
5:30 pm	Evening Poster Session 236 -250, 5:30 pm - 6:30 pm, Longhorn Exhibit Hall D	
	<table border="0"> <tr> <td style="vertical-align: top;"> <p>236 Computation, Data Handling, Image Analysis, and Light Pollution Poster Session</p> <p>237 Surveys and Large Programs Poster Session</p> <p>238 Space Missions and Instrumentation Poster Session</p> <p>239 Making Great Observatories Even Better: Hubble's Hand in Studying the Multi-wavelength Universe Poster Session</p> <p>240 Cool Stars and Others: Survey, Spectra, Rotation, Fundamentals Poster Session</p> <p>241 Young Stellar Objects, Very Young Stars, T-Stars, H-H Objects Poster Session</p> <p>242 Neutron Stars (Pulsars, Magnetars, Pulsar Wind Nebulae) Poster Session</p> </td> <td style="vertical-align: top;"> <p>243 Cataclysmic Variables, Novae, and Symbiotic Stars Poster Session</p> <p>244 White Dwarfs Poster Session</p> <p>245 Extrasolar Planets: Characterization and Theory Poster Session</p> <p>246 Large Scale Structure, Cosmic Distance Scale Poster Session</p> <p>247 Black Holes Poster Session</p> <p>248 Dark Matter & Dark Energy Poster Session</p> <p>249 Starburst Galaxies Near and Far Poster Session</p> <p>250 AGN, QSO, Blazars Poster Session</p> </td> </tr> </table>	<p>236 Computation, Data Handling, Image Analysis, and Light Pollution Poster Session</p> <p>237 Surveys and Large Programs Poster Session</p> <p>238 Space Missions and Instrumentation Poster Session</p> <p>239 Making Great Observatories Even Better: Hubble's Hand in Studying the Multi-wavelength Universe Poster Session</p> <p>240 Cool Stars and Others: Survey, Spectra, Rotation, Fundamentals Poster Session</p> <p>241 Young Stellar Objects, Very Young Stars, T-Stars, H-H Objects Poster Session</p> <p>242 Neutron Stars (Pulsars, Magnetars, Pulsar Wind Nebulae) Poster Session</p>
<p>236 Computation, Data Handling, Image Analysis, and Light Pollution Poster Session</p> <p>237 Surveys and Large Programs Poster Session</p> <p>238 Space Missions and Instrumentation Poster Session</p> <p>239 Making Great Observatories Even Better: Hubble's Hand in Studying the Multi-wavelength Universe Poster Session</p> <p>240 Cool Stars and Others: Survey, Spectra, Rotation, Fundamentals Poster Session</p> <p>241 Young Stellar Objects, Very Young Stars, T-Stars, H-H Objects Poster Session</p> <p>242 Neutron Stars (Pulsars, Magnetars, Pulsar Wind Nebulae) Poster Session</p>	<p>243 Cataclysmic Variables, Novae, and Symbiotic Stars Poster Session</p> <p>244 White Dwarfs Poster Session</p> <p>245 Extrasolar Planets: Characterization and Theory Poster Session</p> <p>246 Large Scale Structure, Cosmic Distance Scale Poster Session</p> <p>247 Black Holes Poster Session</p> <p>248 Dark Matter & Dark Energy Poster Session</p> <p>249 Starburst Galaxies Near and Far Poster Session</p> <p>250 AGN, QSO, Blazars Poster Session</p>	
6:30 pm	251 Town Hall: Proposing for the James Webb Space Telescope, 6:30 pm - 8:30 pm, Grapevine C	
	252 Town Hall: HEAD Business Meeting, 6:30 pm - 7:30 pm, San Antonio 5	
	Gemini Observatory Open House, 6:30 pm - 7:30 pm, Texas 4	
7:30 pm	AAS 40+E and Donor and Sponsor Reception, 6:30 pm - 7:30 pm, Yellow Rose Ballroom (Invitation Only)	
	GMT Open House, 7:30 pm - 9:00 pm, Grapevine A	
8:00 pm	WFIRST Status and Science Opportunities, 7:30 pm - 9:00 pm, Grapevine B	
	Open Mic Night, 8:00 pm - 9:30 pm, Texas C	

SCHEDULE AT-A-GLANCE

Friday, 6 January 2017

Friday, 6 January 2017	
7:30 am	Speaker Ready Room, 7:30 am - 4:00 pm, Austin 1
8:00 am	Registration, 8:00 am - 5:00 pm, Texas Ballroom Foyer
	Session Chair Breakfast, 8:00 am - 8:30 am, Appaloosa 4 (Invitation Only)
8:30 am	300 Plenary Session: SPD George Ellery Hale Prize: Magnetic Energy Release in Solar Flares, Terry Forbes (University of New Hampshire), 8:30 am - 9:20 am, Texas A
9:00 am	Exhibit Hall, Posters & Internet Café, 9:00 am - 6:30 pm, Longhorn Exhibit Hall D
9:30 am	Coffee Break, 9:30 am - 10:00 am, Longhorn Exhibit Hall D
	Workshop: Graduate School and Postdocs as Means to a Job, 9:30 am - 11:30 am, San Antonio 1
10:00 am	Concurrent Sessions 301 - 314, 10:00 am - 11:30 am
	301 Extrasolar Planets: Characterization and Theory IV, Texas A
	302 AGN, QSO, Blazars: Jets, Outflows, and Winds, Texas C
	303 Extrasolar Planets Detection: Imaging, Texas D
	304 Properties of Nearby Galaxies, Grapevine A
	305 Galactic Archaeology with Kepler and K2, Grapevine B
	306 Cosmology II, Grapevine C
	307 Merging Galaxies and Gravitational Waves: Mpc to mpc, Grapevine D
	308 Supernovae, Texas 1
	309 Space Missions: X-ray Instruments, Texas 3
	310 Planets and Planetesimals in Circumstellar Disks, Texas 4
311 Molecular Clouds, HII Regions, PDRs, Grapevine 1	
312 Perspectives in Research Software: Education, Funding, Reproducibility, Citation, and Impact, Grapevine 2	
313 Exploring the Optical Time Domain with the Intermediate Palomar Transient Factory, Fort Worth 6	
314 Graduate, Majors, and Gen. Ed. Astronomy Education: Research, Practice, and Funding Opportunities!, Dallas 6	
	Thirty Meter Telescope Open House, 10:00 am - 11:30 am, Yellow Rose Ballroom
	Early Science with the Large Millimeter Telescope, 10:00 am - 11:30 am, Grapevine 4
10:15 am	Press Conference, 10:15 - 11:15 am, Austin 5
11:40 am	315 Plenary Session: Newton Lacy Pierce Prize: The Chemistry of Planet Formation, Karin Öberg (Harvard-Smithsonian, CfA), 11:40 am - 12:30 pm, Texas A

SCHEDULE AT-A-GLANCE

Friday, 6 January 2017

Friday, 6 January 2017 (continued)		
12:30 pm	NASA COPAG-Far-Infrared SIG Meeting, 12:30 pm - 3:30 pm, San Antonio 1	
12:45 pm	316 Town Hall: Astro2020: The Next Decadal Survey of Astronomy and Astrophysics, 12:45 pm - 1:45 pm, Grapevine C	
	317 Town Hall: NOAO Forward, 12:45 pm - 1:45 pm, Texas C	
2:00 pm	Concurrent Sessions 318 - 330, 2:00 pm - 3:30 pm	
	318 Extrasolar Planets: Characterization and Theory V, Texas A	319 AGN, QSO, Blazars: Hosts and Interactions, Texas C
	320 Extrasolar Planets Detection: Radial Velocity I, Texas D	321 Galaxy Formation and Evolution, Grapevine A
	322 Beyond the Academy: Panel Discussion on Entering Non-Academic Careers, Grapevine B	323 Cosmic Microwave Background, Grapevine C
	324 Surveys and Data - Radio and High Energy, Grapevine D	325 The Sun , Texas 3
	326 Binary and X-ray Stellar Systems, Texas 4	327 ALMA Observations of Circumstellar Disks, Grapevine 1
	328 CubeSats in Astronomy and Astrophysics, Grapevine 2	329 Results from the New Half-Degree Imager WIYN-0.9m Telescopes, Fort Worth 6
	330 Neutron Stars (Pulsars, Magnetars, Pulsar Wind Nebulae) II, Dallas 6	
	NOAO Mini-Workshop: Mining Observatory Archives, 2:00 pm - 3:30 pm, San Antonio 4	
	Starshade Development for Direct Imaging of Exoplanets, 2:00 pm - 3:30 pm, Appaloosa 1	
2:15 pm	Press Conference, 2:15 pm - 3:15 pm, Austin 5	
3:40 pm	331 Plenary Session: Helen B. Warner Prize: Feedback: Now with Physics, Philip Hopkins (Caltech), 3:40 pm - 4:30 pm, Texas A	
4:30 pm	332 Plenary Session: Astronomy from the Upper Stratosphere: Key Discoveries and New Opportunities from High Altitude Scientific Balloons, Laura Fissel (Northwestern University), 4:30 pm - 5:20 pm, Texas A	

SCHEDULE AT-A-GLANCE

Friday, 6 January 2017

Friday, 6 January 2017 (continued)			
	<p>Evening Poster Session 333 - 348, 5:30 pm - 6:30 pm, Longhorn Exhibit Hall D</p>		
5:30 pm	<table border="1"> <tr> <td> <p>333 Astronomy Majors and Graduate Students: Curriculum and the GRE Poster Session</p> <p>334 K-12 and Citizen Science Research Collaboration Involving Scientists, Teachers, and Students Poster Session</p> <p>335 Education Resources and Projects Spanning Broad Audiences Poster Session</p> <p>336 Promoting Research, Mentorship, and Diversity for Astronomy Poster Session</p> <p>337 Gen. Ed. Astronomy (Astro 101): Courses, Classroom, Design, and Student Research Poster Session</p> <p>338 Internships, Fellowships, and Observatory Management Training for High School Students Poster Session</p> </td> <td> <p>339 The Sun Poster Session</p> <p>340 Molecular Clouds, HII Regions, Interstellar Medium, and Dust Poster Session</p> <p>341 Supernovae Poster Session</p> <p>342 Cosmology and CMB Poster Session</p> <p>343 Star Associations, Star Clusters - Galactic & Extragalactic Poster Session</p> <p>344 X-Ray & Eclipsing Binaries, Multiple Star Systems Poster Session</p> <p>345 Circumstellar and Debris Disks Poster Session</p> <p>346 Galaxy Clusters Poster Session</p> <p>347 Evolution of Galaxies Poster Session</p> <p>348 Next Generation VLA Poster Session</p> </td> </tr> </table>	<p>333 Astronomy Majors and Graduate Students: Curriculum and the GRE Poster Session</p> <p>334 K-12 and Citizen Science Research Collaboration Involving Scientists, Teachers, and Students Poster Session</p> <p>335 Education Resources and Projects Spanning Broad Audiences Poster Session</p> <p>336 Promoting Research, Mentorship, and Diversity for Astronomy Poster Session</p> <p>337 Gen. Ed. Astronomy (Astro 101): Courses, Classroom, Design, and Student Research Poster Session</p> <p>338 Internships, Fellowships, and Observatory Management Training for High School Students Poster Session</p>	<p>339 The Sun Poster Session</p> <p>340 Molecular Clouds, HII Regions, Interstellar Medium, and Dust Poster Session</p> <p>341 Supernovae Poster Session</p> <p>342 Cosmology and CMB Poster Session</p> <p>343 Star Associations, Star Clusters - Galactic & Extragalactic Poster Session</p> <p>344 X-Ray & Eclipsing Binaries, Multiple Star Systems Poster Session</p> <p>345 Circumstellar and Debris Disks Poster Session</p> <p>346 Galaxy Clusters Poster Session</p> <p>347 Evolution of Galaxies Poster Session</p> <p>348 Next Generation VLA Poster Session</p>
<p>333 Astronomy Majors and Graduate Students: Curriculum and the GRE Poster Session</p> <p>334 K-12 and Citizen Science Research Collaboration Involving Scientists, Teachers, and Students Poster Session</p> <p>335 Education Resources and Projects Spanning Broad Audiences Poster Session</p> <p>336 Promoting Research, Mentorship, and Diversity for Astronomy Poster Session</p> <p>337 Gen. Ed. Astronomy (Astro 101): Courses, Classroom, Design, and Student Research Poster Session</p> <p>338 Internships, Fellowships, and Observatory Management Training for High School Students Poster Session</p>	<p>339 The Sun Poster Session</p> <p>340 Molecular Clouds, HII Regions, Interstellar Medium, and Dust Poster Session</p> <p>341 Supernovae Poster Session</p> <p>342 Cosmology and CMB Poster Session</p> <p>343 Star Associations, Star Clusters - Galactic & Extragalactic Poster Session</p> <p>344 X-Ray & Eclipsing Binaries, Multiple Star Systems Poster Session</p> <p>345 Circumstellar and Debris Disks Poster Session</p> <p>346 Galaxy Clusters Poster Session</p> <p>347 Evolution of Galaxies Poster Session</p> <p>348 Next Generation VLA Poster Session</p>		
6:30 pm	<p>349 Town Hall: 2017 NSF Astronomy and Astrophysics Postdoctoral Fellows Showcase and Forum, 6:30 pm - 8:30 pm, Texas C</p> <p>350 Town Hall: NRAO Town Hall, 6:30 pm - 8:00 pm, Grapevine C</p> <p>CSWA Meet & Greet, 6:30 pm - 7:30 pm, Yellow Rose Ballroom</p> <p>Opportunities for Time Domain Science with LCOGT: Preparing for the LSST Era, 6:30 pm - 8:00 pm, Grapevine 2</p> <p>AAS Agent's Reception, 6:30 pm - 7:30 pm, Fort Worth 5 (Invitation Only)</p>		

SCHEDULE AT-A-GLANCE

Saturday, 7 January 2017

Saturday, 7 January 2017		
7:30 am	Speaker Ready Room, 7:30 am - 2:00 pm, Austin 1	
8:00 am	Registration, 8:00 am - 12:00 pm, Texas Ballroom Foyer	
	Session Chair Breakfast, 8:00 am - 8:30 am, Appaloosa 4 (Invitation Only)	
8:30 am	400 Plenary Session: Lancelot M. Berkeley Prize: Exploring for Galaxies in the First Billion Years with Hubble and Spitzer - Pathfinding for JWST, Garth Illingworth (UC Santa Cruz), 8:30 am - 9:20 am, Texas A	
9:00 am	Exhibit Hall, Late Posters & Internet Café, 9:00 am - 2:00 pm, Longhorn Exhibit Hall D	
9:30 am	Coffee Break, 9:30 am - 10:00 am, Longhorn Exhibit Hall D	
10:00 am	Concurrent Sessions 401 - 411, 10:00 am - 11:30 am	
	401 Extrasolar Planets: Characterization and Theory VI, Texas A	402 AGN, QSO, Blazars: X-rays and Gamma Rays, Texas C
	403 Extrasolar Planets Detection: Radial Velocity II, Texas D	404 Galaxy Clusters II, Grapevine A
	405 NASA's 2020 Decadal Studies: An Update, Grapevine B	406 Cosmology III, Grapevine C
	407 GW-Stellar Mass BH, Grapevine D	408 The Coolest Stars and Brown Dwarfs, Grapevine 1
	409 Statistical, Mathematical and Computational Methods for Astronomy (ASTRO): SAMSI 2016-17, Grapevine 2	410 Supernovae and Remnants, Fort Worth 6
	411 Astronomy Education Across the Human Continuum: Research, Programs, Practice, and More!, Dallas 6	
	Workshop: Hack Together Day, 10:00 am - 7:00 pm, Grapevine 4	
10:15 am	Press Conference, 10:15 am - 11:15 am, Austin 5	
11:40 am	412 Plenary Session: The 21st Century: The Century of Biology on Earth and Beyond, Jill Tarter (SETI Institute), 11:40 am - 12:30 pm, Texas A	

SCHEDULE AT-A-GLANCE

Saturday, 7 January 2017

Saturday, 7 January 2017 (continued)		
	Afternoon Poster Session 424 - 440, 1:00 pm - 2:00 pm, Longhorn Exhibit Hall D	
1:00 pm	424 The Sun & Solar System Late Poster Session	432 Star Formation, Young Stars and Clusters Late Poster Session
	425 Extrasolar Planets Late Poster Session	433 Stars of Many Stripes Late Poster Session
	426 Galaxy Clusters and the IGM Late Poster Session	434 Supernovae et Multo Amplius Late Poster Session
	427 Galaxy Evolution Late Poster Session	435 The ISM, Dust and Circumstellar Disks Late Poster Session
	428 The Milky Way and Other Galaxies Late Poster Session	436 GRBs and Space Missions Late Poster Session
	429 AGN and Friends Late Poster Session	437 From the Earth, We Peer Outward...Late Poster Session
	430 Cosmology and Related Topics Late Poster Session	438 Catalogs, Surveys, Computation, etc. Late Poster Session
	431 Neutron Stars & Friends Late Poster Session	439 Education and Public Outreach Late Poster Session
	Concurrent Sessions 413 - 421, 2:00 pm - 3:30 pm	
2:00 pm	413 Extrasolar Planets: Characterization and Theory VII, Texas A	414 AGN, QSO, Blazars: Nuclear Regions, and Black Holes, Texas C
	415 Extrasolar Planets Detection: Methodology, Texas D	416 Dwarf and Irregular Galaxies II, Grapevine A
	417 Binary Stellar Systems, Grapevine B	418 Dark Matter, Dark Energy, and CMB, Grapevine C
	419 Star Formation II, Grapevine D	420 Circumstellar and Debris Disks, Grapevine 1
	421 Astronomy Picture of the Day: Creative Use in the Classroom and Beyond, Grapevine 2	
2:15 pm	Press Conference, 2:15 pm - 3:15 pm, Austin 5	
3:40 pm	422 Plenary Session: The 2017 Total Solar Eclipse: Through the Eyes of NASA, Alex Young (NASA GSFC), 3:40 pm - 4:30 pm, Texas A	
4:30 pm	423 Plenary Session: How Supermassive Black Hole Feedback Might Work, Megan Donahue (Michigan State University), 4:30 pm - 5:20 pm, Texas A	
5:30 pm	AAS Closing Reception, 5:30 pm - 6:30 pm, Grapevine C	

Save the Date

AAS FUTURE MEETINGS



**AMERICAN ASTRONOMICAL SOCIETY
AUSTIN, TEXAS • 4-8 JUNE 2017**

JW Marriott Austin

AAS 231st Meeting

7–11 January 2018

Gaylord National Resort & Convention Center
National Harbor, MD

AAS 232nd Meeting

3–7 June 2018

Sheraton Denver Downtown
Denver, CO

AAS 233rd Meeting

6–10 January 2019

Washington State Convention & Trade Center
Seattle, WA

AAS 234th Meeting

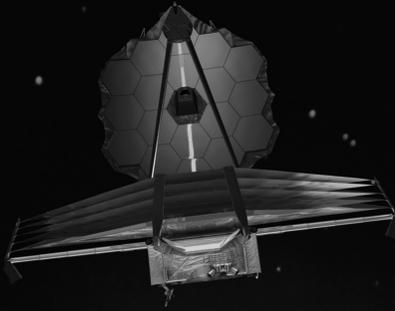
June 2019

Location TBD

AAS 235th Meeting

5–9 January 2020

Hawaii Convention Center
Honolulu, HI



UP HERE WE DON'T HEAR "NO."
WE DON'T UNDERSTAND "CAN'T,"
AND "IMPOSSIBLE" ISN'T IN OUR
VOCABULARY. UP HERE IT'S ABOUT
POSSIBILITIES. IT'S ABOUT A WORKING
LABORATORY SET TO TEMPERATURES
OF 380 DEGREES BELOW ZERO. IT'S
ABOUT A FRONT-ROW SEAT TO THE
BIRTH OF OUR UNIVERSE AND EVERY
LIFE-SUSTAINING EXOPLANET THEREAFTER.
IT'S ABOUT LOOKING UP AND KNOWING
THERE IS NO LIMIT BECAUSE IF THERE'S
ONE THING WE'VE LEARNED FROM
THE PAST, IT'S THAT WE AS HUMANS
HAVE ALWAYS UNDERESTIMATED THE
POSSIBILITIES OF THE FUTURE.
IT'S ABOUT PINPOINT PRECISION
AND THE CONFIDENCE IN KNOWING
WE'RE READY FOR THE SURPRISES
THE UNIVERSE ALWAYS PROVIDES
IN SUCH AN AMBITIOUS UNDERTAKING.
UP HERE IT'S ABOUT PERFORMANCE.

WELCOME TO OUR
NEIGHBORHOOD.

www.northropgrumman.com/space

THE VALUE OF PERFORMANCE.

NORTHROP GRUMMAN

MONDAY, 2 JANUARY 2017**Identifying Habitable Planets of Nearby M Dwarfs****Monday, 1:00 pm - 5:00 pm; Texas C**

Recent discoveries of small planets orbiting in and close to the classical habitable zones of nearby M dwarfs provide our first opportunity to search for habitability and life beyond the Solar System. In the short term, these planets will be amenable to photometric and spectral characterization with JWST and large ground-based telescopes, as well as with longer term direct imaging mission concepts such as HabEx and LUVOIR. This workshop will describe the science of planetary habitability and biosignatures as well as the photometric and spectral features that are detectable with future missions. Habitability will be considered from an interdisciplinary perspective, and will include the interaction of interiors, atmospheres, stars, orbits, and galactic effects. Biosignature discussions will encompass the range of possible biosignatures, and the framework needed to understand environmental context, potential false positives, and optimum observing strategies for the most robust detection. Modeling predictions of diagnostic photometric and spectral features will be presented, along with instrument simulations and retrievals. Discussions will be led by members of the NASA Astrobiology Institute's Virtual Planetary Lab and will include tutorials on publicly-available software and resources. Anyone interested in the theory of exoplanet evolution, planetary habitability and biosignature detection is welcome.

Organizer(s): Rory Barnes (University of Washington)**Exoplanet Exploration Program Analysis Group 15
(day 1 of 2)****Monday, 2:00 pm - 7:30 pm; Texas D**

The Exoplanet Exploration Program Analysis Group (ExoPAG) is responsible for soliciting and coordinating community input into the development and execution of NASA's Exoplanet Exploration Program (ExEP). It serves as a community-based, interdisciplinary forum for analysis in support of activity prioritization and for future exploration. It provides findings of analyses to NASA through the Astrophysics Subcommittee (APS) of the NASA Advisory Council (NAC); the ExoPAG Chair (Alan Boss) is a member of the APS.

Organizer(s): Ozhen Pananyan (JPL)

Introduction to Software Carpentry

Tuesday, 8:00 am - 5:30 pm; Appaloosa 1

Computing is now an integral part of every aspect of astronomy and astrophysics, but most scientists are never taught how to build, use, validate, and share software. As a result, many spend hours or days doing things badly that could be done well in just a few minutes. The goal of the Software Carpentry Workshop is to change that. The tools presented at this abbreviated workshop will enable astronomers to spend less time wrestling with software and more time doing useful research. Furthermore, good quality code will make their science results easier to confirm and update. The Software Carpentry Workshop at the 229th AAS consists of short tutorials alternating with hands-on practical exercises and will cover the core software skills needed to construct and use software in astronomy. The tutorials will be comprised of shell programming, basic python programming, and an introduction to version control with git. The workshop will be run by a set of certified instructors and a team of helpers. The course is aimed at astronomers at all stages of their education and careers who wish to learn computational tools to increase the reproducibility and efficiency of their work. Participants should have some knowledge of programming (not necessarily Python) and have some familiarity with the shell command line (i.e. navigating directories on the shell command line). Specific knowledge of Python and Git are not required. Participants will be required to bring laptops and to install software in advance of the workshop. A group list will be compiled approximately one month prior to the workshop to distribute software requirements and collaborative troubleshooting. Workshop participants are also encouraged to participate in the Hack Day to apply their new skills. More information on the Software Carpentry project can be found at <http://software-carpentry.org>.

Organizer(s): AAS Employment Committee (AAS)

AAS Council Meeting

Tuesday, 8:00 am - 5:00 pm; Yellow Rose Ballroom

The AAS Council is the board of directors for the AAS, which is a 501(c)3 non-profit corporation incorporated in the District of Columbia. The Council meeting, which is open to AAS members except for any executive sessions (note: limited seating is available due to space constraints), allows for routine corporate business (such as approval of prize winners and setting each year's budget) as well as discussion of current conditions in the field of astronomy and closely related sciences, setting of long-term goals, and allocation of resources to achieve these goals.

Organizer(s): Christine Jones (Harvard-Smithsonian, CfA)

TUESDAY, 3 JANUARY 2017

Using Python for Astronomical Data Analysis

Tuesday, 8:30 am - 5:00 pm; Texas C

This workshop will cover the use of Python tools for analysis of JWST data, but with broad applicability to general Optical, IR and UV data sets. The primary tools that will be covered are those available in the Astropy library and affiliated packages, many of which are developed specifically for JWST, but designed to be compatible with HST and other major mission data. The specific tools to be covered will be: * How to interact with conda and git * Physical units and quantities * Basics on accessing data files, both FITS and ascii tables * Coordinate utilities * Modeling and Fitting * Interactive visualization and analysis tools, including Glue, imexam, specviz, and photometric tools There will be time spent on hands-on exercises. Instructions on installing the necessary software will be provided before the workshop and help will be available at the workshop for those that experience problems with installations. The prerequisites are a familiarity with astronomical data analysis. Basic Python experience is highly recommended to be able to participate in the exercises. Those without Python experience will still get much useful information about the capabilities for data analysis in Python. Experience with Python scientific libraries, particularly numpy and matplotlib, is helpful, but not required.

Organizer(s): Megan Sosey (STScI)

2017 NSF Postdoctoral Fellows Symposium

Tuesday, 8:30 am - 5:30 pm; Dallas 6

This is the 16th annual meeting of the NSF Astronomy & Astrophysics Postdoctoral Fellows (AAPF). The NSF AAPF program supports young scientists who carry out an integrated program of independent research and education/public outreach. During this annual symposium, the Fellows gather to give talks on their current research and outreach projects. Several outside speakers are also invited to give keynote talks and participate in discussion panels on a range of topics such as exploring non traditional outreach methods, addressing the next big problems in astronomy, and exploring alternative careers outside of academia. This meeting provides an opportunity for the current, past, and prospective Fellows to meet and discuss their work with members of the community, learn from each other's experiences, and to foster new collaborations. All members of the astronomical community are welcome and encouraged to attend.

Organizer(s): Darcy Barron (UC San Diego)

2017 AAS Astronomy Ambassadors Workshop (day 1 of 2)

Tuesday, 8:30 am - 6:00 pm; Appaloosa 4

This 5th annual Astronomy Ambassador workshop is for early career astronomers (graduate students, post docs, young faculty) eager to put a new face on astronomy through active engagement in outreach to their communities. During the two days of active learning, you can build skills to help engage your audience in your presentations, gain insights into how people learn, and discover tested outreach resources. The workshop is free, but is limited to 30 participants by application only.

Organizer(s): Suzanne Gurton (Astronomical Society of the Pacific)

Exoplanet Exploration Program Analysis Group 15 (day 2 of 2)

Tuesday, 9:00 am - 5:00 pm; Texas D

The Exoplanet Exploration Program Analysis Group (ExoPAG) is responsible for soliciting and coordinating community input into the development and execution of NASA's Exoplanet Exploration Program (ExEP). It serves as a community-based, interdisciplinary forum for analysis in support of activity prioritization and for future exploration. It provides findings of analyses to NASA through the Astrophysics Subcommittee (APS) of the NASA Advisory Council (NAC); the ExoPAG Chair (Alan Boss) is a member of the APS.

Organizer(s): Ozhen Pananyan (JPL)

LSST AGN Science Collaboration Roadmap Development

Tuesday, 9:00 am - 6:00 pm; Appaloosa 2

The goals of the meeting are to: 1) develop a comprehensive Roadmap for the Active Galactic Nuclei (AGN) Science Collaboration of the Large Synoptic Survey Telescope (LSST), presenting a coherent vision for AGN research pre- and post-LSST commissioning, 2) form dedicated Working Groups within the Science Collaboration who will work on specific projects described by the Roadmap, 3) explore funding opportunities to support the highest-ranked projects described by the Roadmap, and 4) encourage eligible active extragalactic researchers to join the AGN Science Collaboration.

Organizer(s): Ohad Shemmer (University of North Texas)

TUESDAY, 3 JANUARY 2017

The Performing Art of Science Presentation

Tuesday, 10:00 am - 5:00 pm; Texas 4

Scientists are often so deep into their research they might forget to translate their content when speaking to audiences outside of their areas. This workshop offers specific skills from the theater to become a more engaging and memorable speaker, whether at a professional conference, public event, job talk or in the classroom. With a focus on clarifying the message, topics also include connection to audience; body language, gesture and movement; purpose and passion; structure and timing; PowerPoint use; managing stage fright; voice, speech and articulation; and how to include stories and metaphors to illuminate complex or important ideas. The goal is to become more clear, compelling and memorable, getting your research to come to life and your ideas to stick. Nancy Houfek (www.nancyhoufek.com) brings over thirty five years of working with performers and public speakers to her consulting and coaching. A stage director, award-winning actor, and nationally recognized theater educator, Nancy presents workshops combining theater, storytelling and leadership techniques for corporations, think tanks, universities, and professional organizations throughout the U.S. and Canada. This session is organized by the AAS Employment Committee.

Organizer(s): AAS Employment Committee (AAS)

Impacting Broader Audiences with your Research

Tuesday, 12:30 pm - 4:00 pm; Mustang 4

Do you want to have an impact on people's knowledge beyond the walls of the scientific research community? Do you want to communicate with broader audiences in ways that are educational and memorable? This workshop is for scientists who are interested in increasing the impacts of their science knowledge and expertise by interacting with people online, or in other venues outside of your normal work environment. Maybe you are interested in hosting webinars, running a short online course for the public, or using Facebook, Twitter or other social media to communicate science? Perhaps you are interested in setting up something for an open house, science fair, or star party? You will leave this workshop with a plan of action, and pathways to obtaining the skills, tools, partnerships and opportunities that you need to effectively implement it. In this three hour workshop you will: 1) Learn why and how people choose to, and do, learn in a variety of settings; 2) Think about and plan your goals for who you would like to impact and why; 3) Explore ways to discover if learning is taking place in these settings; and 4) Develop an implementation plan, using relevant and appropriate tools and techniques that you can put into immediate action! We are offering this workshop as a part of the NASA funded CosmoQuest project (funded in part via NASA Cooperative Agreement #NNX16AC68A)

Organizer(s): Jacob Noel-Storr (InsightSTEM)

ZTF Community Workshop

Tuesday, 1:00 pm - 5:00 pm; Mustang 3

The Zwicky Transient Facility (ZTF) is a next-generation optical time-domain survey that will run from 2017-2020 with significantly expanded capability compared to the successful Palomar Transient Factory (PTF) survey. ZTF is supported in part by the NSF MSIP program. As a part of the MSIP proposal, two public surveys---a 3-night LSST-like high latitude survey and a Galactic plane survey---were proposed. The workshop will present the instrument capabilities, details of the two surveys, and the planned data products and release schedule. In the second half of the workshop, actual and projected observing programs for PTF, ZTF, and LSST will be compared using the LSST Metrics Analysis Framework. Feedback from the workshop will help the PI team determine the final survey parameters.

Organizer(s): Eric Bellm (Caltech)

Light Pollution Solutions Communities Can Use

Tuesday, 1:00 pm - 5:00 pm; Mustang 6

A wealth of knowledge and expertise on responsible lighting and best practices exists among the astronomical community and its associates. The AAS Committee on Light Pollution, Radio Frequency Interference and Space Debris would like to host a workshop to share that knowledge with the astronomical community. The workshop will be designed to share information that people can put into practice. Jeff Hall (Director, Lowell Observatory) and Lori Allen (Director, Kitt Peak National Observatory) will help facilitate the workshop, as well as staff from the International Dark-Sky Association and Chris Monrad from Monrad Engineering. McDonald Observatory/UT Austin has also been invited. A three-part session format within a three-hour period is being considered: a plenary overview at the start, followed by breakouts at individual tables in round-robin fashion, and concluding with a panel discussion on best practices for specific themes (LED conversion, health impacts, codes). The tables would be hosted by the organizations mentioned, who would also serve on the discussion panel. The workshop will showcase successful outcomes with real “before” and “after” data and an expectation that going forward, communities can make progress in reducing light pollution. Easy to adopt “roadmaps” could be made available, as a motivator to action. This would be balanced with sanity checks on the difficulty and resources needed. As an example, McDonald Observatory had a program that acquired donations to pay for Hubbell Sky Caps and arranged for the utility company to replace several hundred units for the plastic refracting lenses on dusk-to-dawn fixtures. As another example, Lowell Observatory has been working with consultants, Monrad and Benya, to find a dark-sky-preserving solution for converting Flagstaff’s current streetlights (70% LPS, 30% HPS) to LED. The approach and solution being developed by Flagstaff is intended to be a model for picking types of LEDs best for a community.

Organizer(s): Constance Walker (NOAO)

TUESDAY, 3 JANUARY 2017

TUESDAY

DIY Your Own Zooniverse Project

Tuesday, 1:00 pm - 3:00 pm; Mustang 2

We invite all to attend this hands-on, DIY workshop to create your own Zooniverse project for free, in an afternoon. Processing our increasingly large datasets poses a bottleneck for producing real scientific outcomes. Citizen science – engaging the public in research – provides a solution, particularly when coupled with machine learning algorithms. Zooniverse is the most widely used and successful citizen science platform, with over 1.5 million volunteers worldwide and over 40 active projects across the disciplines resulting in over 100 peer-reviewed publications. Faced with a rapidly growing demand for citizen science projects, Zooniverse launched a ‘Project Builder’ which allows you, the researcher, to build your own crowd-sourced research project using the Zooniverse infrastructure and tools. Through this hands-on workshop, you will be able to build your own Zooniverse project. We will also share best practices for engaging with our Zooniverse volunteer community.

Organizer(s): Laura Trouille (Northwestern University & The Adler Planetarium)

90 HAD I: The 2017 Osterbrock Prize: The Biographical Encyclopedia of Astronomers

Tuesday, 2:30 pm - 4:30 pm; Texas 3

Chair: Jay Pasachoff (Williams College)

Jay M. Pasachoff, presentation of the Osterbrock Prize and memorial to Prof. Donald Osterbrock

90.01 Osterbrock Prize Lecture: The Coming to Be of the Biographical Encyclopedia of Astronomers

Author(s): Thomas A. Hockey¹

*Institution(s):*¹ University of Northern Iowa

90.02 Keeping the Biographical Encyclopedia of Astronomers Relevant for a Generation

Author(s): Marc Rothenberg¹

*Institution(s):*¹ Smithsonian Institution

90.03 Reading BEA II in Irvine (And Elsewhere)

Author(s): Virginia L. Trimble¹

*Institution(s):*¹ UC, Irvine

Panel Discussion

K-12 Astronomy Educator Reception

Tuesday, 4:30 pm - 6:30 pm; Dallas 1

Space is limited! Registration is required at <http://bit.ly/AAEJan17> Please join us for an opportunity for Astronomers and K12 Educators to meet and mingle in a relaxed social environment! Our K12 Educator Reception brings together Astronomy Research professionals, Astronomy Education professionals, and K12 Teachers to share the latest in research and education in astronomy ahead of the semi-annual meeting of the American Astronomical Society. Please join us to reconnect with colleagues, and to form new partnerships and contacts. Drinks and light snacks are provided! To contribute materials for teachers, or to find out about sponsorship opportunities for the event, please contact Jake Noel-Storr at jake@insightstem.com.

Organizer(s): Jacob Noel-Storr (InsightSTEM)

Student Reception - Orientation and Grad School Fair

Tuesday, 5:30 pm - 7:00 pm; Texas A

Undergraduate students, their advisors, and those interested in attracting undergraduate students to their graduate program, or undergraduate research opportunity are invited to attend this event. Members of the AAS Council and of the Astronomy Education Board will be there to meet and chat with students. For the benefit of those students attending an AAS meeting for the first time, we will explain how to get the most out of an AAS meeting and outline how the meeting works. Meet with representatives from over 40 graduate schools and research for undergraduate programs. Sign up, free of charge to all undergrads, their advisors and those offering research opportunities (or jobs) to undergraduates, through the meeting registration form. Light snacks and refreshments will be provided. This event is sponsored by the graduate and REU programs represented. Sign up to sponsor this event at aas.org/content/undergraduate-orientation-sponsorship.

WG for the Preservation of Astronomical Heritage

Tuesday, 6:00 pm - 7:00 pm; Appaloosa 3

Annual Meeting of the Working Group for the Preservation of Astronomical Heritage. All interested individuals are welcome to attend and participate in the discussion.

Organizer(s): Jennifer Bartlett (USNO)

AAS Opening Reception

Tuesday, 7:00 pm - 8:30 pm; Longhorn Exhibit Hall D

Open to all attendees and registered guests, the Opening Reception at the Gaylord Texan kicks off the 229th meeting of the American Astronomical Society.

WEDNESDAY, 4 JANUARY 2017

100 Welcome Address by AAS President Christine Jones (Harvard-Smithsonian, CfA)

Wednesday, 8:00 am - 8:30 am; Texas A

101 Plenary Session: Kavli Foundation Lecture: Early Solar System Bombardment: Exploring the Echos of Planetary Migration and Lost Ice Giants, William Bottke (SwRI)

Wednesday, 8:30 am - 9:20 am; Texas A

Chair: Christine Jones (Harvard-Smithsonian, CfA)



101.01 Early Solar System Bombardment: Exploring the Echos of Planetary Migration and Lost Ice Giants

Author(s): **William Bottke**¹

Institution(s): ¹ *Southwest Research Inst.*

Citation: For his decade of leadership in modeling the evolution of planetary bodies in the solar system. His work on the early bombardment of the solar system, the evolution of the Earth-Moon system, and planetary migration have produced important new insights into the formation and evolution of planetary systems.

Careers 101: Career Planning Workshop and Panel for Graduate Students and Postdocs

Wednesday, 9:30 am - 11:30 am; San Antonio 1

This FREE workshop and panel discussion will center on the current and expanding crisis in the job and career market for astronomers. Specifically targeted towards graduate students and Postdocs, this workshop will identify and investigate the shortage of traditional astronomy jobs, and how early-career scientists can best prepare for this challenge. Our focus will be on career planning for traditional astronomy positions. We will demonstrate how to orchestrate a personal career plan and develop a Plan B and Plan C for contingencies. We will discuss what early-career astronomers should do now to enhance their CVs and research reputations, and what they should look for in and how they can leverage a Postdoc appointment to set themselves up for success in the field. We will also discuss non-traditional jobs and career paths in astronomy, and introduce the skills that are needed to pursue these. Q and A between panelists and workshop participants will be highly encouraged. This session is organized by the AAS Employment Committee.

Organizer(s): AAS Employment Committee (AAS)

Flexible Multi-dimensional Modeling of Complex Data in Astronomy

Wednesday, 9:30 am - 11:30 am; Grapevine 4

Recent improvements in instrumentation and the data collection process across the entire electromagnetic spectrum have resulted in an increasing amount of high quality multi-wavelength observations. The analysis of these modern data sets presents several statistical challenges that require new methods and techniques to support the scientific inference. Our session will focus on the discussion of both challenges and applied methodology. We will present tutorials based on the Sherpa-Python and IRIS tools developed by the Chandra X-ray Observatory. Sherpa is a Python-based general modeling and fitting application that provides an environment for modeling multi-dimensional data with a set of optimization methods, including MCMC simulations for sampling posterior distributions. Sherpa provides flexible mechanisms for modeling Poisson (sparse) and Gaussian (rich) data with appropriate likelihoods, including both pre-defined models and an interface to incorporate user defined models (Python functions or external code). Sherpa can be used for modeling 1D, 2D, or 3D data, i.e., spectra, time-series, or images, and can be extended to spectral-timing and spatial-timing domains. An upcoming 'Sherpa to Astropy' Python package will allow users to use Sherpa's optimizers and error estimators seamlessly within the Astropy's modeling framework. Iris has been built on top of Sherpa for fitting SEDs to multi-wavelength data. Iris also provides a front-end to 'Virtual Observatory' archival catalogs that can supply the appropriate data for the modeling session. We will use IPython Notebooks to guide the participants through Sherpa-Python sessions and present a tutorial demonstration showing Iris connectivity to the archives and examples of SED modeling. We will use IPython Notebooks to guide the participants through Sherpa-Python sessions and present a tutorial demonstration showing Iris connectivity to the archives and examples of SED modeling.

Organizer(s): Giuseppina Fabbiano (Harvard-Smithsonian, CfA)

AAS Astronomy Education Board Forum

Wednesday, 10:00 am - 11:30 am; Dallas 1

The AAS Astronomy Education Board is pleased to host its annual forum for the presentation and discussion of education-related topics and issues in astronomy. This year, the forum will focus upon the just-completed report of the AAS Task Force on Education, including its recommendations to the AAS Council and the results of the Task Force's online survey of the education experiences and priorities of the astronomical community. All are welcome; please join us!

Organizer(s): Charles Liu (CUNY College of Staten Island)

WEDNESDAY, 4 JANUARY 2017

102 Star Formation I

Wednesday, 10:00 am - 11:30 am; Texas A

Chair: Volker Tolls (Harvard-Smithsonian, CfA)

102.01 Measuring Dark Molecular Gas

Author(s): **Di Li**¹, Carl E. Heiles²

*Institution(s):*¹ National Astronomical Observatories of China, ² University of California at Berkeley

102.02 Fragmentation of Filamentary Molecular Clouds Threaded by Perpendicular Magnetic Field

Author(s): **Tomoyuki Hanawa**¹, Takahiro Kudoh², Kohji Tomisaka³

*Institution(s):*¹ Chiba University, ² Nagasaki University, ³ National Astronomical Observatory Japan

102.03 Interferometric Mapping of Perseus Outflows with MASSES

Author(s): **Ian Stephens**¹, Michael Dunham², Philip C. Myers¹

*Institution(s):*¹ Harvard-Smithsonian Center for Astrophysics, ² SUNY Fredonia
Contributing team(s): the MASSES Team

102.04D Disk Masses of Class I Protostars in Taurus and Ophiuchus

Author(s): **Patrick Sheehan**¹, Joshua A. Eisner¹

*Institution(s):*¹ University of Arizona

102.05 The location, clustering, and propagation of massive star formation in giant molecular clouds

Author(s): **Bram Ochsendorf**³, Margaret Meixner², Jeremy Chastenet², A. G. G. M. Tielens¹, Julia Roman-Duval²

*Institution(s):*¹ Leiden University, ² STScI, ³ The Johns Hopkins University

102.06D The Destructive Birth of Massive Stars and Massive Star Clusters

Author(s): **Anna Rosen**³, Mark Krumholz¹, Christopher F. McKee², Richard I. Klein², Enrico Ramirez-Ruiz³

*Institution(s):*¹ Australian National University, ² University of California, Berkeley, ³ University of California, Santa Cruz

102.07 ALMA and VLA Observations of Proplyd Candidates near Sgr A*

Author(s): **Farhad Yusef-Zadeh**³, William D. Cotton⁴, Marc Royster³, Devaky Kunneriath⁴, M. Wardle², D. A Roberts³, Al Wootten⁴, R. Schoedel¹

*Institution(s):*¹ IAA, ² Macquarie University, ³ Northwestern Univ., ⁴ NRAO

103 Mergers, AGN, & GRB Host Galaxies

Wednesday, 10:00 am - 11:30 am; Texas C

Chair: Eileen Meyer (Space Telescope Science Institute)

103.01D Major mergers are not significant drivers of star formation or morphological transformation at $z \sim 2$

Author(s): Emma Lofthouse³, Sugata Kaviraj³, Christopher Conselice⁴, William Hartley¹, Alice Mortlock²

Institution(s): ¹ ETH Zurich, ² University of Edinburgh, ³ University of Hertfordshire, ⁴ University of Nottingham

103.02D Exploring Quenching, Morphological Transformation and AGN-Driven Winds with Simulations of Galaxy Evolution

Author(s): Ryan Brennan¹

Institution(s): ¹ Rutgers University

Contributing team(s): CANDELS

103.03 Signatures of AGN feedback

Author(s): Dominika Wylezalek¹, Nadia L. Zakamska¹

Institution(s): ¹ Johns Hopkins University

Contributing team(s): MaNGA-GMOS Team

103.04D Star Formation and AGN activity of X-ray selected AGN host galaxies in the Chandra-COSMOS Legacy Survey

Author(s): Hyewon Suh¹

Institution(s): ¹ Institute for Astronomy, University of Hawaii

103.05 A Curious Lack of Evolution in the LGRB Host Metallicity Distribution

Author(s): John Graham¹, Patricia Schady¹, Thomas Kruehler¹

Institution(s): ¹ Max-Planck-Institut für extraterrestrische Physik

103.06 A simple model for black hole growth

Author(s): Kevin Schawinski¹, Anna K. K. Weigel¹, Neven Caplar¹, Ivy Wong²

Institution(s): ¹ ETH Zurich, ² ICRAR/UWA

104 Extrasolar Planets Detection: Transit

Wednesday, 10:00 am - 11:30 am; Texas D

Chair: Laura Mayorga (New Mexico State University)

104.01 New Constraints on the Kepler Exomoon Population

Author(s): Alexander Teachey², David M. Kipping², Allan Schmitt¹, Gaspar Bakos³, Lars A Buchhave⁶, Guillermo Torres³, David Nesvorny⁵, Joel Hartman⁴, Chelsea Huang⁷

Institution(s): ¹ Citizen Scientist, ² Columbia University, ³ Harvard-Smithsonian CfA, ⁴ Princeton University, ⁵ Southwest Research Institute, ⁶ University of Copenhagen, ⁷ University of Toronto

WEDNESDAY, 4 JANUARY 2017

104.02 K2 Warm Jupiters with the LCOGT TECH team

Author(s): **Avi Shporer**², Daniel Bayliss⁸, Joao Bento¹, William D. Cochran¹¹, Knicole D. Colon⁷, Diana Dragomir⁶, Michael Endl¹¹, Benjamin James Fulton¹⁰, Howard T. Isaacson⁹, Enric Pallé⁴, Robert Siverd⁵, Andrew Vanderburg³, George Zhou³

Institution(s): ^{1.} Australian National University, ^{2.} Caltech, ^{3.} Harvard-Smithsonian CfA, ^{4.} Instituto de Astrofísica de Canarias, ^{5.} LCOGT, ^{6.} MIT Kavli Institute, ^{7.} NASA Ames Research Center, ^{8.} Observatoire Astronomique de l'Université de Genève, ^{9.} UC Berkeley, ^{10.} University of Hawaii, Institute for Astronomy, ^{11.} University of Texas

Contributing team(s): LCOGT TECH team

104.03 SuPerPiG's Ultra-Short-Period Planets from K2 Campaigns 6 through 8

Author(s): **Brian K. Jackson**¹, Elisabeth R. Adams², Michael Endl³

Institution(s): ^{1.} Boise State University, ^{2.} Planetary Science Institute, ^{3.} University of Texas at Austin

104.04 Variable Variability: Understanding How Stars Vary from 4 years of Kepler Data

Author(s): **David R. Ciardi**¹, Steve B. Howell²

Institution(s): ^{1.} Caltech, ^{2.} NASA Ames

104.05 The Exoplanet Migration Timescale from K2 Young Clusters

Author(s): **Aaron C Rizzuto**², Andrew Mann², Adam L. Kraus², Michael Ireland¹

Institution(s): ^{1.} Australian National University, ^{2.} University of Texas at Austin

104.06 The Zodiacal Exoplanets in Time (ZEIT) Survey

Author(s): **Andrew Mann**⁴, Eric Gaidos³, Elisabeth R. Newton², Aaron C Rizzuto⁴, Andrew Vanderburg¹, Gregory N. Mace⁴, Adam L. Kraus⁴

Institution(s): ^{1.} Harvard, ^{2.} Massachusetts Institute of Technology, ^{3.} University of Hawaii, ^{4.} University of Texas at Austin

104.07 Update on the KELT Transit Survey: Hot Planets around Hot, Bright Stars

Author(s): **B. Scott Gaudi**¹

Institution(s): ^{1.} Ohio State Univ.

Contributing team(s): The KELT Collaboration

104.08 A Search for Transits of Proxima b in MOST Photometry

Author(s): **David M. Kipping**¹

Institution(s): ^{1.} Columbia University

104.09 Mission Status for the Transiting Exoplanet Survey Satellite (TESS)

Author(s): **George R. Ricker**¹

Institution(s): ^{1.} MIT

Contributing team(s): TESS Science Team

105 Galaxy Clusters I

Wednesday, 10:00 am - 11:30 am; Grapevine A

Chair: Felipe Andrade-Santos (Harvard-Smithsonian Center for Astrophysics)

105.01 Lyman Alpha Blobs: Seeds of Galaxy Groups

Author(s): **Agnar Hall**¹, Moire Prescott¹

Institution(s): ¹ *New Mexico State University*

105.02D Observational Constraints on the Link Between the Intracluster Medium and Brightest Cluster Galaxies

Author(s): **Kevin Fogarty**¹, Marc Postman³, Megan Donahue²

Institution(s): ¹ *Johns Hopkins University*, ² *Michigan State University*, ³ *Space Telescope Science Institute*

Contributing team(s): CLASH

105.03 Galaxy group dynamics using the GAMA survey and predictions from semi-analytics and cosmological simulation.

Author(s): **Prajwal R. Kafle**¹, Aaron Robotham¹, Claudia Lagos¹, Simon P Driver¹

Institution(s): ¹ *ICRAR, University of Western Australia*

Contributing team(s): GAMA, GALFORM, EAGLE

105.04 The Cluster Environments of Quasar Groups

Author(s): **Michael West**¹, Michael Gregg³, Justin Toller²

Institution(s): ¹ *Lowell Observatory*, ² *Northern Arizona University*, ³ *University of California, Davis*

105.05D Shock Features in Merging Galaxy Clusters

Author(s): **Sarthak Dasadia**¹, Ming Sun¹, Andrea Morandi¹

Institution(s): ¹ *The University of Alabama in Huntsville*

105.06 Electron Heating at Galaxy Cluster Shocks: Measuring the Temperature of the Bullet Cluster Shock with NuSTAR

Author(s): **Daniel R. Wik**¹

Institution(s): ¹ *University of Utah*

105.07 Constraining halo energetics using Sunyaev-Zel'dovich measurements

Author(s): **Nicholas Battaglia**¹, Emmanuel Schaan¹, Simone Ferraro², David N. Spergel¹

Institution(s): ¹ *Princeton University*, ² *UC Berkeley*

106 Ground Based & Airborne Instruments

Wednesday, 10:00 am - 11:30 am; Grapevine B

Chair: Charles Bradford (Caltech/ JPL)

106.01 A new imaging technique for detecting interstellar communications

Author(s): **John Vallerga**², Barry Welsh², Marissa Kotze¹, Oswald Siegmund²

Institution(s): ¹ *South African Astronomical Observatory*, ² *University of California, Berkeley*

106.02 Science capabilities of the Maunakea Spectroscopic Explorer

Author(s): **Daniel Devost**¹, Alan McConnachie¹, Nicolas Flagey¹, Patrick Cote², Michael Balogh⁴, Simon P Driver⁵, Kim Venn³

Institution(s): ¹ *Canada-France-Hawaii Telescope*, ² *National Research Council of Canada*, ³ *University of Victoria*, ⁴ *University of Waterloo*, ⁵ *University of Westers Australia*

WEDNESDAY, 4 JANUARY 2017

106.03D FLITECAM/SOFIA Commissioning and Early Science and A Study of Late-T Dwarf Color Outliers with NIRSPEC/Keck

Author(s): Sarah E. Logsdon¹

Institution(s): ¹ University of California, Los Angeles

106.04 Update on the Commensal VLA Low-band Ionospheric and Transient Experiment (VLITE)

Author(s): Namir E. Kassim³, Tracy E. Clarke³, Paul S. Ray³, Emil Polisensky³, Wendy M. Peters³, Simona Giacintucci³, Joseph F. Helmboldt³, Scott D. Hyman⁴, Walter Brisen², Brian Hicks³, Julia S Deneva¹

Institution(s): ¹ George Mason University, resident at NRL, ² NRAO, ³ NRL, ⁴ Sweetbriar College

106.05 DEdicated MONitor of EXotransits and Transients (DEMONEXT): Low-Cost Robotic and Automated Telescope for Followup of Exoplanetary Transits and Transients

Author(s): Steven Villanueva², Jason D Eastman¹, B. Scott Gaudi², Richard W. Pogge², Keivan G. Stassun³, Mark Trueblood⁴, Patricia Trueblood⁴

Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² The Ohio State University, ³ Vanderbilt University, ⁴ Winer Observatory

107 Black Holes I

Wednesday, 10:00 am - 11:30 am; Grapevine C

Chair: David Ballantyne (Georgia Institute of Technology)

107.01D Testing SMBH scaling relations using cosmological simulations and optical/near-IR imaging data

Author(s): Burcin Mutlu Pakdil³, Marc S. Seigar⁴, Benjamin L. Davis¹, Patrick M. Treuthardt², Joel Berrier⁵

Institution(s): ¹ Centre for Astrophysics and Supercomputing, ² North Carolina Museum of Natural Sciences, ³ University of Minnesota, ⁴ University of Minnesota Duluth, ⁵ University of Nebraska at Kearney

107.02D Exploring mass-scaling physics and outflow geometry in accreting black holes

Author(s): Riley Michael Thomas Connors¹

Institution(s): ¹ Anton Pannekoek Institute, University of Amsterdam

107.03 Diagnosing the Black Hole Accretion Physics of Sgr A*: Spitzer/Chandra Observations

Author(s): Joseph L. Hora¹, Giovanni G. Fazio¹, Steven P. Willner¹, Mark A. Gurwell¹, Howard Alan Smith¹, Matthew Ashby¹, Frederick K. Baganoff³, Gunther Witzel⁶, Mark Morris⁶, Andrea M. Ghez⁶, Leo Meyer⁶, Eric E. Becklin⁴, James G. Ingalls⁵, William J. Glaccum⁵, Sean J. Carey⁵, Daryl Haggard², Daniel P. Marrone⁷, Charles F. Gammie⁸

Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² McGill University, ³ MIT, ⁴ SOFIA Science Center, ⁵ Spitzer Science Center, ⁶ UCLA, ⁷ University of Arizona, ⁸ University of Illinois

107.04 Strongly Magnetized Accretion Disks Around Black Holes

Author(s): **Greg Salvesen**², Philip J. Armitage³, Jacob B. Simon¹, Mitchell C. Begelman³

*Institution(s):*¹ Southwest Research Institute, ² University of California, Santa Barbara, ³ University of Colorado Boulder

107.05 A Black Hole Mass Measurement from Adaptive Optics Spectroscopy for the Compact Galaxy Mrk 1216

Author(s): **Jonelle Walsh**², Remco van den Bosch¹, Karl Gebhardt⁴, Akin Yildirim¹, Kayhan Gultekin³, Bernd Husemann¹, Douglas O. Richstone³

*Institution(s):*¹ Max Planck Institute for Astronomy, ² Texas A&M University, ³ University of Michigan, ⁴ University of Texas, Austin

107.06 Model for coeval growth of bulges and their seed black holes in presence of radiative feedback

Author(s): **KwangHo Park**¹, Tamara Bogdanovic¹, John Wise¹

*Institution(s):*¹ Georgia Institute of Technology

107.07 CXB and CIB joint fluctuations in COSMOS, EGS, UDS and HDFN

Author(s): **Nico Cappelluti**⁴, Yanxia Li³, Rachel Ann Cooper⁴, Joyce Guo⁴, C. Megan Urry⁴, Guenther Hasinger³, Richard G. Arendt², Alexander Kashlinsky¹

*Institution(s):*¹ NASA GSFC, ² UMBC, ³ University of Hawaii, ⁴ Yale University

108 HEAD I: Astronomy Across the Gravitational Wave Spectrum

Wednesday, 10:00 am - 11:30 am; Grapevine D

The historic detection of a pair of merging black holes by the LIGO-Virgo Scientific Collaboration marks the emergence of gravitational wave science as a bona fide field of astronomy. The detection of GW150914 represents only the beginning, both in terms of the additional events and sources that ground based detectors will uncover, as well as the other regions of the gravitational wave spectrum that will soon become accessible to astronomers. This session consists of three invited talks covering three bands of the gravitational wave spectrum. The first talk, representing the decahertz band accessible from the ground, will focus on the hunt for electromagnetic counterparts to gravitational wave triggers and the efforts to follow them using a wide array of electromagnetic observatories. The second talk, representing the nanohertz band accessible with pulsar timing arrays, will demonstrate how the formation and evolution of supermassive black holes and their host galaxies can be informed through gravitational wave observations and highlight both recent results and near-term prospects. The final talk, representing the millihertz band accessible from space-based detectors, will discuss the science case for the LISA instrument in the context of the LIGO and LISA Pathfinder successes.

Chair: James Thorpe (NASA GSFC)

108.01 GW astronomy, EM observations, and the interactions between them

Author(s): **Reed Essick**¹

*Institution(s):*¹ Massachusetts Institute of Technology

Contributing team(s): LIGO-Virgo Collaboration

WEDNESDAY, 4 JANUARY 2017

108.02 The Gravitational-Wave Universe seen by Pulsar Timing Arrays

Author(s): **Chiara M. F. Mingarelli**¹

*Institution(s):*¹ *Max Planck Institute for Radio Astronomy*

Contributing team(s): The International Pulsar Timing Array

108.03 LISA: Science and Prospects for Gravitational Wave Detection in Space

Author(s): **Shane L. Larson**¹

*Institution(s):*¹ *Northwestern University*

109 New, Fundamental, Cutting-Edge Science from Arecibo Observatory

Wednesday, 10:00 am - 11:30 am; Texas 1

Arecibo Observatory celebrated its 50th anniversary in 2013. Historically, many important discoveries were made there in both radio and radar astronomy, but this session is about discoveries made since this milestone anniversary. Arecibo is by far the best telescope for detecting the faintest millisecond pulsars in exotic binary orbits, and only Arecibo has the potential to time radio pulsars at the highest possible precision. This makes it a crucial element in the worldwide Pulsar Timing Array which could lead to the first-ever detection of gravitational waves in the very-low frequency domain from supermassive black hole binaries. The participation of Arecibo is crucial to the success of fundamental VLBI science. The resolution of the Pleiades distance controversy required Arecibo, and only the Arecibo-Radioastron baseline can search for the physical components of active galactic nuclei responsible for intraday variability. With the world's largest collecting area and a sensitive multi-beam receiver, Arecibo can observe HI deeper, faster, and more precisely than any other telescope in the world. Survey maps not only reveal Galactic HI filaments but also show that these structures are aligned with the magnetic field. Arecibo is the only telescope that can detect galaxies that consist largely of dark matter, which are predicted by recent models of the formation of structures in the universe. Arecibo's Planetary Radar system is the world's most powerful instrument for the characterization and orbital refinement of NEOs. Where traditional observations provide only plane-of-sky information, Arecibo can determine the full 3D orbit as well as the object's size, shape, mass, and spin, information essential for the assessment of impact hazards. The Arecibo radar is also the most sensitive instrument for investigations of internal structures of solid planets and for constraining surface activity of the Moon and Mercury.

Chair: Joan Schmelz (Univ. of Memphis)

109.01 Cutting-Edge Science from Arecibo Observatory: Introduction

Author(s): **Joan T. Schmelz**¹

*Institution(s):*¹ *Arecibo Observatory*

109.02 The Enigmatic Fast Radio Burst FRB121102

Author(s): **Jason Hessels**¹

*Institution(s):*¹ *ASTRON*

Contributing team(s): PALFA Survey Team, VLA+AO FRB121102 Simultaneous Campaign Team, EVN FRB121102 Campaign Team

109.03 GALFA-HI and the Discovery of Magnetically Aligned Neutral Hydrogen Fibers

Author(s): **Susan Clark**¹

Institution(s): ¹ *Columbia University*

Contributing team(s): GALFA-HI Collaboration

109.04 Cutting-edge HI science with the Arecibo Telescope

Author(s): **Robert F. Minchin**¹

Institution(s): ¹ *NAIC, Arecibo Observatory*

109.05 Observing the Plasma-Physical Processes of Pulsar Radio Emission with Arecibo

Author(s): **Joanna M. Rankin**¹

Institution(s): ¹ *Univ. of Vermont*

109.06 Recent results of the NANOGrav Physics Frontiers Center

Author(s): **Xavier Siemens**¹

Institution(s): ¹ *University of Wisconsin -- Milwaukee*

Contributing team(s): NANOGrav Physics Frontiers Center

110 Geoengineering the Atmosphere to Fight Climate Change: Should Astronomers Worry about It?

Wednesday, 10:00 am - 11:30 am; Texas 5

The AAS Sustainability Committee invites you to attend this Special Session on an issue that may be of growing concern to astronomers: "geoengineering", or large-scale engineering plans to modify the atmosphere in an attempt to offset the effects of global warming, such as by injecting aerosols globally to reflect sunlight. The session will be run in an interactive debate and panel forum format. Several researchers studying geoengineering, including astronomers, will present widely divergent views on the merits and risks of geoengineering and other climate interventions, both for ground-based astronomy, which of course must peer through the atmosphere, and for the long-term stability of the Earth's climate system. There will be ample time for Q and A discussion between attendees and the panelists.

Chair: James Lowenthal (Smith College)

111 HAD II: Some Notes on the History of Infrared Astronomy from Above the Atmosphere

Wednesday, 10:00 am - 11:30 am; Texas 3

Chair: David DeVorkin (Smithsonian Inst.)

111.01 From Single Pixels to Many Megapixels: Progress in Astronomical Infrared Imaging from Space-borne Telescopes

Author(s): **Judith Pipher**¹

Institution(s): ¹ *Univ. of Rochester*

WEDNESDAY, 4 JANUARY 2017

111.02 NASA's Kuiper Airborne Observatory 1974-1995 - Twenty One Years of Discovery

Author(s): **Edwin F. Erickson**¹

*Institution(s):*¹ NASA Ames Research Center

111.03 Small Can Be Beautiful: The NASA Lear Jet and the Initiation of Astronomical Far-Infrared Fine-Structure-Line Spectroscopy

Author(s): **Martin Harwit**¹

*Institution(s):*¹ Cornell University

112 The Solar System

Wednesday, 10:00 am - 11:30 am; Texas 4

Chair: **Alex Storrs (Towson Univ.)**

112.01 Creating an Isotopically Similar Earth and Moon from a Giant Impact with Correct Angular Momentum

Author(s): **William Sumpter**¹

*Institution(s):*¹ Tarleton State University

112.02 Dynamics of the Giant Planets due to a Fully Self-gravitating Planetesimal Disk

Author(s): **Billy L. Quarles**¹, Nathan A. Kaib¹

*Institution(s):*¹ University of Oklahoma

112.03 Sources of Chaos in Planetary Systems Formed Through Numerical Methods

Author(s): **Matthew S Clement**¹

*Institution(s):*¹ University of Oklahoma

112.04 Assessing the Main-Belt Comet Population with Comet Hunters

Author(s): **Megan E. Schwamb**¹, Henry H. Hsieh³, Zhi-Wei Zhang², Ying-Tung Chen², Chris Lintott⁴, Shiang-Yu Wang², Ishan Mishra²

*Institution(s):*¹ Gemini Observatory, ² Institute of Astronomy & Astrophysics, Academia Sinica (ASIAA), ³ Planetary Science Institute, ⁴ University of Oxford

112.05 A New Measurement of D/H in Saturn's H₂ Using Cassini CIRS

Author(s): **Justin Roberts-Pierel**⁴, Conor A. Nixon⁴, Emmanuel Lellouch³, Leigh N. Fletcher¹, Gordon Bjoraker⁴, Richard K. Achterberg⁴, Brigitte E. Hesman⁴, Patrick GJ Irwin², F. Michael Flasar⁴

*Institution(s):*¹ Department of Physics & Astronomy, University of Leicester, ² Department of Physics, University of Oxford, ³ LESIA-Observatoire de Paris, ⁴ NASA GSFC

112.06 An Empirical Examination of the NEOWISE Results and Data analysis

Author(s): **Nathan P Myhrvold**¹

*Institution(s):*¹ Intellectual Ventures

112.07 Observing near-Earth objects with LBT

Author(s): **Marco Micheli**², Elisabetta Dotto⁵, Elena Mazzotta Epifani⁵, Olivier Hainaut³, Simone Ieva⁵, Andrea Di Paola⁵, Gerhard Hahn¹, Detlef Koschny², Ettore Perozzi², Roberto Speziali⁵, Giovanni B. Valsecchi⁴

*Institution(s):*¹ DLR, ² ESA SSA-NEO Coordination Centre, ³ ESO, ⁴ INAF-IAPS, ⁵ INAF-OAR

113 Intergalactic Medium, QSO Absorption Line Systems

Wednesday, 10:00 am - 11:30 am; Grapevine 1

Chair: Jennifer Scott (Towson Univ.)

113.01 Limits on Intergalactic Dust during Reionization

Author(s): Nia Imara¹, Abraham Loeb¹

Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics

113.02D The Vulture Survey: Analyzing the Evolution of MgII and CIV Absorbers

Author(s): Nigel Mathes¹, Christopher W. Churchill¹, Michael Murphy²

Institution(s): ¹ New Mexico State University, ² Swinburne University of Technology

113.03 Searching for Variability of NV Intrinsic Narrow Absorption Line Systems

Author(s): Michael Rodruck¹, Jane C. Charlton¹, Rajib Ganguly²

Institution(s): ¹ Penn State University, ² University of Michigan-Flint

113.04D Galaxy-environment Interactions as Revealed by the Circumgalactic Medium

Author(s): Joseph Burchett⁵, Todd M. Tripp⁵, Daniel Wang⁵, Christopher Willmer², Jason X. Prochaska⁴, Jessica Werk⁶, Rongmon Bordoloi¹, Neal Katz⁵, Jason Tumlinson³

Institution(s): ¹ MIT, ² Steward Observatory (U. of Arizona), ³ STScI, ⁴ UC-Santa Cruz, ⁵ University of Massachusetts, ⁶ University of Washington

113.05 The Metallicity of the Circumgalactic Medium of $z < 1$ Galaxies: How low can you go?

Author(s): Christopher Wotta³, Nicolas Lehner³, J. Christopher Howk³, John O'Meara¹, Jason X. Prochaska²

Institution(s): ¹ Saint Michael's College, ² UC, Santa Cruz, ³ University of Notre Dame

114 Elliptical & Spiral Galaxies

Wednesday, 10:00 am - 11:30 am; Grapevine 2

Chair: Sheila Kannappan (Univ. of North Carolina)

114.01D The Black Hole Mass – Pitch Angle Relation of Type I AGN In Spiral Galaxies

Author(s): Amanda Schilling¹, Logan Jones³, John A. Hughes¹, R. Scott Barrows², Julia D. Kennefick¹

Institution(s): ¹ University of Arkansas, Fayetteville, ² University of Colorado Boulder, ³ University of Wisconsin - Madison

114.02D Spirality: A Novel Way to Measure Spiral Arm Pitch Angle

Author(s): Douglas Shields¹

Institution(s): ¹ University of Arkansas

Contributing team(s): Arkansas Galaxy Evolution Survey

WEDNESDAY, 4 JANUARY 2017

114.03D Strong Evidence for the Density-Wave Theory of Spiral Structure Based on Variations in Pitch Angle When Viewed Across Optical and non-Optical Wavelengths

Author(s): **Hamed Pour-Imani**¹, Daniel Kennefick¹, Julia D. Kennefick¹, Benjamin L. Davis¹, Douglas W. Shields¹, Mohamed Shameer Abdeen¹

Institution(s): ¹ University of Arkansas

114.04 On the Origin of Exponential Radial Profiles in Galaxy Disks

Author(s): **Bruce Elmegreen**¹, Curtis Struck²

Institution(s): ¹ IBM Research Div., ² Iowa State University

114.05 Measuring the extent of x-ray emitting hot gas haloes around elliptical galaxies

Author(s): **Mehmet Alpaslan**¹, Pamela M. Marcum¹

Institution(s): ¹ NASA Ames Research Center

114.06 Circumnuclear Disks in Early-type Galaxies: 12CO(2-1) and Continuum Properties

Author(s): **Benjamin Boizelle**⁵, Aaron J. Barth⁵, Andrew J. Baker², Jeremiah K. Darling⁴, Luis Ho¹, Jonelle Walsh³, David A. Buote⁵

Institution(s): ¹ Kavli Institute for Astronomy and Astrophysics, ² Rutgers, ³ Texas A&M, ⁴ Univ. of Colorado, Boulder, ⁵ University of California, Irvine

115 Supernovae & Planetary Nebulae

Wednesday, 10:00 am - 11:30 am; Fort Worth 6

Chair: Ravi Sankrit (SOFIA/USRA)

115.01 SuperNovae Analysis aPplication (SNAP): A revolutionary method for understanding the physics of supernovae

Author(s): **Amanda J. Bayless**¹

Institution(s): ¹ Southwest Research Institute

115.02D Fermi and Swift as supernova alarms: Alert, localization, and diagnosis of future Galactic Type Ia explosions

Author(s): **Xilu Wang**², Brian D. Fields², Amy Y. Lien¹

Institution(s): ¹ NASA Goddard Space Flight Center, ² University of Illinois at Urbana-Champaign

115.03D Decontaminating Cosmology: Towards Measuring Dark Energy with Photometrically Classified Pan-STARRS Supernovae

Author(s): **David Jones**⁴, Adam G. Riess⁴, Daniel Scolnic⁶, Richard Kessler⁶, Armin Rest³, Robert P. Kirshner¹, Edo Berger¹, Carolyn Ortega⁴, Ryan Foley⁵, Ryan Chornock², Peter Challis¹

Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² Ohio University, ³ Space Telescope Science Institute, ⁴ The Johns Hopkins University, ⁵ University of California, Santa Cruz, ⁶ University of Chicago

115.04 K2 High-cadence Light Curves of Transients

Author(s): **Armin Rest**⁵, Peter M. Garnavich⁴, Brad Tucker¹, Edward J. Shaya⁷, Robert Olling⁷, Daniel Kasen⁶, Alfredo Zenteno², Steven J. Margheim³, Chris Smith², David James²

*Institution(s):*¹ Australian National University, ² CTIO/NOAO, ³ Gemini Observatory, ⁴ Notre Dame, ⁵ Space Telescope Science Institute, ⁶ University of California, Berkeley, ⁷ University of Maryland

115.05 New extended gamma-ray sources in the Galactic Plane using 6 years of Fermi Large Area Telescope data above 10 GeV

Author(s): **Elizabeth A. Hays**¹

*Institution(s):*¹ NASA/GSFC

Contributing team(s): Fermi LAT Collaboration

115.06D Spatial Analysis of Spectra from Galactic Planetary Nebulae and Extragalactic H II Regions: Testing for Abundance Variations

Author(s): **Timothy R. Miller**¹

*Institution(s):*¹ University of Oklahoma-Norman

116 Planetary Environments & Habitability

Wednesday, 10:00 am - 11:30 am; Dallas 6

Chair: **Rebekah Dawson** (The Pennsylvania State University)

116.02D The UV Surface Environment on Young Planets: Implications for Prebiotic Chemistry & Life on Other Worlds

Author(s): **Sukrit Ranjan**¹

*Institution(s):*¹ Harvard Univ.

Contributing team(s): Simons Collaboration on the Origin of Life, Harvard Origins of Life Initiative

116.03 Habitability in the Local Universe

Author(s): **Paul A. Mason**¹

*Institution(s):*¹ NMSU

116.04 The Breakthrough Listen Initiative and the Future of the Search for Intelligent Life

Author(s): **J. Emilio Enriquez**⁴, Andrew Siemion⁴, Heino Falcke², Steve Croft⁴, David R. DeBoer⁴, Vishal Gajjar⁴, Jack Hickish⁴, Howard T. Isaacson⁴, Matt Lebofsky⁴, David MacMahon⁴, Danny C Price⁴, Nate Tellis⁴, Dan Werthimer⁴, Sander ter Veen¹, Michael A. Garrett³, Greg Hellbourg⁴

*Institution(s):*¹ ASTRON, ² Radboud Universiteit Nijmegen, ³ The University of Manchester, ⁴ UC Berkeley

116.05D The Search for Stellar Coronal Mass Ejections

Author(s): **Jacqueline Villadsen**¹, Gregg Hallinan¹, Ryan Monroe¹, Stephen Bourke²

*Institution(s):*¹ California Institute of Technology, ² Chalmers University of Technology

Contributing team(s): Starburst Program Team

WEDNESDAY, 4 JANUARY 2017

117 Plenary Session: Annie Jump Cannon Award: The Tumultuous Lives and Deaths of Stars, Laura Lopez (Ohio State University)

Wednesday, 11:40 am - 12:30 pm; Texas A

Chair: Christine Jones (Harvard-Smithsonian, CfA)



117.01 The Tumultuous Lives and Deaths of Stars

Author(s): **Laura A. Lopez**¹

Institution(s): ¹ *The Ohio State University*

Citation: For her contributions to understanding the birth-to-death cycle of stars in our galaxy. Lopez's work on supernova remnants, young massive stars, and the interstellar medium spans radio through X-ray wavelengths and bridges the gap between theory and observation.

New Methods for Teaching about Exoplanets

Wednesday, 12:30 pm - 2:00 pm; Dallas 1

Working with a national collaboration of astronomy educators we have developed a suite of new active learning materials that bring to life the exciting methods by which we detect exoplanets using the Doppler Method, Transits, and Gravitational Microlensing. Come engage in a fun and supportive environment designed to help you successfully bringing the frontiers of exoplanet discoveries into the Astro 101 classroom. Participants will come away with instructional materials and assessment strategies ready for immediate classroom use. Presenters will be Edward Prather and Gina Brissenden (Center for Astronomy Education, Steward Observatory, Univ. of Arizona), who encourage you to bring your lunch! This workshop is based upon work supported by NASA under award number NNX16AC65A. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Aeronautics and Space Administration.

Organizer(s): **Gina Brissenden (Center for Astronomy Education (CAE), Steward Observatory, Univ. of Arizona)**

Introducing Current Research Into Your Classroom

Wednesday, 12:30 pm - 2:00 pm; Appaloosa 1

Do you wish you could ground your undergraduate classes more thoroughly in the latest astronomical research? Do you want to expose your students not just to facts, but also to the process of science? In this workshop, we'll show you how you can use Astrobites to enhance your students' experience. Astrobites, founded in 2010 and officially supported by the AAS since 2016, is a graduate-student organization that publishes an online astrophysical literature blog. The blog consists of daily digests of recent articles appearing on astro-ph, with a current archive of posts covering more than one thousand recent astrophysics research papers. Each post is written at an undergraduate level,

WEDNESDAY, 4 JANUARY 2017

providing an accessible summary of the research methods and outcomes as well as useful background and context. Over the span of this 1.5-hour workshop, we will provide an overview of Astrobites and discuss several different ways that you can use Astrobites to bring the most recent astronomical research into your undergraduate classroom. You will then have the opportunity to develop original lesson plans and curriculum materials with the assistance of Astrobites authors and administrators. The organizers encourage you to bring your laptop and a lunch to this workshop.

Organizer(s): Susanna Kohler (University of Colorado at Boulder)

2017 AAS Astronomy Ambassadors Workshop (day 2 of 2)

Wednesday, 12:45 pm - 5:30 pm; Appaloosa 4

This 5th annual Astronomy Ambassador workshop is for early career astronomers (graduate students, post docs, young faculty) eager to put a new face on astronomy through active engagement in outreach to their communities. During the two days of active learning, you can build skills to help engage your audience in your presentations, gain insights into how people learn, and discover tested outreach resources. The workshop is free, but is limited to 30 participants by application only.

Organizer(s): Suzanne Gurton (Astronomical Society of the Pacific)

118 NSF Town Hall

Wednesday, 12:45 pm - 1:45 pm; Texas C

Staff from the National Science Foundation will discuss recent science results, news about the Division, the status and evolution of budgets, and information about grants programs and facility development.

Organizer(s): James Ulvestad (National Science Foundation)

119 HAD Town Hall

Wednesday, 12:45 pm - 1:45 pm; Texas 3

Organizer(s): Kenneth Rumstay (Valdosta State Univ.)

Science of X-ray Surveyor

Wednesday, 1:00 pm - 3:30 pm; San Antonio 1

We will invite the community to attend this splinter meeting to discuss several major topics related to the science achievable with a future X-ray Surveyor mission. We aim at 4 presentations by the X-ray Surveyor Science Team members or leads of the Science Working groups. Potential topics include the earliest populations of black holes, diffuse gas in the galactic halos and cosmic web, the physics of feedback, physics of high densities and GR tests, stellar lifecycles.

Organizer(s): Alexey Vikhlinin (Harvard-Smithsonian, CfA)

WEDNESDAY, 4 JANUARY 2017

Big Bang to Biology: What Can I Do With LUVOIR?

Wednesday, 2:00 pm - 3:30 pm; Mustang 4

This splinter meeting will involve hands-on practice with web-based science simulation tools for the Large UV/Optical/IR Surveyor (LUVOIR) mission. LUVOIR is a concept for a highly capable, multi-wavelength observatory with ambitious science goals. This mission would enable a great leap forward in a broad range of astrophysics — from the epoch of reionization, through galaxy formation and evolution, to star and planet formation. LUVOIR also has the major goal of characterizing a wide range of exoplanets, including those that might be habitable — or even inhabited. Powerful remote sensing observations of Solar System bodies will also be possible. LUVOIR is one of four Decadal Survey Mission Concept Studies initiated in Jan 2016. The study will extend over three years, culminating in reports to NASA and the National Academies. More info on LUVOIR and the study can be found at <http://asd.gsfc.nasa.gov/luvoir/>. In this meeting, we'll introduce you to the range of science that LUVOIR can address, then describe the current mission architecture and instrument suite chosen by the Science and Technology Definition Team. The web-based science simulation tools will be demonstrated, then we will hand things over to the meeting participants. Bring your favorite science case and/or input models, and be ready to dream big! We'll take feedback on all aspects of the mission study, including what other tools you'd like to see.

Organizer(s): Aki Roberge (NASA GSFC)

Astronomy Education in the NSF IUSE:EHR Program

Wednesday, 2:00 pm - 3:30 pm; Grapevine 4

This session will consist of three presentations on astronomy education awards from the NSF IUSE:EHR (Improving Undergraduate STEM Education) program. The speakers and the awards are: 1) Angela Speck, University of Missouri, Co-PI on "Nationwide Preparation for the Eclipse of 21 August 2017" (Marvel/1564535), 2) Laura Trouille, Adler Planetarium, PI on "Collaborative Research: Engaging Introductory Astronomy Students in Authentic Research through Citizen Science" (Trouille/1524189), and 3) Edward Prather, University of Arizona, Co-PI on "Collaborative Research: Enhancing Undergraduate STEM Education: Workshops and Learning Communities for Physics and Astronomy Faculty" (Hilborn/1431638). These three awards from diverse areas of astronomy education will showcase the flexibility of the IUSE:EHR program. IUSE:EHR can support any projects that benefit undergraduate students and contribute to the knowledge base of STEM education.

Chair: Kevin Lee (NSF)

120 Extrasolar Planets: Characterization & Theory I

Wednesday, 2:00 pm - 3:30 pm; Texas A

Chair: George Benedict (Univ. of Texas, Austin)

120.01 Characterizing Exoplanets with WFIRST

Author(s): **Tyler D. Robinson**⁴, Karl R. Stapelfeldt¹, Mark S. Marley², Franck Marchis³, Jonathan J Fortney⁴

Institution(s): ¹ JPL/Caltech, ² NASA Ames Research Center, ³ SETI Institute, ⁴ University of California, Santa Cruz

120.02 Key Exoplanets in the Era of JWST

Author(s): **Natasha Batalha**², Avi Mandell¹, Nikole K. Lewis³, Klaus Pontoppidan³

Institution(s): ¹ Goddard Space Flight Center, ² Pennsylvania State University, ³ Space Telescope Science Institute

120.03 Proxima Centauri b: Environmental States and Observational Discriminants

Author(s): **Victoria Meadows**⁵, Giada Arney⁵, Edward Schwieterman⁵, Jacob A Lustig-Yaeger⁵, Andrew Lincowski⁵, Tyler D. Robinson⁴, Shawn Domagal-Goldman³, Rory Barnes⁵, David P Fleming⁵, Russell Deitrick⁵, Rodrigo Luger⁵, Peter E. Driscoll¹, Thomas R. Quinn⁵, David Crisp²

Institution(s): ¹ Carnegie Institution of Washington, ² Jet Propulsion Laboratory/Caltech, ³ NASA Goddard Space Flight Center, ⁴ University of California - Santa Cruz, ⁵ University of Washington

120.04 Beyond Proxima b: Investigating the next nearest Potentially Habitable Exoplanets: Kapteyn b (13 LY) and Wolf 1061 c (14 LY) - Assessing their Suitability for Life

Author(s): **Edward F. Guinan**¹, Scott G. Engle¹

Institution(s): ¹ Villanova Univ.

120.05 Improving Habitability of Earth-sized Proxima Centauri b by an Exomoon

Author(s): **Sergio Garza**¹, Marialis Rosario Franco¹, Niyousha Davachi¹, Zdzislaw E. Musielak¹

Institution(s): ¹ University of Texas at Arlington

120.06 Stable Orbits for Exomoons in Earth's Cousin (Kepler-452b) Orbiting a Sun-like Star

Author(s): **Niyousha Davachi**¹, Marialis Rosario Franco¹, Sergio Garza¹, Zdzislaw E. Musielak¹

Institution(s): ¹ University of Texas At Arlington

120.07D Emerging Science Capabilities of Modern Adaptive Optics Systems for Exoplanet and Stellar Astrophysics

Author(s): **Rebecca M. Jensen-Clem**¹

Institution(s): ¹ Caltech

120.08 Direct Imaging Discovery of a Remarkably Red Planetary-Mass Companion

Author(s): **Brendan P. Bowler**⁸, Michael C. Liu⁷, Dimitri Mawet², Henry Ngo², Lison Malo³, Gregory N. Mace⁸, Jacob McLane⁸, Jessica Lu⁶, Isaiah Tristan⁵, Sasha Hinkley⁴, Lynne Hillenbrand², Evgenya L Shkolnik¹, Björn Benneke², William M. J. Best⁷

Institution(s): ¹ Arizona State University, ² Caltech, ³ CFHT, ⁴ Exeter, ⁵ Rice University, ⁶ UC Berkeley, ⁷ University of Hawaii, ⁸ UT Austin

WEDNESDAY, 4 JANUARY 2017

121 AGN, QSO, Blazars: Obscured

Wednesday, 2:00 pm - 3:30 pm; Texas C

Chair: J. Moody (Brigham Young Univ.)

121.01 Discovering highly obscured AGN with the Swift-BAT 100-month survey

Author(s): **Stefano Marchesi**¹, Marco Ajello¹, Andrea Comastri³, Giancarlo Cusumano², Valentina La Parola², Alberto Segreto²

Institution(s): ¹ *Clemson University*, ² *INAF-IAFSC Palermo*, ³ *INAF-OABO*

121.02D A multi-wavelength survey of obscured and reddened quasars at the peak of galaxy formation

Author(s): **Rachael Alexandroff**¹

Institution(s): ¹ *Johns Hopkins University*

121.03D Hard X-ray Spectroscopy of Obscured AGN with NuSTAR

Author(s): **Mislav Balokovic**¹, Fiona Harrison¹

Institution(s): ¹ *California Institute of Technology*

Contributing team(s): NuSTAR Extragalactic Surveys Team

121.04 Extreme Obscuration and Circumnuclear Star-Formation Revealed in AGN NGC 4968

Author(s): **Stephanie M. LaMassa**², Tahir Yaqoob⁴, Nancy A. Levenson¹, Peter Boorman⁵, Timothy M. Heckman³, Poshak Gandhi⁵, Jane R. Rigby², C. Megan Urry⁶, Andrew Ptak²

Institution(s): ¹ *Gemini Observatory*, ² *NASA GSFC*, ³ *The Johns Hopkins University*, ⁴ *UMBC*, ⁵ *University of Southampton*, ⁶ *Yale University*

122 GW-SMBH-Lensing-PTA

Wednesday, 2:00 pm - 3:30 pm; Texas D

Chair: Michael Kesden (University of Texas at Dallas)

122.01D Black Hole Accretion Discs on a Moving Mesh

Author(s): **Geoffrey Ryan**¹

Institution(s): ¹ *New York University*

122.02 The Effect of Supermassive Black Hole Binary Environments on Time to Detection for the Stochastic Background

Author(s): **Sarah Vigeland**¹, Xavier Siemens¹

Institution(s): ¹ *University of Wisconsin -- Milwaukee*

122.03 Effectiveness of Null Signal Sky Localization in Pulsar Timing Arrays

Author(s): **Jeffrey Shafiq Hazboun**¹

Institution(s): ¹ *Center for Advanced Radio Astronomy*

122.04 Inferring the mass and density profile of dark matter subhalos in gravitational lens galaxies

Author(s): **Quinn Minor**¹, Manoj Kaplinghat²

Institution(s): ¹ *Borough of Manhattan Community College*, ² *University of California, Irvine*

- 122.05 DeepLensing: The Use of Deep Machine Learning to Find Strong Gravitational Lenses in Astronomical Surveys**
Author(s): **Brian Nord**¹
Institution(s): ¹ *Fermi National Accelerator Laboratory*
- 122.06 Precession-averaged evolution of the orbital and total angular momenta in binary black-hole systems**
Author(s): **Xinyu Zhao**², Michael H. Kesden², Davide Gerosa¹
Institution(s): ¹ *California Institute of Technology*, ² *University of Texas at Dallas*
- 122.07 Bayesian model-emulation of stochastic gravitational-wave spectra for probes of the final-parsec problem with pulsar-timing arrays**
Author(s): **Stephen R Taylor**², Joseph Simon³, Laura Sampson¹
Institution(s): ¹ *CIERA, Northwestern University*, ² *Jet Propulsion Laboratory*, ³ *University of Wisconsin-Milwaukee*

123 Dwarf & Irregular Galaxies I

Wednesday, 2:00 pm - 3:30 pm; Grapevine A

Chair: **Daniel Dale (Univ. of Wyoming)**

- 123.01 Accretion phenomena onto star-forming dwarf-galaxies.**
Author(s): **Francesca Annibali**¹
Institution(s): ¹ *INAF- Osservatorio Astronomico Bologna*
- 123.02 The Star-Forming Main Sequence at Low Galaxy Mass**
Author(s): **Sabrina Stierwalt**², Kelsey E. Johnson⁵, David R. Patton³, Gurtina Besla⁴, Nitya Kallivayalil⁵, Sandra Liss⁵, Sarah Pearson¹, George C. Privon⁵, Mary E. Putman¹
Institution(s): ¹ *Columbia University*, ² *National Radio Astronomy Observatory*, ³ *Trent University*, ⁴ *University of Arizona*, ⁵ *University of Virginia*
- 123.03D Large-scale environmental dependence of chemical abundances in dwarf galaxies and implications for connecting star formation history and halo mass**
Author(s): **Kelly Douglass**¹, Michael S. Vogeley¹
Institution(s): ¹ *Drexel University*
- 123.04 APOGEE Chemical Abundances of the Sagittarius Dwarf Galaxy**
Author(s): **Sten Hasselquist**³, Matthew D. Shetrone¹¹, Verne V. Smith⁴, Katia M. L. Cunha⁵, Andrew McWilliam⁸, Jon A. Holtzman³, Steven R. Majewski¹³, Jennifer Sobek¹³, Peter M. Frinchaboy⁷, Alexandre Roman-Lopes⁹, Inese I. Ivans¹², Carlos Allende-Prieto¹, Vinicius M Placco¹⁰, Richard Lane⁶, Gail Zasowski²
Institution(s): ¹ *IAC*, ² *Johns Hopkins University*, ³ *New Mexico State University*, ⁴ *NOAO*, ⁵ *Observatorio Nacional*, ⁶ *Pontificia Universidad Católica de Chile*, ⁷ *Texas Christian University*, ⁸ *The Observatories of the Carnegie Institute of Washington*, ⁹ *Universidad de La Serena*, ¹⁰ *University of Notre Dame*, ¹¹ *University of Texas at Austin*, ¹² *University of Utah*, ¹³ *University of Virginia*
Contributing team(s): APOGEE

WEDNESDAY, 4 JANUARY 2017

123.05 The HI Chronicles of LITTLE THINGS BCDs: VII Zw 403's External Gas Cloud

Author(s): **Trisha L. Ashley**¹, Caroline E. Simpson³, Bruce Elmegreen⁴, Megan C. Johnson², Nau Raj Pokhrel³

Institution(s): ¹ Bay Area Environmental Research Institute and NASA Ames, ² CSIRO, ³ Florida International University, ⁴ IBM

123.06D Baryons and their Effects on Planes of Satellites Around Milky Way-Mass Galaxies

Author(s): **Sheehan H Ahmed**¹

Institution(s): ¹ Rutgers, The State University of New Jersey

124 Star Associations, Star Clusters - Galactic & Extragalactic I

Wednesday, 2:00 pm - 3:30 pm; Grapevine B

Chair: Bryan Miller (Gemini Observatory)

124.01D Testing Theories of in situ Nuclear Star Formation in M31

Author(s): **Kelly Lockhart**⁷, Jessica Lu⁵, Hiranya Peiris⁴, Robert Michael Rich⁶, Antonin H. Bouchez², Keith Matthews¹, Andrea M. Ghez⁶, Scott D. Tremaine³

Institution(s): ¹ California Institute of Technology, ² Giant Magellan Telescope, ³ Institute for Advanced Study, ⁴ University College London, ⁵ University of California, Berkeley, ⁶ University of California, Los Angeles, ⁷ University of Hawaii

124.02 Multiple Populations in M31 Globular Clusters: Clues from Infrared High Resolution Integrated Light Spectroscopy

Author(s): **Charli Sakari**¹

Institution(s): ¹ University of Washington

Contributing team(s): The APOGEE team

124.03D The Open Cluster Chemical Abundances and Mapping (OCCAM) Survey: Galactic Neutron Capture Abundance Gradients

Author(s): **Julia O'Connell**³, Peter M. Frinchaboy³, Matthew D. Shetrone⁴, Matthew Melendez³, Katia M. L. Cunha², Steven R. Majewski⁵, Gail Zasowski¹

Institution(s): ¹ Johns Hopkins University, STSci, ² Observatorio Nacional, ³ Texas Christian University, ⁴ University of Texas, ⁵ University of Virginia
Contributing team(s): APOGEE Team

124.04D The Photometric Study of Globular Cluster Systems in the Coma, Fornax, and Virgo Clusters of Galaxies with the HST WFC3/IR

Author(s): **Hyejeon Cho**², John P. Blakeslee¹, Young-Wook Lee²

Institution(s): ¹ NRC Herzberg Astronomy and Astrophysics, ² Yonsei University

124.05 Hierarchical Star Formation in Turbulent Media: Evidence from Young Star Clusters

Author(s): **Kathryn Grasha**², Bruce Elmegreen¹, Daniela Calzetti²

Institution(s): ¹ Thomas J. Watson Research Center, ² University of Massachusetts - Amherst

125 Cosmology I

Wednesday, 2:00 pm - 3:30 pm; Grapevine C

Chair: Mustapha Ishak-Boushaki (Univ. Of Texas at Dallas)

125.01 Measuring the Epoch of Reionization using [CII] Intensity Mapping with TIME-Pilot

Author(s): **Abigail Crites**¹, James Bock¹, Matt Bradford¹, Bruce Bumble³, Tzu-Ching Chang¹, Yun-Ting Cheng¹, Asantha R. Cooray⁶, Steve Hailey-Dunsheath¹, Jonathon Hunacek¹, Chao-Te Li², Roger O'Brient³, Erik Shirokoff⁷, Zachary Staniszewski³, Corwin Shiu⁴, Bade Uzgil¹, Michael B. Zemcov⁵, Guochao Sun¹
Institution(s): ¹ *California Institute of Technology*, ² *Caltech*, ³ *Jet Propulsion Laboratory*, ⁴ *Princeton*, ⁵ *RIT*, ⁶ *UCIrvine*, ⁷ *University of Chicago*

125.02D Cosmic infrared background fluctuations of the COSMOS field in the SPLASH survey: new measurements and the cosmological explanations

Author(s): **Yanxia Li**¹
Institution(s): ¹ *University of Hawaii*

125.03 Early Science from the Hydrogen Epoch of Reionization Array

Author(s): **Daniel Jacobs**¹
Institution(s): ¹ *Arizona State University*
Contributing team(s): HERA Team

125.04 Data Simulation for 21 cm Cosmology Experiments

Author(s): **Jonathan Pober**¹
Institution(s): ¹ *Brown University*

125.05 Constraining compensated isocurvature perturbations using the CMB

Author(s): **Tristan L. Smith**¹
Institution(s): ¹ *Swarthmore College*
Contributing team(s): Rhiannon Smith, Kyle Yee, Julian Munoz, Daniel Grin

125.06 Testing gravity theories using tensor perturbations

Author(s): **Weikang Lin**¹, Mustapha B. Ishak-Boushaki¹
Institution(s): ¹ *University of Texas at Dallas*

125.07 Effect of Self-Calibration of Intrinsic Alignment on the Cosmological Parameter Constraints for LSST

Author(s): **Ji Yao**², Mustapha Ishak², Michael A. Troxel¹, Weikang Lin¹
Institution(s): ¹ *Ohio State University*, ² *The University of Texas at Dallas*

125.08 Planck SZ Cluster Mass Calibration using HSC Weak Lensing

Author(s): **Elinor Medezinski**⁵, Nicholas Battaglia⁵, Michael A. Strauss⁵, David N. Spergel⁵, Hironao Miyatake³, Rachel Mandelbaum², Masamune Oguri⁴, Keiichi Umetsu¹
Institution(s): ¹ *ASIAA*, ² *Carnegie-Mellon University*, ³ *Jet Propulsion Laboratory*, ⁴ *Kavli/IPMU*, ⁵ *Princeton University*
Contributing team(s): HSC

WEDNESDAY, 4 JANUARY 2017

126 Science with the Discovery Channel Telescope and Beyond

Wednesday, 2:00 pm - 3:30 pm; Grapevine D

Lowell Observatory's Discovery Channel Telescope saw first light in 2012 and began full-time operations the following year. This state-of-the-art 4.3-meter telescope, located at an elevation of 7,740 feet in Happy Jack, AZ, has a growing suite of optical and near-infrared instruments. Lowell's DCT partners include Boston University, the University of Maryland, the University of Toledo, Northern Arizona University, Yale University, and the University of Texas/Korean Astronomy and Space Science Institute IGRINS team. This special session will showcase scientific highlights from the first few years of DCT operations as well as synergies with telescopes on nearby Anderson Mesa, including the Navy Precision Optical Interferometer. Talks will cover the diverse research being done with the DCT, from studies of solar system objects to distant GRBs. This is an opportunity to learn more about the newest 4-meter-class telescope in the United States and perhaps to stimulate new scientific collaborations.

Chair: Michael West (Maria Mitchell Observatory)

126.01 Lowell Observatory's Discovery Channel Telescope

Author(s): **Jeffrey C. Hall**¹

Institution(s): ¹ *Lowell Obs.*

126.02 Follow-Up Discovery Channel Telescope Observations of Transients and Variables from Optical Time Domain Surveys

Author(s): **Suvi Gezari**¹, Tingting Liu¹, Tiara Hung¹

Institution(s): ¹ *University of Maryland*

126.03 Target of Opportunity Observations with the Discovery Channel Telescope

Author(s): **Stephen B. Cenko**¹, Sylvain Veilleux², Vicki Toy², John Capone², Eleonora Troja¹, Antonino Cucchiara³, Suvi Gezari², Tiara Hung²

Institution(s): ¹ *NASA Goddard Space Flight Center*, ² *University of Maryland*, ³ *University of the Virgin Islands*

126.04 EXPRES: the EXtreme PREcision Spectrograph at the Discovery Channel Telescope

Author(s): **Debra Fischer**¹, Colby Jurgenson¹, Tyler McCracken¹, David Sawyer¹, Ryan Blackman¹, Andrew E. Szymkowiak¹

Institution(s): ¹ *Yale University*

126.05 Proper Motions and Parallaxes of Very Low-Mass Stars using DCT Astrometry

Author(s): **Julie N. Skinner**¹, Andrew A West¹, Jacqueline K. Faherty², Philip Steven Muirhead¹

Institution(s): ¹ *Boston University*, ² *Carnegie Institute of Washington*

126.06 IGRINS on the DCT

Author(s): **Lisa A. Prato**¹

Institution(s): ¹ *Lowell Observatory*

- 126.07 The Puzzling Atmospheres of Low-mass Stars, Brown Dwarfs and Exoplanets Revealed by the Discovery Channel Telescope**
Author(s): **Philip Steven Muirhead**¹, Bryce Croll¹, Paul A. Dalba¹, Mark Veyette¹, Eunkyun Han¹, Aurora Kesseli¹, Brian Healy¹
Institution(s):¹ *Boston University*
- 126.08 Characterizing Mid-Type M Dwarfs in the Kepler Field with the Discovery Channel Telescope and WIYN**
Author(s): **Kevin Hardegree-Ullman**², Michael Cushing², Philip Steven Muirhead¹
Institution(s):¹ *Boston University*, ² *University of Toledo*
- 126.09 Speckle Interferometry at Lowell's Discovery Channel Telescope**
Author(s): **Gerard van Belle**¹, Elliott Horch²
Institution(s):¹ *Lowell Observatory*, ² *Southern Connecticut State University*

127 Linking the Scales of Star Formation

Wednesday, 2:00 pm - 3:30 pm; Texas 1

Could the relationships between the properties of star formation on two fundamental scales – on those of galaxy disks over kiloparsecs, and individual stars, stellar clusters and associations over parsecs – provide new key insights into the mechanisms that control star formation? In this session we will probe this missing piece in the grand puzzle of star formation by reporting new results from the Hubble Space Telescope (HST) Treasury program LEGUS (Legacy ExtraGalactic Ultraviolet Survey), and related projects. LEGUS has obtained complete five band HST imaging in NUV, U, B, V and I, for 50 nearby galaxies. The galaxies have been carefully selected to cover the full range of galaxy mass, morphology, star formation rate (SFR), SSFR (specific SFR=SFR/mass), metallicity, internal structure (rings, bars), and interaction state found in the Local Volume where HST can resolve and age-date young stellar populations on pc-scales. Well-known, archetypal galaxies with the largest suites of multi-wavelength data available have been targeted, to ensure that the dataset will have exceptional legacy value. High resolution UV imaging, which was not previously available for >90% of the sample, is critical for the age-dating and identification of young massive stars and clusters; the reconstruction of the recent star formation histories (SFH) at requisite accuracies (~10 Myr); and the breaking of the age-extinction degeneracies on small scales. The talks in this session will touch upon a full range of star formation science pursued by LEGUS and related projects, from studies of the demographics of star clusters to the environments of supernovae. We anticipate that the LEGUS dataset will also support a significant amount of community science, and the session will showcase the higher-level data products (multiband drizzled images; catalogs of the physical and observed properties of stars and star clusters) which have been and will be released to the community.

Chair: Janice Lee (Space Telescope Science Institute)

- 127.01 HST LEGUS - Legacy Extragalactic UV Survey**
Author(s): **Daniela Calzetti**¹
Institution(s):¹ *Univ. of Massachusetts*
Contributing team(s): and the LEGUS Team

WEDNESDAY, 4 JANUARY 2017

- 127.03 Star Cluster Luminosity Functions and Cluster Formation Efficiencies in LEGUS Dwarf Galaxies**
Author(s): **David O. Cook**¹, Janice C. Lee⁴, Angela Adamo³, Hwiyun Kim², Jenna E Ryon⁵
Institution(s): ¹ Caltech, ² McDonald Observatory - UT Austin, ³ Stockholm University, ⁴ StSci, ⁵ University of Wisconsin - Madison
Contributing team(s): LEGUS Team
- 127.04 The Fraction of Stars Formed In A Diverse Sample of 8 Galaxies**
Author(s): **Rupali Chandar**¹
Institution(s): ¹ University of Toledo
- 127.05 The Hierarchical Distribution of Young Stellar Clusters in Nearby Galaxies**
Author(s): **Kathryn Grasha**¹, Daniela Calzetti¹
Institution(s): ¹ University of Massachusetts - Amherst
- 127.06 Single Star HII Regions in nearby LEGUS Galaxies**
Author(s): **Bridget Kayitesi**², Janice C. Lee², David A. Thilker¹
Institution(s): ¹ Johns Hopkins University, ² Space Telescope Science Institute
Contributing team(s): LEGUS Team
- 127.07 Multi-scale, Hierarchically Nested Young Stellar Structures in LEGUS Galaxies**
Author(s): **David A. Thilker**¹
Institution(s): ¹ Johns Hopkins Univ.
Contributing team(s): LEGUS Team
- 127.08 Extinction Mapping of Nearby Galaxies Using LEGUS**
Author(s): **Lauren Kahre**¹, Rene A.M. Walterbos¹, Daniela Calzetti³, Elena Sabbi², Leonardo Ubeda²
Institution(s): ¹ New Mexico State University, ² Space Telescope Science Institute, ³ University of Massachusetts
Contributing team(s): LEGUS Collaboration
- 127.09 SN Environments in LEGUS**
Author(s): **Schuyler D. Van Dyk**¹
Institution(s): ¹ Caltech
Contributing team(s): the LEGUS Team
- 127.10 Star Formation at Low Rates: How a Lack of Massive Stars Impacts the Evolution of Dwarf Galaxies**
Author(s): **Gerhard Hensler**¹
Institution(s): ¹ University of Vienna

128 Surveys & Data - Catalogs, Archives, Searched

Wednesday, 2:00 pm - 3:30 pm; Texas 5

Chair: Elizabeth Adams (ASTRON)

128.01 From Sky to Archive: Long Term Management of Sky Survey Data

Author(s): Peter T Darch², Ashley E. Sands¹, Christine Borgman¹, Milena S. Golshan¹, Sharon Traweek¹

Institution(s): ¹ University of California, Los Angeles, ² University of Illinois at Urbana-Champaign

128.02D A Mass Census of the Nearby Universe with RESOLVE and ECO

Author(s): Kathleen D. Eckert⁵, Sheila Kannappan⁵, David Stark², Amanda J. Moffett¹, Mark A Norris⁴, Andreas A. Berlind⁷, Kirsten Hall³, Ashley Baker⁶, Elaine M. Snyder⁵, Ashley Bittner⁵, Erik A. Hoversten⁵, Claudia Lagos¹, Zachary Nasipak⁵

Institution(s): ¹ ICRAR, ² IPMU, ³ Johns Hopkins University, ⁴ University of Central Lancaster, ⁵ University of North Carolina, Chapel Hill, ⁶ University of Pennsylvania, ⁷ Vanderbilt University

Contributing team(s): RESOLVE team

128.03 What Time Is Sunrise? Revisiting the Refraction Component of Sunrise/set Prediction Models

Author(s): Teresa Wilson¹, Jennifer L. Bartlett², James Lindsay Hilton²

Institution(s): ¹ Michigan Technological University, ² US Naval Observatory

128.04 Testing LSST Dither Strategies for Large-scale Structure Systematics

Author(s): Humna Awan², Eric J. Gawiser², Peter Kurczynski¹

Institution(s): ¹ National Science Foundation, ² Rutgers University

128.05D A Search for Miras in M33 Using Sparsely-Sampled Time Series Photometry

Author(s): Wenlong Yuan¹, Lucas M. Macri¹, Shiyuan He², James Long², Jianhua Huang²

Institution(s): ¹ Department of Physics & Astronomy, Texas A&M University, ² Department of Statistics, Texas A&M University

128.06 Astronomical Methods for Nonparametric Regression

Author(s): Charles L. Steinhardt¹, Adam Jermyn²

Institution(s): ¹ Dark Cosmology Centre, Niels Bohr Institute, ² Institute of Astronomy, University of Cambridge

128.07 FRB121102: statistics of burst properties compared to the fast radio burst population

Author(s): Andrew Seymour⁵, Daniele Michilli¹, Maura McLaughlin⁷, Shami Chatterjee³, Jason Hessel¹, Sarah Spolaor⁷, Demorest Paul⁶, Paul Scholz⁴, Laura Spitler³, Shriharsh P. Tendulkar²

Institution(s): ¹ Anton Pannekoek Institute for Astronomy, ² California Institute of Technology, ³ Cornell University, ⁴ McGill University, ⁵ NAIC, ⁶ National Radio Astronomy Observatory, ⁷ West Virginia University

Contributing team(s): PALFA Survey Team, VLA+AO FRB121102 Simultaneous Campaign Team, EVN FRB121102 Campaign Team

WEDNESDAY, 4 JANUARY 2017

129 HAD III: History

Wednesday, 2:00 pm - 3:30 pm; Texas 3

Chair: Marc Rothenberg (National Science Foundation)

129.01 An Account of Stellar Spectroscopy and John S. Plaskett's Leadership within Early 20th-Century Astrophysics in Canada

Author(s): **Andrew Ihor Oakes**¹

Institution(s): ¹ *University of Toronto*

129.02 Under Connecticut Skies: Exploring 100 Years of Astronomy at Van Vleck Observatory in Middletown, Connecticut

Author(s): **Roy E. Kilgard**¹, Amrys Williams¹, Paul Erickson¹, William Herbst¹, Seth Redfield¹

Institution(s): ¹ *Wesleyan Univ.*

129.03 Building the Green Bank Telescope

Author(s): **Kenneth I. Kellermann**¹

Institution(s): ¹ *NRAO*

129.04 The 2017 Eclipse: Centenary of the Einstein Light Deflection Experiment

Author(s): **Daniel Kennefick**¹

Institution(s): ¹ *University of Arkansas - Fayetteville*

129.06 The Unlikely Origins of NASA's "Search for Origins" Program

Author(s): **Mario R. Perez**², Harley A. Thronson¹

Institution(s): ¹ *NASA Goddard Space Flight Center*, ² *NASA Headquarters*

129.07 Recording of Supernovae in Rock Art, A Case Study at the Paint Rock Pictograph Site

Author(s): **Gordon L. Houston**¹, Irakli Simonia¹

Institution(s): ¹ *Iliia State University*

Contributing team(s): NA

129.08 Thirty Years After Jack Eddy at the Big Horn Medicine Wheel

Author(s): **Ivy Merriot**¹

Institution(s): ¹ *Montana State University*

129.09 The Astronomy Genealogy Project: It's more than just tracing your ancestry

Author(s): **Joseph S. Tenn**¹

Institution(s): ¹ *Sonoma State Univ.*

Contributing team(s): AstroGen Team

130 Variable Stars, Asteroseismology

Wednesday, 2:00 pm - 3:30 pm; Texas 4

Chair: Catherine Pilachowski (Indiana University)

130.01 Studying RR Lyrae Stars in M4 with K2

Author(s): **Charles A. Kuehn**², Jason Drury³, Pawel Moskalik¹

Institution(s): ¹ *Copernicus Astronomical Center*, ² *University of Northern Colorado*, ³ *University of Sydney*

130.02D RR Lyrae variable stars in M31-M33 super-halo

Author(s): **Nahathai Tanakul**¹, Ata Sarajedini¹

Institution(s): ¹ *University of Florida*

130.03D Probing the Histories of Local Group Dwarf Galaxies with Pulsating Variable Stars

Author(s): **Antonio J Ordoñez**¹, Ata Sarajedini¹

Institution(s): ¹ *University of Florida*

130.04 The connection between period spectra and constraints in white dwarf asteroseismology

Author(s): **Agnes Kim**¹

Institution(s): ¹ *Penn State Worthington Scranton*

130.05 Asteroseismology with Kepler and K2 data: Exploring horizontal branch cores using subdwarf B stars

Author(s): **Michael Reed**¹, Joshua Kern¹, Laura Ketzer¹

Institution(s): ¹ *Missouri State Univ.*

130.06 Mid-Infrared Studies of the Variability of the Dustiest, Most Extreme Asymptotic Giant Branch Stars in the Magellanic Clouds

Author(s): **Benjamin A. Sargent**¹, Margaret Meixner¹, Olivia Jones¹

Institution(s): ¹ *Space Telescope Science Institute*

130.07 An LBC view of Andromeda's dwarf spheroidal satellites

Author(s): **Felice Cusano**², Gisella Clementini², Alessia Garofalo¹

Institution(s): ¹ *Dipartimento di Fisica e Astronomia, Università di Bologna*,
² *INAF-OABO*

131 Cool Stars I

Wednesday, 2:00 pm - 3:30 pm; Grapevine 1

Chair: Sergio Dieterich (Georgia State University)

131.01D Calibrating the Age-Rotation-Activity Relation in Low-Mass Stars:

Chromospheric and Coronal Activity in the 500 Myr-old M37 Open Cluster

Author(s): **Alejandro Núñez**¹, Marcel A. Agueros¹

Institution(s): ¹ *Columbia University*

131.02D Open clusters as laboratories for stellar spin-down and magnetic activity decay

Author(s): **Stephanie Douglas**¹, Marcel A. Agueros¹, Kevin R. Covey²

Institution(s): ¹ *Columbia University*, ² *Western Washington University*

131.03 The rotation-activity relation in M dwarfs

Author(s): **Elisabeth R. Newton**², Jonathan Irwin¹, David Charbonneau¹, Perry L. Berlind¹, Michael L. Calkins¹, Jessica D. Mink¹

Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*, ² *Massachusetts Institute of Technology*

WEDNESDAY, 4 JANUARY 2017

131.04 Know the Planet, Know the Star: Precise Stellar Parameters with Kepler

Author(s): **Emily Sandford**¹, David M. Kipping¹

Institution(s): ¹ *Columbia University*

131.05D The Ages of A-Stars: Interferometric Observations of Our Brightest Neighbors

Author(s): **Jeremy Jones**², Russel J. White², Tabetha S. Boyajian⁴, Gail Schaefer², Ellyn K. Baines⁵, Michael Ireland¹, Samuel N. Quinn³

Institution(s): ¹ *Australian National University*, ² *Georgia State University*,

³ *Harvard*, ⁴ *Louisiana State University*, ⁵ *Naval Research Laboratory*

Contributing team(s): The CHARA Team

132 CO-HI Observations of Galaxies

Wednesday, 2:00 pm - 3:30 pm; Grapevine 2

Chair: Barry Welsh (UC, Berkeley)

132.01 ALMA Reveals Large Molecular Gas Reservoirs in Ancestors of Milky Way-Mass Galaxies at $z=1.2-1.3$

Author(s): **Casey J. Papovich**⁵, Ivo Labbe¹, Karl Glazebrook⁴, Ryan Quadri⁵, Georgios Bekiaris⁴, Mark Dickinson³, Steven L. Finkelstein⁶, David B. Fisher⁴, Hanae Inami³, Rachael C. Livermore⁶, Lee Spitler², Caroline Straatman¹, Kim-Vy Tran⁵

Institution(s): ¹ *Leiden Observatory*, ² *Macquarie University*, ³ *NOAO*,
⁴ *Swinburne*, ⁵ *Texas AandM University*, ⁶ *University of Texas at Austin*

132.02 GBT CO observations of two ACT dusty star-forming galaxies

Author(s): **Jesus Rivera**⁴, Andrew J. Baker⁴, Grant Wilson⁹, Min Su Yun⁹, David T. Frayer³, Andrew I. Harris⁸, Tobias Marriage², Megan Gralla⁵, Ting Su², Itziar Aretxaga¹, Kirsten Hall², David Hughes¹, John Patrick Hughes⁴, Charles R. Keeton⁴, Felipe Menanteau⁶, Alfredo Montana¹, Amitpal Tagore⁷, Yuping Tang⁹

Institution(s): ¹ *Instituto Nacional de Astrofisica, Optica y Electronica*, ² *Johns Hopkins*, ³ *NRAO*, ⁴ *Rutgers, the State University of New Jersey*, ⁵ *University of Arizona*, ⁶ *University of Illinois at Urbana-Champaign*, ⁷ *University of Manchester*, ⁸ *University of Maryland*, ⁹ *University of Massachusetts at Amherst*
Contributing team(s): Atacama Cosmology Telescope team

132.03 Initial HI results from the Arecibo Pisces-Perseus Supercluster Survey

Author(s): **David W Craig**⁶, Cory Davis⁶, Cory Johnson⁶, Rebecca A. Koopmann⁴, Michael G Jones¹, Gregory L Hallenbeck⁴, Aileen A. O'Donoghue³, Martha P. Haynes¹, Riccardo Giovanelli¹, Jessica L. Rosenberg², Aparna Venkatesan⁵

Institution(s): ¹ *Cornell University*, ² *George Mason University*, ³ *St. Lawrence University*, ⁴ *Union College*, ⁵ *University of San Francisco*, ⁶ *West Texas A&M University*

Contributing team(s): Undergraduate ALFALFA Team

132.04D Using the Greenbank Telescope with Gravitational Lensing and the VLA to search for HI Beyond $z=0.25$

Author(s): **Lucas Hunt**², Daniel J. Pisano², Steve Crawford¹

Institution(s): ¹ South African Astronomical Observatory, ² West Virginia University

Contributing team(s): CHILES

132.05 Mapping Diffuse HI Content in MHONGOOSE Galaxies NGC 1744 and NGC 7424

Author(s): **Amy Sardone**¹, Daniel J. Pisano¹, Nickolas Pingel¹

Institution(s): ¹ West Virginia University

132.06D (Almost) Dark Galaxies in the ALFALFA Survey: HI-bearing Ultra-Diffuse Galaxies, and Beyond

Author(s): **Luke Leisman**¹, Martha P. Haynes¹, Riccardo Giovanelli¹

Institution(s): ¹ Cornell University

Contributing team(s): The ALFALFA Almost Darks Team

132.07 Characterizing source confusion in HI spectral line stacking experiments

Author(s): **Andrew J. Baker**¹, Edward C Elson², Sarah Blyth²

Institution(s): ¹ Rutgers, the State University of NJ, ² University of Cape Town

133 Dust & Magnetic Fields

Wednesday, 2:00 pm - 3:30 pm; Fort Worth 6

Chair: Alex Lazarian (Univ. of Wisconsin)

133.01D Magnetic Fields in the Interstellar Medium

Author(s): **Susan Clark**¹

Institution(s): ¹ Columbia University

133.02 Dust Grain Alignment and Magnetic Field Strength in the Wall of the Local Bubble

Author(s): **B-G Andersson**², Ilija Medan¹

Institution(s): ¹ Dept. of Physics, Santa Clara University, ² SOFIA Science Center

133.03D Characterizing Dust Attenuation in Local Star Forming Galaxies

Author(s): **Andrew Battisti**², Daniela Calzetti², Ranga-Ram Chary¹

Institution(s): ¹ Caltech, ² University of Massachusetts at Amherst

133.04 PAH 8 μ m Emission as a Diagnostic of HII Region Optical Depth

Author(s): **M. S. Oey**⁸, J. Lopez-Hernandez⁸, J. A. Kellar⁸, E. W. Pellegrini⁵, Karl D. Gordon³, Katherine Jameson⁷, Aigen Li⁹, Suzanne C. Madden¹, Margaret Meixner³, Julia Roman-Duval³, Caroline Bot², Monica Rubio⁴, A. G. G. M. Tielens⁶

Institution(s): ¹ CEA, Univ. de Paris, ² Observatoire de Strasbourg, ³ STScI,

⁴ Univ. de Chile, ⁵ Univ. Heidelberg, ⁶ Univ. Leiden, ⁷ Univ. of Maryland, ⁸ Univ. of Michigan, ⁹ Univ. of Missouri

WEDNESDAY, 4 JANUARY 2017

133.05D The First Observation of the Submillimeter Polarization Spectrum in a Low-AV Molecular Cloud

Author(s): **Peter Campbell Ashton**¹³, Peter Ade³, Francesco E Angilè¹⁹, Steven J Benton¹⁴, Mark J. Devlin¹⁹, Bradley Dober¹¹, Laura M. Fissel¹², Yasuo Fukui⁸, Nicholas Galitzki¹⁷, Natalie Gandilo⁷, Jeffrey Klein¹⁹, Zhi-Yun Li²¹, Andrei Korotkov¹, Peter G. Martin²⁰, Tristan Matthews¹³, Lorenzo Moncelsi², fumitaka nakamura¹⁰, Calvin Barth Netterfield²⁰, Giles Novak¹³, Enzo Pascale³, Frédéric Poidevin⁶, Fabio P. Santos¹³, Giorgio Savini¹⁵, Douglas Scott¹⁶, Jamil Shariff⁴, Juan D. Soler⁵, Nicholas Thomas⁹, carole tucker³, Gregory S. Tucker¹, Derek Ward-Thompson¹⁸

Institution(s): ¹ Brown University, ² California Institute of Technology, ³ Cardiff University, ⁴ Case Western Reserve University, ⁵ Institut d'Astrophysique Spatiale, ⁶ Instituto de Astrofísica de Canarias, ⁷ Johns Hopkins University, ⁸ Nagoya University, ⁹ NASA Goddard Space Flight Center, ¹⁰ National Astronomical Observatory of Japan, ¹¹ National Institute of Standards and Technology, ¹² National Radio Astronomy Observatory, ¹³ Northwestern University, ¹⁴ Princeton University, ¹⁵ University College London, ¹⁶ University of British Columbia, ¹⁷ University of California - San Diego, ¹⁸ University of Central Lancashire, ¹⁹ University of Pennsylvania, ²⁰ University of Toronto, ²¹ University of Virginia

Contributing team(s): BLASTPol

133.06 BLAST-TNG: A Next Generation Balloon-borne Large Aperture Submillimeter Polarimeter

Author(s): **Laura M. Fissel**⁷, Peter Ade³, Francesco E Angilè¹⁴, Peter Campbell Ashton⁸, Jason Edward Ausermann⁶, Tashalee Billings¹⁴, George Che¹, Hsiao-Mei Cho⁶, Maria R Cunningham¹³, Kristina Davis¹, Mark J. Devlin¹⁴, Simon Dicker¹⁴, Bradley Dober⁶, Yasuo Fukui⁵, Nicholas Galitzki¹², jiansong gao⁶, Sam Gordon¹, Christopher E. Groppi¹, Seth Hillbrand¹¹, Gene Hilton⁶, Hannes Hubmayr⁶, Kent Irwin⁹, Paul Jones¹³, Jeffrey Klein¹⁴, dale li⁶, Zhi-Yun Li¹⁵, nathan lourie¹⁴, Ian Lowe¹⁴, Hamdi Mani¹, Peter G. Martin², Philip Mausekopf¹, Christopher McKenney⁶, Federico Nati¹⁴, Giles Novak⁸, Enzo Pascale³, giampaolo pisano³, Fábio Pereira Santos⁸, Douglas Scott¹⁰, Adrian Sinclair¹, Juan Diego Diego Soler⁴, carole tucker³, Matthew Underhill¹, Michael Vissers⁶, Paul Williams⁸

Institution(s): ¹ Arizona State University, ² Canadian Institute for Theoretical Astrophysics, ³ Cardiff University, ⁴ Institute d'Astrophysique Spatiale, ⁵ Nagoya University, ⁶ National Institute of Standards and Technology, ⁷ National Radio Astronomy Observatory, ⁸ Northwestern University, ⁹ Stanford University, ¹⁰ University of British Columbia, ¹¹ University of California Davis, ¹² University of California San Diego, ¹³ University of New South Wales, ¹⁴ University of Pennsylvania, ¹⁵ University of Virginia

134 Structure of the Milky Way, & Stellar Astrometry

Wednesday, 2:00 pm - 3:30 pm; Dallas 6

Chair: Breann Sitarski (UCLA)

134.02D Mapping Milky Way Halo Structure with Blue Horizontal Branch Stars

Author(s): Charles Martin², Heidi Jo Newberg², Jeffrey L. Carlin¹

Institution(s): ¹ LSST & Steward Observatory, ² Rensselaer Polytechnic Institute

134.03 The First Mass Function and Rise of Carbon in the Early Universe

Author(s): Kaitlin Rasmussen¹, Timothy C. Beers¹, Vinicius M Placco¹, Jinmi Yoon¹

Institution(s): ¹ University of Notre Dame

134.04D Bayesian Mass Estimates of the Milky Way: Inferring the Mass Profile from Globular Cluster Kinematics

Author(s): Gwendolyn Eadie¹, William E. Harris¹, Aaron Springford², Larry Widrow²

Institution(s): ¹ McMaster University, ² Queen's University

134.05 Constraining the mass of single stars from HST astrometric microlensing measurements

Author(s): Noé Kains², Kailash C. Sahu², Stefano Casertano², Jay Anderson², Annalisa Calamida¹

Institution(s): ¹ NOAO, ² Space Telescope Science Institute

Contributing team(s): The OGLE collaboration

134.06 Estimating distances from parallaxes

Author(s): Tri L. Astraatmadja¹, Coryn Bailer-Jones²

Institution(s): ¹ Department of Terrestrial Magnetism, Carnegie Institution for Science, ² Max Planck Institute for Astronomy

134.07 Beta Dips in the Gaia Era: Simulation Predictions of the Galactic Velocity Anisotropy Parameter (β)

Author(s): Sarah Loebman⁴, Monica Valluri⁴, Kohei Hattori⁴, Victor P. Debattista², Eric F. Bell⁴, Greg Stinson⁵, Charlotte Christensen¹, Alyson Brooks³, Thomas R. Quinn⁵, Fabio Governato⁵

Institution(s): ¹ Grinnell College, ² Jeremiah Horrocks Institute, University of Central Lancashire, ³ Rutgers University, ⁴ University of Michigan, ⁵ University of Washington

WEDNESDAY, 4 JANUARY 2017

135 Plenary Session: Henry Norris Russell Lectureship: How Stars Form, Christopher McKee (University of California, Berkeley)

Wednesday, 3:40 pm - 4:30 pm; Texas A

Chair: Christine Jones (Harvard-Smithsonian, CfA)



135.01 How Stars Form

Author(s): **Christopher F. McKee¹**

Institution(s): ¹ UC, Berkeley

Citation: For his innovative ideas, powerful theoretical insights, and practical models that have had significant impact on many areas of astrophysics. The prize committee specifically noted McKee's research on the interstellar medium and star formation as well as his leadership in the university community and nationally through the astronomy decadal surveys.

136 Racism = Prejudice + Power: A Discussion of Racism in the Field of Astronomy

Wednesday, 4:30 pm - 5:30 pm; Texas A

The daily news cycle reminds us that racism is alive and well in the United States: police violence against persons of color, racial profiling at borders and airports, anti-muslim and anti-immigrant rhetoric by presidential candidates are common headlines. What may be surprising and hard to accept by many astronomers is that racism is also entrenched in our own scientific community. Racial discrimination in graduate admissions, closures of research programs and Astronomy departments at minority-serving institutions, lack of scholarship funding for immigrants, and demeaning language directed toward indigenous groups opposed to astronomical development on sacred sites are all examples of endemic racism in astronomy. But what exactly is racism? How does it manifest itself? How do we talk about it? And how do we eliminate it from our community? Drawing on the work done and lessons learned during the 2015 Inclusive Astronomy meeting, this session aims to educate astronomers on race and racism, their equivalence to power dynamics and white privilege, and what (primarily white) astronomers in power can do to recognize and dismantle racism at our institutions and communities. The session will include a panel of astronomers and social scientists with expertise in racism and racialized power dynamics, followed by a moderated discussion. Given the sensitive nature of the subject matter, participants will be asked to adhere to specific ground rules for the discussion, including sharing the air, being conscientious of power dynamics, using "both/and" rather than "either/or" language, leaning into discomfort, speaking to their own experience, focusing on the message rather than the messenger, and identifying and acknowledging harmful speech ("oops, ouch"). We will ask that the discussion be confidential ("What's said here stays here; what's learned here leaves here") to permit a safe space to do this challenging but essential work.

Organizer(s): Adam Burgasser (UC San Diego)

Career Hour 1: Leveraging Social Media for Networking and Career Advancement

Wednesday, 5:30 pm - 6:30 pm; San Antonio 1

More and more recruiters, job decision-makers and hiring managers are using the web to find and research potential candidates. How can you make sure that you are not only found, but are ahead of the pack? In this session, we will discuss how decision-makers use LinkedIn and Facebook, and how you can use LinkedIn to establish yourself as a leader in your field, enhance your research reputation, and seek out and take advantage of innovative opportunities. We will demonstrate how to optimize your presence on Twitter, and create a winning LinkedIn profile, and how to use its multitude of features (such as joining and commenting in groups) to generate solid leads for your career.

Organizer(s): AAS Employment Committee (AAS)

POSTER SESSIONS

137 New, Fundamental, Cutting-Edge Science from
Arecibo Observatory Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

137.01 Characterization of HI Filaments

Author(s): **Emily Lubar**², Gerrit L. Verschuur¹

Institution(s): ¹ Arecibo Observatory, ² The Evergreen State College

137.02 The NANOGrav Eleven-Year Data Set: High-precision timing of 48 Millisecond Pulsars

Author(s): **David J. Nice**¹

Institution(s): ¹ Lafayette College

Contributing team(s): NANOGrav

137.03 The NSF Undergraduate ALFALFA Team: Partnering with Arecibo Observatory to Offer Undergraduate and Faculty Extragalactic Radio Astronomy Research Opportunities

Author(s): **Joseph Ribaud**¹⁹, Rebecca A. Koopmann¹⁴, Martha P. Haynes³, Thomas J. Balonek¹, John M. Cannon⁷, Kimberly A. Coble⁹, David W. Craig²⁰, Grant R. Denn⁸, Adriana Durbal¹⁸, Rose Finn¹⁰, Gregory L. Hallenbeck¹⁴, G. Lyle Hoffman⁶, Mayra E. Lebron¹⁵, Brendan P. Miller², Mary Crone-Odekon¹¹, Aileen A. O'Donoghue¹², Ronald Paul Olowin¹³, Carmen Pantoja¹⁵, Daniel J. Pisano²¹, Jessica L. Rosenberg⁴, Parker Troisicht⁵, Aparna Venkatesan¹⁶, Eric M. Wilcots¹⁷
Institution(s): ¹ Colgate University, ² College of St. Scholastica, ³ Cornell University, ⁴ George Mason University, ⁵ Hartwick College, ⁶ Lafayette College, ⁷ Macalester College, ⁸ Metropolitan State University of Denver, ⁹ San Francisco State University, ¹⁰ Siena College, ¹¹ Skidmore College, ¹² St. Lawrence University, ¹³ St. Mary's College of California, ¹⁴ Union College, ¹⁵ University of Puerto Rico, ¹⁶ University of San Francisco, ¹⁷ University of Wisconsin, ¹⁸ University of Wisconsin Stevens Point, ¹⁹ Utica College, ²⁰ West Texas A&M University, ²¹ West Virginia University

Contributing team(s): ALFALFA Team

137.04 The Arecibo Environment Galaxy Survey: The NGC 2577/UGC 4375-galaxy pair

Author(s): **Ashley Ann Iguina**², Robert F. Minchin¹

Institution(s): ¹ Arecibo Observatory, ² Wellesley College

137.05 Improving Arecibo Observatory's Hardware

Author(s): **Paula Van Rooy**¹, Dana Whitlow¹, Andrew Seymour¹

Institution(s): ¹ Arecibo Observatory

137.06 Monitoring the Remarkable Radio Spectral-Line/Continuum Outburst in Galaxy NGC 660

Author(s): **Christopher J. Salter**¹, Tapasi Ghosh¹, Robert F. Minchin¹, Emmanuel Momjian²

Institution(s): ¹ NAIC, Arecibo Observatory, ² NRAO

137.07 Correcting the Redshift Measurement of 4C15.05 Using Neutral Hydrogen

Author(s): **Kristen M. Jones**¹, Tapasi Ghosh¹, Christopher J. Salter¹

Institution(s): ¹ *Arecibo Observatory*

137.08 Detected Galaxies and Large Scale Structure in the Arecibo L-band Feed Array Zone of Avoidance Survey (ALFAZOA)

Author(s): **Patricia A. Henning**¹⁰, Monica Sanchez-Barrantes¹⁰, Travis McIntyre⁵, Robert F. Minchin⁴, Emmanuel Momjian⁶, Zhon Butcher⁹, Jessica L. Rosenberg², Stephen E. Schneider⁹, Lister Staveley-Smith³, Wim van Driel⁷, Mpati Ramatsoku⁸, Baerbel Koribalski¹, Brady Spears¹⁰

Institution(s): ¹ *CSIRO*, ² *George Mason Univ.*, ³ *ICRAR*, ⁴ *NAIC*, ⁵ *NM LFC*, ⁶ *NRAO*, ⁷ *Observatoire Paris-Site de Meudon*, ⁸ *U. Groningen*, ⁹ *Univ. of Massachusetts*, ¹⁰ *Univ. of New Mexico*

138 Astrobiology Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

138.01 Glycolaldehyde and Ethylene Glycol on Nearly Isotropic Comets

Author(s): **Jayden Butler**¹, Nicolle Zellner¹, Vanessa McCaffrey¹

Institution(s): ¹ *Albion College*

138.02 Using Lunar Impact Glasses to Inform the Amount of Organic Material Delivered to the Early Earth

Author(s): **Pham Nguyen**², Nicolle Zellner¹

Institution(s): ¹ *Albion College*, ² *Michigan State University*

138.04 MISE: A Search for Organics on Europa

Author(s): **Kelly Whalen**¹, Jonathan I. Lunine¹, Diana L. Blaney²

Institution(s): ¹ *Cornell University*, ² *JPL*

138.05 How Mathematics Describes Life

Author(s): **Abraham Teklu**¹

Institution(s): ¹ *Oregon State University*

138.06 Cosmogenic Secondary Radiation from a Nearby Supernova

Author(s): **Andrew Overholt**¹

Institution(s): ¹ *MidAmerica Nazarene University*

139 Laboratory Astrophysics Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

139.01 Improved Cr II log(gf)s and Cr Abundances in the Photospheres of the Sun and Metal-Poor Star HD 84937

Author(s): **James E. Lawler**⁴, Chris Sneden³, Gillian Nave¹, Elizabeth Den Hartog⁴, Nuri Emrahoglu⁴, John J. Cowan²

Institution(s): ¹ *NIST*, ² *University of Oklahoma*, ³ *University of Texas*, ⁴ *University of Wisconsin*

WEDNESDAY, 4 JANUARY 2017

139.02 Astrochemistry at the Cryogenic Storage Ring

Author(s): **Holger Kreckel**³, Arno Becker³, Klaus Blaum³, Christian Breitenfeldt³, Sebastian George³, Jürgen Göck³, Manfred Grieser³, Florian Grussie³, Elisabeth Guerin³, Oded Heber⁴, Jonas Karthein³, Claude Krantz³, Christian Meyer³, Preeti Mishra³, Oldrich Novotny³, Aodh O'Connor³, Sunny Saurabh³, Stefan Schippers¹, Kaija Spruck³, S. Sunil Kumar³, Xavier Urbain², Stephen Vogel³, Robert von Hahn³, Patrick Wilhelm³, Andreas Wolf³, Daniel Zajfman⁴

Institution(s): ^{1.} I. Physics Institute, Justus-Liebig-University Giessen, ^{2.} Institute of Condensed Matter and Nanosciences, Université catholique de Louvain, ^{3.} Max Planck Institute for Nuclear Physics, ^{4.} Weizmann Institute of Science

139.03 Experimentally Determined Binding Energies of Astrophysically Relevant Hydrocarbons in Pure and H₂O-Layered Ices

Author(s): **Aida Behmard**², Dawn Graninger¹, Edith Fayolle¹, Karin I. Oberg¹

Institution(s): ^{1.} Harvard-Smithsonian Center for Astrophysics, ^{2.} Princeton University

139.04 Investigating Cosmic Analog Dusts in the Lab at MM/Sub-MM Wavelength

Author(s): **Lunjun Liu**¹, Kyle O'Shea², Fiona Breyer¹, Ronan Dorsey¹, Hansheng Chen¹, Thushara Perera¹

Institution(s): ^{1.} Illinois Wesleyan University, ^{2.} Michigan State University

140 Preparing for, & Engaging in, the 2017 Solar Eclipse Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

140.01 Celebrating the Eighth Annual International Observe the Moon Night and Supporting the 2017 Solar Eclipse

Author(s): **Sanlyn Buxner**⁵, Andrea Jones⁵, Lora Bleacher⁴, Andy Shaner², Matthew Wenger⁵, Maya Bakerman⁵, Emily Joseph⁵, Brian Day³, Vivian White¹

Institution(s): ^{1.} Astronomical Society of the Pacific, ^{2.} Lunar and Planetary Institute, ^{3.} NASA Ames Research Center, ^{4.} NASA Goddard Space Flight Center, ^{5.} Planetary Science Institute

Contributing team(s): InOMN Coordinating Committee

140.02 Update on the Citizen CATE Experiment: Indonesia to 2017

Author(s): **Myles McKay**⁷, Matt Penn⁴, Robert Baer⁶, Robert Bosh⁹, David Garrison³, Richard Gelderman⁹, Honor Hare⁹, Fred Isberner⁶, Logan Jensen⁸, Sarah Kovac⁶, Adriana Mitchell⁴, Michael Pierce⁸, Patricia Thompson⁹, Andrei Ursache³, John R. Varsik², Donald K. Walter⁵, Zachary Watson⁴, David T. Young¹

Institution(s): ^{1.} Astronomical Society of Kansas City, ^{2.} Big Bear Solar Observatory, ^{3.} Mathwork Inc, ^{4.} National Solar Observatory, ^{5.} South Carolina State University, ^{6.} Southern Illinois University – Carbondale, ^{7.} Space Telescope Science Institute, ^{8.} University of Wyoming, ^{9.} Western Kentucky University

Contributing team(s): The Citizen CATE Team

- 140.03 There's An App For That: Planning Ahead for the Solar Eclipse in August 2017**
 Author(s): **Malynda R. Chizek Frouard**², Michael V. Lesniak², Steve Bell¹
 Institution(s): ¹ *Her Majesty's Nautical Almanac Office*, ² *US Naval Observatory*
- 140.04 Eclipse '17 at Indiana University Bloomington**
 Author(s): **Karna Mahadev Desai**¹, Catherine A. Pilachowski¹
 Institution(s): ¹ *Indiana University Bloomington*
- 140.05 Observing the 2017 Total Solar Eclipse from the Pisgah Astronomical Research Institute**
 Author(s): **Sean Matthew Kirwan**¹, J. Donald Cline¹, Mark Krochmal¹
 Institution(s): ¹ *Pisgah Astronomical Research Institute*
 Contributing team(s): Donald Cline, Mark Krochmal
- 140.06 The 2017 solar eclipse and Majorana & Allais gravity anomalies**
 Author(s): **Hector A Munera**¹
 Institution(s): ¹ *International Center for Physics CIF*

141 Relativistic Astrophysics, Gravitational Lenses & Waves Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 141.01 Microlensing Events in Gaia and other Astrometric Surveys**
 Author(s): **Claire Baker**², Rosanne Di Stefano², Sebastien Lepine¹
 Institution(s): ¹ *Georgia State University*, ² *Smithsonian Astrophysical Observatory*
- 141.02 Exploring Parameter Space Coverage of Various LISA Configurations**
 Author(s): **Michael L Katz**¹
 Institution(s): ¹ *Northwestern University*
- 141.03 Gravitational Wave Detection of Compact Binaries Through Multivariate Analysis**
 Author(s): **Dany Victor Atallah**¹, Iain Dorrington², Patrick Sutton²
 Institution(s): ¹ *California State University Long Beach*, ² *Cardiff University*
- 141.04 A unified relativistic treatment of tidal disruption by a Schwarzschild black hole**
 Author(s): **Juan Edgardo Servin**¹, Michael Kesden¹
 Institution(s): ¹ *University of Texas at Dallas*
- 141.05 Multi-Messenger Astronomy: White Dwarf Binaries, LISA and GAIA**
 Author(s): **Michael Bueno**², Katelyn Breivik¹, Shane L. Larson¹
 Institution(s): ¹ *CIERA, Northwestern University*, ² *Haverford College*
- 141.06 Studying Variance in the Galactic Ultra-compact Binary Population**
 Author(s): **Shane L. Larson**¹, Katelyn Breivik¹
 Institution(s): ¹ *Northwestern*
- 141.07 Geometry of Superluminal Light-Echo Pair Events**
 Author(s): **Robert J. Nemiroff**¹
 Institution(s): ¹ *Michigan Technological Univ.*

WEDNESDAY, 4 JANUARY 2017

141.08 The Effects of Physically Unrelated Near Neighbors on the Galaxy-Galaxy Lensing Signal

Author(s): **Tereasa G. Brainerd**¹

Institution(s): ¹ *Boston Univ.*

141.09 The UV Luminosity Function at $6 < z < 10$ from the Hubble Frontier Fields

Author(s): **Rachael C. Livermore**², Steven L. Finkelstein², Jennifer M. Lotz¹

Institution(s): ¹ *Space Telescope Science Institute*, ² *University of Texas at Austin*

142 The Milky Way, The Galactic Center Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

142.01 An Enigmatic Variable Star in the Backyard of Sagittarius A*

Author(s): **Christopher O'Connor**², Abhimat Gautam², Tuan Do², Andrea M. Ghez², Shoko Sakai², Mark Morris², Jessica R. Lu¹, Gunther Witzel², Breann Sitarski², Samantha Chappell²

Institution(s): ¹ *University of California, Berkeley*, ² *University of California, Los Angeles*

142.02 Observable Priors: Limiting Biases in Estimated Parameters for Incomplete Orbits

Author(s): **Kelly Kosmo**¹, Gregory Martinez¹, Aurelien Hees¹, Gunther Witzel¹, Andrea M. Ghez¹, Tuan Do¹, Breann Sitarski¹, Devin Chu¹, Arezu Dehghanfar¹

Institution(s): ¹ *UCLA*

142.04 HI Clouds Near the Galactic Center: Possible Tracers of the Nuclear Wind

Author(s): **Felix J. Lockman**², Naomi McClure-Griffiths¹, Enrico DiTeodoro¹

Institution(s): ¹ *Australian National University*, ² *Green Bank Observatory*

142.05 Probing Magnetized Turbulence in the Fermi Bubbles

Author(s): **Kelsey Lund**³, Christopher A. Hales², Meng Su¹

Institution(s): ¹ *Hong Kong University*, ² *NRAO*, ³ *University of California San Diego*

142.06 A Detailed Analysis of the Physical Conditions in the Infrared Dark Clouds in the Region IGGC 16/23

Author(s): **Samantha Scibelli**², Volker Tolls¹

Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*, ² *Stony Brook University*

142.07 On the claimed X-shaped structure in the Milky Way bulge

Author(s): **Daniel Han**¹, Young-Wook Lee¹

Institution(s): ¹ *Yonsei University*

142.08 The Dynamics of Molecular Clouds in the Galactic Bar Region on the Near-Side of the CMZ

Author(s): **Volker Tolls**¹, Howard Alan Smith¹

Institution(s): ¹ *Harvard-Smithsonian, CfA*

Contributing team(s): HIGGS Team

- 142.09 Hunting for accretors towards the bulge with the Chandra and Hubble Space Telescopes**
 Author(s): **Brittany Howard**⁶, Emily Aufdemberge⁶, JaeSub Hong², William I. Clarkson⁶, Maureen Van Den Berg², Kailash C. Sahu⁴, Jonathan Grindlay¹, Robert Michael Rich⁵, Annalisa Calamida³
Institution(s): ^{1.} *Harvard University*, ^{2.} *Harvard-Smithsonian Center for Astrophysics*, ^{3.} *NOAO*, ^{4.} *Space Telescope Science Institute*, ^{5.} *University of California, Los Angeles*, ^{6.} *University of Michigan - Dearborn*
- 142.10 Distance to the High-Latitude Molecular Cloud MBM 37 (LDN 183)**
 Author(s): **Richard P. Boyle**⁴, Robert Janusz³, Vytautas Straizys⁵, Christopher J. Corbally⁴, Ulisse Munari¹, B-G Andersson², Justas Zdanavicius⁵, Marius Maskoliunas⁵, Algirdas Kazlauskas⁵
Institution(s): ^{1.} *INAF, Astronomical Observatory of Padova*, ^{2.} *Sofia Science Center / USRA*, ^{3.} *University School "Ignatianum"*, ^{4.} *Vatican Observatory*, ^{5.} *Vilnius University*
- 142.12 Smith's Cloud: No chemistry but we did find some of the Milky Way's Missing Baryons**
 Author(s): **Anthony Howard Minter**¹
Institution(s): ^{1.} *Green Bank Observatory*
- 142.13 Age-Metallicity Relationships Across the Milky Way Galaxy with APOGEE**
 Author(s): **Colton Casados-Medve**¹, Jonathan C. Bird²
Institution(s): ^{1.} *University of Denver*, ^{2.} *Vanderbilt University*
 Contributing team(s): APOGEE Team (Sloan Digital Sky Survey)
- 142.14 Local Velocity Substructure in the Milky Way Disk**
 Author(s): **Alan Pearl**², Heidi Jo Newberg², Jeffrey L. Carlin¹, R. Fiona Smith²
Institution(s): ^{1.} *LSST and Steward Observatory*, ^{2.} *Rensselaer Polytechnic Institute*
- 142.15 Halo Substructure Towards the Galactic Center**
 Author(s): **Paul Martin Amy**², Charles Martin², Heidi Jo Newberg², Siddhartha Shelton², Jeffrey L. Carlin¹, Benjamin A. Willett²
Institution(s): ^{1.} *LSST and Steward Observatory*, ^{2.} *Rensselaer Polytechnic Institute*
- 142.16 Better Galactic mass models through chemistry**
 Author(s): **Robyn Ellyn Sanderson**¹, Andrew Wetzel¹, Philip F. Hopkins¹, Sanjib Sharma²
Institution(s): ^{1.} *Caltech*, ^{2.} *University of Sydney*
- 142.17 Structures in the Milky Way's Halo System using the Age Distribution of Field Horizontal-Branch Stars**
 Author(s): **Geoffrey Lentner**¹, Timothy C. Beers¹, Vinicius M Placco¹, Daniela Carollo¹, Deven Whitten¹, Pavel Denissenkov³, Rafael Santucci², Silvia Rossi²
Institution(s): ^{1.} *University of Notre Dame*, ^{2.} *University of Sao Paulo*, ^{3.} *University of Victoria*
- 142.18 Identifying CEMP-s and CEMP-no Stars within Milky Way Halo Structures**
 Author(s): **Sarah Eliana Dietz**¹, Timothy C. Beers¹, Daniela Carollo¹, Jinmi Yoon¹, Vinicius M Placco¹
Institution(s): ^{1.} *University of Notre Dame*

WEDNESDAY, 4 JANUARY 2017

142.19 Keck Spectroscopy of NGVS Sources: Milky Way Halo Star Kinematics

Author(s): **Hao Zhang**², Puragra Guhathakurta², Eric W Peng¹, Elisa Toloba²
Institution(s): ¹ Peking University, ² University of California, Santa Cruz
Contributing team(s): Next Generation Virgo Cluster Survey (NGVS)
Collaboration

142.20 The WFIRST view of the distant stellar halo

Author(s): **Amy Secunda**¹, Robyn Ellyn Sanderson¹, Kathryn V. Johnston¹, Sanjib Sharma²
Institution(s): ¹ Columbia University, ² University of Sydney

143 Elliptical Galaxies Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

143.01 The Origin of Isolated Early-Type Galaxies: A Multiwavelength Study of Three Systems

Author(s): **Michael N. Fanelli**¹, Pamela M. Marcum¹, Trisha L. Ashley¹, Christopher R. FUSE³, Heather O'Toole Appleby²
Institution(s): ¹ NASA Ames Research Center, ² Richland College, ³ Rollins College

143.02 Early type galaxies, i.e. ellipticals and lenticulars, are generally considered to be largely devoid of cool gas and associated dust

Author(s): **Joel Travis Stadler**¹, Ralf C. Kotulla², John S. Gallagher²
Institution(s): ¹ North Carolina A&T, ² University of Wisconsin

143.03 Examining the X-ray Properties of Lenticular Galaxies: Rollins S0 X-ray Sample (RSOX)

Author(s): **Christopher R. FUSE**¹, Alysya Malespina¹
Institution(s): ¹ Rollins College

143.04 HST Infrared Imaging of MASSIVE Survey Galaxies

Author(s): **Joseph B. Jensen**⁵, Charles Goullaud⁴, John Blakeslee¹, Casey Mitchiner⁵, Chung-Pei Ma⁴, Jenny E. Greene³, Nicholas J. McConnell¹, Jens Thomas²
Institution(s): ¹ Herzberg Astrophysics, ² Max Planck Institute, ³ Princeton University, ⁴ UC Berkeley, ⁵ Utah Valley University

143.05 A New Distance Measurement to NGC 4874 in the Coma Cluster

Author(s): **Crystal-Lynn Bartier**², Joseph Jensen², John Blakeslee¹
Institution(s): ¹ Herzberg Astronomy & Astrophysics, ² Utah Valley University

144 Spiral Galaxies Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

144.01 Star Formation in MUSCLES Galaxies

Author(s): **Jason Young**³, Rachel Kuzio de Naray², Sharon Xuesong Wang¹
Institution(s): ¹ Carnegie DTM, ² Georgia State University, ³ Mount Holyoke College

- 144.02 Kinematics of MUSCEL Galaxies**
 Author(s): Rachel Kuzio de Naray², Jason Young³, Sharon Wang¹
 Institution(s): ¹ Carnegie DTM, ² Georgia State University, ³ Mount Holyoke
- 144.03 New Photometric and Kinematic Evidence for a Bar in NGC 2841**
 Author(s): Wesley Peters¹, Rachel Kuzio de Naray¹
 Institution(s): ¹ Georgia State University
- 144.04 Improving Stellar Velocity Dispersion Measurements in Barred Spiral Galaxies With Supermassive Black Holes**
 Author(s): Benjamin Dittenber¹, Monica Valluri¹
 Institution(s): ¹ University of Michigan
- 144.05 Gravitational Instability of Nuclear Rings in Barred Galaxies**
 Author(s): Woong-Tae Kim¹, Sanghyuk Moon¹
 Institution(s): ¹ Seoul National Univ.
- 144.06 EVN VLBI Imaging of the Jet in the Nucleus of the Barred Spiral Galaxy NGC 7479**
 Author(s): Seppo J. Laine¹, Emmanuel Momjian³, Thomas Krichbaum², Rainer Beck², S. Komossa²
 Institution(s): ¹ Caltech, ² MPIfR, ³ NRAO
- 144.07 Determining the Co-Rotation Radius of Nearby Spiral Galaxies Using Spiral Arm Overlays**
 Author(s): Mohamed Shameer Abdeen¹, Daniel Kennefick¹, Julia D. Kennefick¹, Hamed Pour Imani¹, Douglas W Shields¹, Rafael Eufrazio¹, Jazmin Berlanga Medina¹, Erik Monson¹
 Institution(s): ¹ Department of Physics, University of Arkansas
- 144.08 The Spiral Arm Pattern Speed for Different Components of the Interstellar Medium in NGC 3184**
 Author(s): Jacob Lichtenberg¹, Jason Speights¹
 Institution(s): ¹ Frostburg State University
- 144.09 Time Variability and Luminosity of X-ray Sources of Face-on Spiral Galaxy NGC 1232**
 Author(s): Oscar Cantua¹, Tyler Rucas¹, Pranjal Singh¹, Eric M. Schlegel¹
 Institution(s): ¹ The University of Texas at San Antonio
- 144.10 Chandra ACIS Observations of the Nearby Spiral Galaxy NGC 300**
 Author(s): Dale Bobar¹, Kevin Turner¹, Eric M. Schlegel¹
 Institution(s): ¹ University of Texas at San Antonio
- 144.11 The Extent of Hot Gaseous Galaxy Halos**
 Author(s): Joel N. Bregman², Michael E. Anderson¹, Edmund J. Hodges-Kluck², Matthew J. Miller², Xinyu Dai³
 Institution(s): ¹ Max Planck Institute of Astrophysics, ² Univ. of Michigan, ³ University of Oklahoma
- 144.12 A Chandra Observation of the Face-on Spiral Galaxy NGC 3938**
 Author(s): Kelsey Buhidar¹, Eric M. Schlegel¹
 Institution(s): ¹ University of Texas at San Antonio

WEDNESDAY, 4 JANUARY 2017

- 144.13 Properties of Extended X-ray Halos Around Spiral Galaxies**
Author(s): **Florence Concepcion Mairey**¹
Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*
- 144.14 Observational Confirmations of Spiral Density Wave Theory**
Author(s): **Julia D. Kenefick**², Daniel Kenefick², Mohamed Shameer Abdeen², Joel Berrier³, Benjamin Davis¹, Michael Fusco², Hamed Pour Imani², Doug Shields²
Institution(s): ¹ *Swinburne University of Technology*, ² *University of Arkansas - Fayetteville*, ³ *University of Nebraska*
Contributing team(s): DMS, SINGS
- 144.15 UGC 4599: Revealing the Extended Structure of a Hoag's Object Analog with HERON**
Author(s): **Michael Fusco**³, David A. Thilker¹, Fufang Wen⁴, Junjie Xia⁴, Stephen Stormont³, Noah Brosch², Francis Longstaff⁴, Julia D. Kenefick³, Robert Michael Rich⁴
Institution(s): ¹ *Johns Hopkins University*, ² *Tel Aviv University*, ³ *University of Arkansas*, ⁴ *University of California, Los Angeles*
Contributing team(s): The Halos and Environments of Nearby galaxies (HERON) team
- 144.16 Updated Photometry for the SINGS/KINGFISH Samples of Nearby Galaxies**
Author(s): **Daniel A. Dale**¹
Institution(s): ¹ *Univ. of Wyoming*
Contributing team(s): SINGS, KINGFISH
- 144.17 Dust lanes in backlit galaxies: first results from the STARSMOG survey**
Author(s): **William C. Keel**¹⁰, Sarah Bradford⁴, Benne Holwerda⁵, Christopher Conselice⁸, Ivan Baldry², Jonathan Bland-Hawthorn⁹, Simon P Driver¹, Loretta Dunne⁶, Jochen Liske⁷, Aaron Robotham¹, Richard Tuffs³
Institution(s): ¹ *ICRAR*, ² *Liverpool John Moores U.*, ³ *MPIA*, ⁴ *MTSI, Inc.*, ⁵ *Sterrewacht Leiden*, ⁶ *U. Edinburgh*, ⁷ *U. Hamburg*, ⁸ *U. Nottingham*, ⁹ *U. Sydney*, ¹⁰ *University of Alabama - Tuscaloosa*
- 144.18 Identifying Hidden Supernova Remnants in M83 with the VLA**
Author(s): **Bradley Cole**⁶, Christopher Stockdale⁶, William P. Blair⁵, John J. Cowan¹⁰, Leith Godfrey¹, K. D. Kuntz⁵, Knox S. Long⁸, Larry A. Maddox², Paul P. Plucinsky⁴, Tyler A. Pritchard⁹, Roberto Soria³, Bradley C. Whitmore⁵, P. Frank Winkler⁷
Institution(s): ¹ *ASTRON*, ² *Boeing Company*, ³ *Curtin University*, ⁴ *Harvard Smithsonian Center for Astrophysics*, ⁵ *Johns Hopkins University*, ⁶ *Marquette University*, ⁷ *Middlebury College*, ⁸ *STScI*, ⁹ *Swinburne University of Technology*, ¹⁰ *University of Oklahoma*
- 144.19 De-coding the Neutral Hydrogen (21cm) Line Profiles of Disk galaxies**
Author(s): **Sandy Moak**¹, Barry Madore¹, David Khatami¹
Institution(s): ¹ *Carnegie Observatories*

144.20 Stellar Populations in the Outer Regions of M101

Author(s): **Patrick R. Durrell**², Chris Mihos¹, John J. Feldmeier², Paul Harding¹, Aaron Emery Watkins¹

Institution(s): ¹ Case Western Reserve Univ., ² Youngstown State Univ.

144.21 ALMA CO Observations of Shocks and Star Formation in the Interacting Galaxies IC 2163 and NGC 2207

Author(s): **Debra M. Elmegreen**⁷, Bruce Elmegreen², Michele Kaufman⁴, Elias Brinks⁶, Curtis Struck³, Frederic Bournaud¹, Kartik Sheth⁵, Stephanie Juneau¹

Institution(s): ¹ CEA Saclay, ² IBM T.J. Watson Research Ctr., ³ Iowa State University, ⁴ N.A., ⁵ NASA Headquarters, ⁶ University of Hertfordshire, ⁷ Vassar College

145 Dwarf & Irregular Galaxies Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

145.01 Exploring Dwarf Galaxy Evolution

Author(s): **Jacqueline M. Dunn**¹

Institution(s): ¹ Midwestern State Univ.

145.02 Investigating Dwarf Spiral Galaxies

Author(s): **Sachithra Weerasooriya**¹, Jacqueline M. Dunn¹

Institution(s): ¹ Midwestern State University

145.03 The Smallest Galaxies in the Universe: Investigating the Origins of Ultra-faint Galaxies

Author(s): **Yuewen Qi**¹, Andrew Graus¹, James Bullock¹

Institution(s): ¹ UC Irvine

145.04 The WHAM H α Magellanic Stream Survey: Progress and Early Results

Author(s): **Brianna Smart**², L. Matthew Haffner², Kat Barger¹, Dhanesh Krishnarao²

Institution(s): ¹ Texas Christian University, ² University of Wisconsin - Madison

145.05 The rise of ionized gas in the Magellanic Stream

Author(s): **Michael Hernandez**¹, Kathleen Barger¹, Brianna Smart², L. Matthew Haffner²

Institution(s): ¹ Texas Christian University, ² University of Wisconsin-Madison

145.06 Probing ionization conditions of Galactic halo gas using H-alpha observations of the Magellanic Stream

Author(s): **Kat Barger**⁶, Gregory J Madsen², Andrew Fox⁴, Bart P. Wakker⁸, Jonathan Bland-Hawthorn⁵, David L. Nidever³, Nicolas Lehner⁷, L. Matthew Haffner⁸, Alex S. Hill¹

Institution(s): ¹ Haverford College, ² Lockheed Martin, ³ National Optical Astronomy Observatory, ⁴ Space Telescope Science Center, ⁵ Sydney Institute for Astronomy, ⁶ Texas Christian University, ⁷ University of Notre Dame, ⁸ University of Wisconsin-Madison

WEDNESDAY, 4 JANUARY 2017

145.07 Feeding the Milky Way: Properties of the Leading Arm of the Magellanic Stream

Author(s): **Jacqueline Antwi-Danso**², Andrew Fox¹

Institution(s): ¹ Space Telescope Science Institute, ² Texas Christian University

145.08 Supernovae explosions in the Large Magellanic Cloud drive massive winds toward the Milky Way

Author(s): **Drew A Ciampa**², Kat Barger², Madeline Horn¹, Michael Hernandez², L. Matthew Haffner⁴, Nicolas Lehner³, J. Christopher Howk³

Institution(s): ¹ Smith College, ² Texas Christian University, ³ University of Notre Dame, ⁴ University of Wisconsin-Madison

145.09 VLA+WSRT HI Imaging of Two "Almost Dark" Galaxies

Author(s): **Catie Ball**⁵, Quinton Singer⁵, John M. Cannon⁵, Luke Leisman², Martha P. Haynes², Elizabeth A. Adams¹, David Bernal Neira⁸, Riccardo Giovanelli², Gregory L Hallenbeck⁷, William Janesh⁴, Steven Janowiecki³, Gyula Jozsa⁶, Katherine L. Rhode⁴, John Joseph Salzer⁴

Institution(s): ¹ ASTRON, ² Cornell University, ³ ICRAR, ⁴ Indiana University, ⁵ Macalester College, ⁶ SKA, ⁷ Union College, ⁸ Universidad de los Andes

145.10 "Almost Darks": HI Mapping and Optical Analysis

Author(s): **Quinton Singer**⁵, Catie Ball⁵, John M. Cannon⁵, Luke Leisman², Martha P. Haynes², Elizabeth A. Adams¹, David Bernal Neira⁸, Riccardo Giovanelli², Gregory L Hallenbeck⁷, William Janesh⁴, Steven Janowiecki³, Gyula Jozsa⁶, Katherine L. Rhode⁴, John Joseph Salzer⁴

Institution(s): ¹ ASTRON, ² Cornell University, ³ ICRAR, ⁴ Indiana University, ⁵ Macalester College, ⁶ SKA, ⁷ Union College, ⁸ Universidad de los Andes

145.11 SHIELD: EVLA HI Spectral Line Observations of Low-mass Dwarfs

Author(s): **Masao Miazso**⁸, Elizabeth Ruvolo⁸, John M. Cannon⁸, Andrew McNichols¹⁰, Yaron Teich⁸, Elizabeth A. Adams¹, Riccardo Giovanelli², Martha P. Haynes², Kristen B. McQuinn¹⁷, John Joseph Salzer⁵, Evan D. Skillman¹⁶, Andrew E. Dolphin¹², Edward C Elson¹⁵, Nathalie C. Haurberg⁷, Shan Huang⁹, Steven Janowiecki⁴, Gyula Jozsa¹³, Luke Leisman², Juergen Ott¹¹, Emmanouil Papastergis⁶, Katherine L. Rhode⁵, Amelie Saintonge¹⁴, Angela Van Sistine¹⁸, Steven R. Warren³

Institution(s): ¹ ASTRON, ² Cornell University, ³ Cray Computing, ⁴ ICRAR, ⁵ Indiana University, ⁶ Kapteyn Astronomical Institute, ⁷ Knox College, ⁸ Macalester College, ⁹ New York University, ¹⁰ NRAO, ¹¹ NRAO, ¹² Raytheon, ¹³ SKA, ¹⁴ University College, ¹⁵ University of Cape Town, ¹⁶ University of Minnesota, ¹⁷ University of Texas, ¹⁸ University of Wisconsin Milwaukee

145.12 SHIELD: Observations of Three Candidate Interacting Systems

Author(s): **Elizabeth Ruvolo**⁸, Masao Miazso⁸, John M. Cannon⁸, Andrew McNichols¹⁰, Yaron Teich⁸, Elizabeth A. Adams¹, Riccardo Giovanelli², Martha P. Haynes², Kristen B. McQuinn¹⁷, John Joseph Salzer⁵, Evan D. Skillman¹⁶, Andrew E. Dolphin¹², Edward C Elson¹⁵, Nathalie C. Haurberg⁷, Shan Huang⁹, Steven Janowiecki⁴, Gyula Jozsa¹³, Luke Leisman², Juergen Ott¹¹, Emmanouil Papastergis⁶, Katherine L. Rhode⁵, Amelie Saintonge¹⁴, Angela Van Sistine¹⁸, Steven R. Warren³

Institution(s): ^{1.} *ASTRON*, ^{2.} *Cornell University*, ^{3.} *Cray Computing*, ^{4.} *ICRAR*, ^{5.} *Indiana University*, ^{6.} *Kapteyn Astronomical Institute*, ^{7.} *Knox College*, ^{8.} *Macalester College*, ^{9.} *New York University*, ^{10.} *NRAO*, ^{11.} *NRAO*, ^{12.} *Raytheon*, ^{13.} *SKA*, ^{14.} *University College*, ^{15.} *University of Cape Town*, ^{16.} *University of Minnesota*, ^{17.} *University of Texas*, ^{18.} *University of Wisconsin Milwaukee*

145.13 Rotational Dynamics and Star Formation in the Nearby Dwarf Galaxy NGC 5238

Author(s): **Kathleen Fitzgibbon**¹, John M. Cannon¹, Andrew McNichols², Yaron Teich¹, Catie Ball¹, John Banovetz³, Annika Brock³, Brian Eisner¹, Masao Miazzi¹, Asra Nizami¹, Bridget Reilly¹, Elizabeth Ruvolo¹, Quinton Singer¹
Institution(s): ^{1.} *Macalester College*, ^{2.} *NRAO*, ^{3.} *Purdue University*

145.14 The Frequency of Starbursts in Dwarf Galaxies

Author(s): **Anna McGilvray**⁵, Kristen B. McQuinn⁵, John M. Cannon², Julianne Dalcanton⁶, Andrew E. Dolphin³, Evan D. Skillman⁴, Benjamin F. Williams⁶, Liese van Zee¹
Institution(s): ^{1.} *Indiana University*, ^{2.} *Macalester*, ^{3.} *Raytheon Company*, ^{4.} *University of Minnesota*, ^{5.} *University of Texas at Austin*, ^{6.} *University of Washington*

145.15 Scaling Stellar Mass Estimates of Dwarf Galaxies

Author(s): **Brandon Michael Carr**⁵, Kristen B. McQuinn⁵, John M. Cannon¹, Julianne Dalcanton⁶, Andrew E. Dolphin², Evan D. Skillman⁴, Benjamin F. Williams⁶, Liese van Zee³
Institution(s): ^{1.} *Macalester*, ^{2.} *Raytheon Company*, ^{3.} *University of Indiana*, ^{4.} *University of Minnesota*, ^{5.} *University of Texas at Austin*, ^{6.} *University of Washington*

145.16 Exploring the Metal Retention Fractions of Dwarf Galaxies

Author(s): **Melissa Elizabeth Morris**⁵, Kristen B. McQuinn⁵, John M. Cannon¹, Julianne Dalcanton⁶, Andrew E. Dolphin², Evan D. Skillman⁴, Benjamin F. Williams⁶, Liese van Zee³
Institution(s): ^{1.} *Macalester College*, ^{2.} *Raytheon Company*, ^{3.} *University of Indiana*, ^{4.} *University of Minnesota*, ^{5.} *University of Texas at Austin*, ^{6.} *University of Washington*

145.17 Photometric and spectroscopic study of the ultra-faint Milky Way satellite Pegasus III

Author(s): **Dongwon Kim**¹, Helmut Jerjen¹, Marla C. Geha³, Anirudh Chiti², Antonino Milone¹, Gary S. Da Costa¹, Dougal Mackey¹, Anna Frebel², Blair Conn¹
Institution(s): ^{1.} *Australian National University*, ^{2.} *Massachusetts Institute of Technology*, ^{3.} *Yale*

145.18 Gas Stripping in the Simulated Pegasus Galaxy

Author(s): **Francisco Javier Mercado**¹, Alejandro Samaniego³, Coral Wheeler², James Bullock³
Institution(s): ^{1.} *Cal Poly Pomona*, ^{2.} *Caltech*, ^{3.} *University of California, Irvine*

WEDNESDAY, 4 JANUARY 2017

- 145.19 The Nonbarred Double-Ringed Galaxy, PGC 1000714**
Author(s): **Marc Seigar**², Burcin Mutlu Pakdil², Mithila Mangedarage², Patrick M. Treuthardt¹
*Institution(s):*¹ North Carolina Museum of Natural Sciences, ² University of Minnesota Duluth
- 145.20 A Study of Low-Metallicity Red Giant Stars in the Ursa Minor Dwarf Spheroidal Galaxy Using APOGEE Survey Data**
Author(s): **Wanying Fu**², Joshua D. Simon¹
*Institution(s):*¹ Observatories of the Carnegie Institution of Washington, ² Pomona College
Contributing team(s): APOGEE-2
- 145.21 Spitzer Merger History and Shape of the Galactic Halo: The Distance to the Core of the Sagittarius Dwarf Galaxy from the Mid-Infrared Period-Luminosity Relation for RR Lyrae Variable Stars**
Author(s): **Arvind Gupta**³, Rachael Beaton¹, Victoria Scowcroft², Steven R. Majewski³
*Institution(s):*¹ Carnegie Observatories, ² University of Bath, ³ University of Virginia
Contributing team(s): SMHASH Team
- 145.22 Mass-to-Light versus Color Relations for Dwarf Irregular Galaxies**
Author(s): **Kimberly A. Herrmann**³, Deidre Ann Hunter², Hong-Xin Zhang⁴, Bruce Elmegreen¹
*Institution(s):*¹ IBM T. J. Watson Research Center, ² Lowell Observatory, ³ Penn State Mont Alto, ⁴ Pontificia Universidad Catolica de Chile
Contributing team(s): LITTLE THINGS
- 145.23 The Magellanic Analog Dwarf Companions and Stellar Halos (MADCASH) Survey: Near-Field Cosmology with Resolved Stellar Populations Around Local Volume LMC Stellar-Mass Galaxies**
Author(s): **Jeffrey L. Carlin**¹, David J. Sand⁷, Beth Willman¹, Jean P. Brodie⁸, Denija Crnojevic⁷, Annika Peter³, Paul A. Price⁴, Aaron J. Romanowsky⁶, Kristine Spekkens⁵, Jay Strader²
*Institution(s):*¹ LSST, ² Michigan State University, ³ Ohio State University, ⁴ Princeton University, ⁵ Royal Military College of Canada, ⁶ San Jose State University, ⁷ Texas Tech University, ⁸ UC Santa Cruz
- 145.24 Hubble Space Telescope observations of the optical counterpart to an ultra-compact high-velocity cloud**
Author(s): **David J. Sand**¹
*Institution(s):*¹ Texas Tech University
- 145.25 Analyzing the Formation of Ultra-compact Dwarfs through Stellar Populations**
Author(s): **Anish Seshadri**¹, Carolyn Wang¹, Aaron J. Romanowsky¹, Ignacio Martin-navarro²
*Institution(s):*¹ Science Internship Program, University of California Santa Cruz, ² University of California Santa Cruz

145.26 Comparison between high and low star forming sides of dwarf irregular galaxies with asymmetrical distributions of star formation.

Author(s): **Samavarti Gallardo**², Deidre Ann Hunter¹

Institution(s): ¹ *Lowell Observatory*, ² *NAU / Lowell Observatory*

Contributing team(s): The LEGUS team

145.27 Characterizing the Bow Shock of the Large Magellanic Cloud

Author(s): **David Setton**², Gurtina Besla², Cameron Hummels¹

Institution(s): ¹ *Caltech*, ² *University of Arizona*

145.28 Cold Gas in Quenched Dwarf Galaxies using HI-MaNGA

Author(s): Alaina Bonilla¹

Institution(s): ¹ *CUNY College of Staten Island*

146 Extrasolar Planets: Detection Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

146.01 The Gemini Planet Imager Exoplanet Survey

Author(s): **Eric L. Nielsen**⁶, Bruce Macintosh⁷, James R. Graham⁹, Travis S. Barman³, Rene Doyon¹², Daniel Fabrycky¹³, Michael P. Fitzgerald¹⁰, Paul Kalas⁹, Quinn M. Konopacky¹¹, Franck Marchis⁶, Mark S. Marley⁴, Christian Marois⁵, Jenny Patience², Marshall D. Perrin⁸, Rebecca Oppenheimer¹, Inseok Song¹⁴

Institution(s): ¹ *AMNH*, ² *Arizona State University*, ³ *LPL*, *University of Arizona*, ⁴ *NASA Ames*, ⁵ *NRC of Canada, Herzberg*, ⁶ *SETI Institute*, ⁷ *Stanford University*, ⁸ *STScI*, ⁹ *UC Berkeley*, ¹⁰ *UCLA*, ¹¹ *UCSD*, ¹² *Univ. de Montreal*, ¹³ *University of Chicago*, ¹⁴ *University of Georgia*

Contributing team(s): The GPIES Team

146.02 Orbits for the Impatient: A Bayesian Rejection Sampling Method for Quickly Fitting the Orbits of Long-Period Exoplanets

Author(s): **Sarah Caroline Blunt**¹, Eric Nielsen³, Robert J De Rosa⁷, Quinn M. Konopacky⁸, Dominic Ryan⁷, Jason Wang⁷, Laurent Pueyo⁴, Julien Rameau⁶, Christian Marois², Franck Marchis³, Bruce Macintosh⁵, James R. Graham⁷

Institution(s): ¹ *Brown University*, ² *NRC Herzberg Institute of Astrophysics*, ³ *SETI Institute*, ⁴ *Space Telescope Science Institute*, ⁵ *Stanford University*, ⁶ *Université de Montréal*, ⁷ *University of California at Berkeley*, ⁸ *University of California at San Diego*

Contributing team(s): GPIES Collaboration

146.03 Astrometric Calibration of the Gemini Planet Imager

Author(s): **Debby Tran**¹, Quinn M. Konopacky¹

Institution(s): ¹ *University of California, San Diego*

Contributing team(s): GPIES Team

WEDNESDAY, 4 JANUARY 2017

146.04 Gemini Planet Imager Calibrations, Pipeline Updates, and Campaign Data Processing

Author(s): **Marshall D. Perrin**¹⁰, Katherine B. Follette⁹, Max Millar-Blanchaer¹⁵, Jason Wang¹¹, Schulyer Wolff⁵, Li-Wei Hung¹², Pauline Arriaga¹², Dmitry Savransky², Vanessa P. Bailey⁹, Sebastian Bruzzone¹⁷, Jeffrey K. Chilcote³, Robert J De Rosa¹¹, Zachary Draper¹⁶, Michael P. Fitzgerald¹², Alexandra Greenbaum⁵, Patrick Ingraham⁶, Quinn M. Konopacky¹³, Bruce Macintosh⁹, Franck Marchis⁸, Christian Marois⁷, Jerome Maire³, Eric L. Nielsen⁸, Abhijith Rajan¹, Julien Rameau¹⁴, Fredrik Rantakyro⁴, Jean-Baptiste Ruffio⁹, Debby Tran¹³, Kimberly Ward-Duong¹, Joe Zalesky¹¹

Institution(s): ¹ Arizona State University, ² Cornell University, ³ Dunlap Institute, ⁴ Gemini Observatory, ⁵ Johns Hopkins University, ⁶ LSST, ⁷ NRC Herzberg, ⁸ SETI Institute, ⁹ Stanford, ¹⁰ STScI, ¹¹ UC Berkeley, ¹² UCLA, ¹³ UCSD, ¹⁴ Université de Montreal, ¹⁵ University of Toronto, ¹⁶ University of Victoria, ¹⁷ Western University
Contributing team(s): GPIES team

146.05 The Gemini Planet Imager view of the HD 32297 debris disk system

Author(s): **Malena Rice**³, Justin Hom³, Joe Zalesky¹, Gaspard Duchene³, Max Millar-Blanchaer², Thomas Esposito³, Paul Kalas³, Michael P. Fitzgerald⁴

Institution(s): ¹ Arizona State University, ² NASA Jet Propulsion Laboratory, ³ UC Berkeley, ⁴ University of California, Berkeley
Contributing team(s): GPIES Team

146.06 Blind Source Separation Algorithms for PSF Subtraction from Direct Imaging

Author(s): **Jacob Shapiro**¹, Nikhil Ranganathan¹, Dmitry Savransky¹, Jean-Baptiste Ruffio², Bruce Macintosh²

Institution(s): ¹ Cornell University, ² Stanford University
Contributing team(s): The GPIES Team

146.07 Reprocessing of Archival Direct Imaging Data of Herbig Ae/Be Stars

Author(s): **Emily Safsten**¹, Denise C. Stephens¹

Institution(s): ¹ Brigham Young University

146.08 Project MINERVA's Follow-up on Wide-Field, Small Telescope Photometry to Identify Exoplanets

Author(s): **Audrey Houghton**³, Morgan Henderson³, Samson Johnson³, Anthony Sergi³, Jason D Eastman¹, Thomas G. Beatty², Nate McCrady³

Institution(s): ¹ Harvard University, ² Pennsylvania State University, ³ The University of Montana

146.09 MINERVA-Red: A telescope dedicated to the discovery of planets orbiting the nearest low-mass stars

Author(s): **David Sliski**⁵, Cullen Blake⁵, John A. Johnson¹, Peter Plavchan², Robert A. Wittenmyer⁴, Jason D Eastman¹, Stuart Barnes³, Ashley Baker⁵

Institution(s): ¹ Harvard University, ² Missouri State, ³ Stuart Barnes Optical Design, ⁴ University of New South Wales, ⁵ University of Pennsylvania

- 146.10 Simulating a Radial Velocity Precursor Survey for Target Yield Optimization for a Future Direct Imaging Mission**
Author(s): **Patrick Newman**¹, Peter Plavchan¹, Justin R. Crepp⁴, Shannon Dulz¹, Chris Stark³, Stephen R. Kane²
Institution(s): ¹ *Missouri State University*, ² *San Francisco State University*, ³ *Space Telescope Science Institute*, ⁴ *University of Notre Dame*
- 146.11 A Search and Exploration of Multi-Exoplanet Systems Via Transit Timing Variation (TTV) Algorithms for the K2 Mission**
Author(s): **Shishir Dholakia**¹, Shashank Dholakia¹, Ann Marie Cody²
Institution(s): ¹ *Adrian Wilcox High School*, ² *NASA AMES Research Center*
- 146.12 Analytical Methods for Exoplanet Imaging Detection Metrics**
Author(s): **Daniel Garrett**¹, Dmitry Savransky¹
Institution(s): ¹ *Cornell University*
- 146.13 Finding Planets in K2: A New Method of Cleaning the Data**
Author(s): **Miles Currie**¹, Fergal Mullally², Susan E. Thompson³
Institution(s): ¹ *Florida State University*, ² *Kepler Science Office*, ³ *SETI Institute*
- 146.14 MICRONERVA: A Novel Approach to Large Aperture Astronomical Spectroscopy**
Author(s): **Ryan Hall**³, Peter Plavchan³, Claire Geneser², Frank Giddens³, Christopher Klenke³, Denise Weigand¹
Institution(s): ¹ *Central Methodist University*, ² *Mississippi State University*, ³ *Missouri State University*
- 146.15 Distribution-dependent total exoplanet yield for a large aperture space telescope**
Author(s): **Evan Morris**¹, David Schiminovich¹
Institution(s): ¹ *Columbia University*
- 146.16 The NASA Exoplanet Archive**
Author(s): **Rachel L. Akeson**¹, Jessie Christiansen¹, David R. Ciardi¹, Solange Ramirez¹, Joshua Schlieder¹, Julian C. Van Eyken¹
Institution(s): ¹ *NASA Exoplanet Science Institute/Caltech*
Contributing team(s): NASA Exoplanet Archive team
- 146.17 Searching for Wide, Planetary-Mass Companions in Archival Spitzer/IRAC Data**
Author(s): **Raquel Martinez**¹
Institution(s): ¹ *The University of Texas at Austin*
- 146.18 Planet Occurrence Rates for K2 M Dwarfs**
Author(s): **Girish Manideep Duvvuri**², Courtney D. Dressing¹, Heather Knutson¹
Institution(s): ¹ *California Institute of Technology*, ² *Wesleyan University*

WEDNESDAY, 4 JANUARY 2017

146.19 The Snapshot A-Star SurveY (SASSY)

Author(s): **Jasmine Garani**³, Eric L. Nielsen³, Franck Marchis³, Michael C. Liu², Bruce Macintosh⁴, Abhijith Rajan¹, Robert J De Rosa⁵, Jason Wang⁵, Thomas Esposito⁵, William M. J. Best², Brendan P. Bowler⁶, Trent J. Dupuy⁶, Jean-Baptiste Ruffio⁴

Institution(s): ¹. Arizona State University, ². Institute for Astronomy, University of Hawaii, ³. SETI Institute, ⁴. Stanford University, ⁵. University of California at Berkeley, ⁶. University of Texas

146.20 Results of Edge Scatter Testing for a Starshade Mission

Author(s): **Daniel Smith**¹, L. Suzanne Casement¹, Scott Ellis², John Stover³, Steve Warwick¹

Institution(s): ¹. Northrop Grumman, ². Photon Engineering, ³. The ScatterWorks

146.21 Testbed Demonstration of Low Order Wavefront Sensing and Control Technology for WFIRST Coronagraph

Author(s): **Fang Shi**¹

Institution(s): ¹. Jet Propulsion Laboratory

Contributing team(s): K. Balasubramanian, E. Cady, B. Kern, R. Lam, M. Mandic, K. Patterson, I. Poberezhskiy, J. Shields, J. Seo, H. Tang, T. Truong, and D. Wilson

146.22 Laboratory validation of model-based wavefront control for multi-star systems

Author(s): **Dan Sirbu**¹, Ruslan Belikov¹, Eugene Pluzhnik¹, Christopher Henze¹, Sandrine Thomas¹

Institution(s): ¹. NASA ARC

146.23 The DeMi CubeSat: Wavefront Control with a MEMS Deformable Mirror in Space

Author(s): **Ewan S. Douglas**³, Eduardo Bendek⁴, Anne Marinan², Ruslan Belikov⁴, John Merck¹, Kerri Lynn Cahoy³

Institution(s): ¹. Aurora Flight Sciences, ². Jet Propulsion Laboratory, ³. Massachusetts Institute of Technology, ⁴. NASA Ames

146.24 Experimental Verification of Sparse Aperture Mask for Low Order Wavefront Sensing

Author(s): **Hari Subedi**¹, N. Jeremy Kasdin¹

Institution(s): ¹. Princeton University

146.25 Kernel-Phase Interferometry for Super-Resolution Detection of Faint Companions

Author(s): **Samuel M. Factor**¹, Adam L. Kraus¹

Institution(s): ¹. The University of Texas at Austin

146.26 Status of Technology Development to enable Large Stable UVOIR Space Telescopes

Author(s): **H. Philip Stahl**¹

Institution(s): ¹. NASA

Contributing team(s): MSFC AMTD Team

- 146.27 A Model for Astrometric Detection and Characterization of Multi-Exoplanet Systems**
 Author(s): **Maggie April Thompson**¹, David N. Spergel¹
 Institution(s): ¹ Princeton University
- 146.28 First light of an external occulter testbed at flight Fresnel numbers**
 Author(s): **Yunjong Kim**³, Dan Sirbu², Mia Hu³, Jeremy Kasdin³, Robert J. Vanderbei³, Anthony Harness⁴, Stuart Shaklan¹
 Institution(s): ¹ Jet Propulsion Laboratory, ² NASA Ames Research Center, ³ Princeton University, ⁴ University of Colorado Boulder
- 146.29 Techniques for Constraining the Population of Small Close-in Planets Around Subgiants**
 Author(s): **Amber Medina**¹, John A. Johnson¹
 Institution(s): ¹ Harvard University
- 146.30 Examining the Flicker-Jitter Relation of K2 stars: the Dependence on Chromospheric Activity**
 Author(s): **Jacob K. Luhn**¹, Fabienne A. Bastien¹, Jason Wright¹
 Institution(s): ¹ Penn State University
- 146.31 Analysis of a Close Pair of Faint Sources Near a Massive Young Star**
 Author(s): **Saki Kamon**³, Adam L. Kraus³, Aaron C Rizzuto³, Michael Ireland², John M. Carpenter¹
 Institution(s): ¹ Atacama Large Millimeter/submillimeter Array, ² Australian National University, ³ University of Texas at Austin
- 146.32 A Possible 5th Planet in the Kepler-89 System**
 Author(s): **Andrew Mayo**², Katherine Deck¹, Heather Knutson¹, Konstantin Batygin¹, Jessie Christiansen¹
 Institution(s): ¹ California Institute of Technology, ² Harvard University
- 146.33 How many habitable planets can we detect around nearby M dwarfs, and are they really habitable?**
 Author(s): **Hope Pegues**², Elisabeth R. Newton¹, Benjamin Montet¹, John A. Johnson¹
 Institution(s): ¹ Center for Astrophysics, ² North Carolina A&T State University
- 146.34 A Search for Exoplanets in the Open Star Clusters Messier 35 and Kaposov 62 Using A Photometric Algorithm for the K2 Mission**
 Author(s): **Shashank Dholakia**¹, Shishir Dholakia¹, Ann Marie Cody²
 Institution(s): ¹ Adrian Wilcox High School, ² NASA AMES Research Center
- 146.35 A Search for Radio Emission from Nearby Exoplanets**
 Author(s): **Amethyst D. Maps**², Timothy S. Bastian¹, Anthony J. Beasley¹
 Institution(s): ¹ NRAO, ² Old Dominion University
- 146.36 KELT-FUN and the discovery of KELT-18b**
 Author(s): **Kim K. McLeod**², Casey Melton², Keivan G. Stassun¹
 Institution(s): ¹ Vanderbilt University, ² Wellesley College
 Contributing team(s): KELT Collaboration

WEDNESDAY, 4 JANUARY 2017

146.37 An astro-comb calibrated solar telescope to study solar activity and search for the radial velocity signature of Venus

Author(s): **David Phillips**¹

Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*

Contributing team(s): HARPS-N Collaboration

146.38 Planet Hunters, Undergraduate Research, and Detection of Extrasolar Planet Kepler-818 b

Author(s): **David Baker**¹, Graham Crannell¹, James Duncan¹, Aryn Hays¹, Landon Hendrix¹

Institution(s): ¹ *Austin College*

147 The Solar System Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

147.01 Understanding the Earth's Composition through Neutrino Oscillations

Author(s): **Beverly Lowell**¹, André de Gouvêa¹

Institution(s): ¹ *Northwestern University*

147.03 Recovering Neptune 170 Years After its Initial Discovery

Author(s): **Justin Myles**¹

Institution(s): ¹ *Yale University*

147.04 A Search for Planet 9 at the Thacher Observatory

Author(s): **Nick Edwards**¹, Liam Kirkpatrick¹, Kathleen O'Neill¹, Yao Yin¹, Asher Wood¹, Jonathan Swift¹

Institution(s): ¹ *The Thacher School*

147.05 Rotational Study of Ambiguous Taxonomic Classified Asteroids

Author(s): **Tyler R. Linder**¹, Rick Sanchez², Wolfgang Wuerker², Timothy Clayson², Tucker Giles²

Institution(s): ¹ *Astronomical Research Institute*, ² *Johnson County School District*

147.06 Eight Potentially Hazardous Near Earth Asteroids: Characterization and Threat Assessment

Author(s): **Stacy Hicks**¹, Michael T. Carini¹

Institution(s): ¹ *Western Kentucky University*

147.07 Spectral Classification of NEOWISE Observed Near-Earth Asteroids

Author(s): **Christopher Desira**¹

Institution(s): ¹ *Harvard-Smithsonian Institute for Astrophysics*

147.08 Density and Macroporosity Distribution of Near Earth Asteroids

Author(s): **Jessie L. Dotson**¹, Donovan Mathias¹

Institution(s): ¹ *NASA Ames Research Center*

147.09 Models of millimeter-wave emission from dust in the coma of Comet 67P

Author(s): **Theodore R Kareta**¹, F. Peter Schloerb¹

Institution(s): ¹ *University of Massachusetts, Amherst*

148 Planetary Nebulae, Supernova Remnants Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 148.01 17 Years of Chandra Observations of SN1987A**
 Author(s): **David N. Burrows**¹, Kari A. Frank¹
 Institution(s): ¹ Penn State Univ.
- 148.02 Calculating the Flux Density Decay of Cas A with LWA1**
 Author(s): **Jaquelin Erazo**¹, Frank Schinzel²
 Institution(s): ¹ CUNY Hunter College, ² NRAO
 Contributing team(s): LWA Collaboration
- 148.03 Exploring Supernova Remnants with the SPIES Project**
 Author(s): **Kari A. Frank**¹, David N. Burrows¹, Vikram Dwarkadas²
 Institution(s): ¹ Pennsylvania State University, ² University of Chicago
- 148.04 A Survey of X-Ray Luminosity Limits for Unobserved Compact Stellar Remnants in Core-Collapse SNRs**
 Author(s): **Anthony Glenn Rich**¹, Ashley Herbst¹, Nina Clark¹, Paul Thongkham¹, Eric Cooper¹, Alexandria Carino¹, Robert Mathews¹, Andrew Schenck¹, Jayant Bhalerao¹, Sangwook Park¹
 Institution(s): ¹ University of Texas at Arlington
- 148.05 Revealing the Detailed Structure of the Galactic Core-Collapse Supernova Remnant G292.0+1.8 with X-Ray Mapping**
 Author(s): **Jayant Bhalerao**¹, Sangwook Park¹, Andrew Schenck¹
 Institution(s): ¹ UT Arlington
- 148.06 Optical Observations of Galactic Supernova Remnant G64.5+0.9**
 Author(s): **Jack Neustadt**¹, Robert A. Fesen¹, Christine Black¹
 Institution(s): ¹ Dartmouth College
- 148.07 Measuring the Symmetry of Supernova Remnants in the Radio**
 Author(s): **Jennifer Stafford**¹, Laura A. Lopez¹
 Institution(s): ¹ The Ohio State University
- 148.08 Behind the Curtain: Revealing the Nebular Influence on X-ray Emission from Planetary Nebulae**
 Author(s): **Rodolfo Montez Jr.**¹
 Institution(s): ¹ Smithsonian Astrophysical Observatory
- 148.09 Spectroscopy of Planetary Nebulae at the Bright End of the Luminosity Function**
 Author(s): **Anneliese Rilinger**⁵, Karen B. Kwitter⁵, Bruce Balick⁴, R. L. M. Corradi¹, Rebeca Galera Rosillo¹, George H. Jacoby², Richard A. Shaw³
 Institution(s): ¹ Instituto de Astrofísica de Canarias, ² Lowell Observatory, ³ NOAO, ⁴ University of Washington, ⁵ Williams College

WEDNESDAY, 4 JANUARY 2017

148.10 The Eclipsing Central Stars of the Planetary Nebulae Lo 16 and PHR J1040-5417
Author(s): **Todd C. Hillwig**³, David Frew², David Jones¹, Danielle Crispo³
Institution(s): ¹ *Instituto de Astrofísica de Canarias*, ² *University of Hong Kong*,
³ *Valparaiso University*

148.11 Zeeman Effect observations toward 36 GHz methanol masers in the Galactic Center
Author(s): **Justin A Potvin**¹, Emmanuel Momjian², Anuj Pratim Sarma¹
Institution(s): ¹ *DePaul*, ² *NRAO*

149 Gamma Ray Bursts Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

149.01 Long-Wavelength Demographics of GRB Host Galaxies
Author(s): **Daniel A. Perley**¹
Institution(s): ¹ *Niels Bohr Institute, University of Copenhagen*

149.02 A Study of the Gamma-Ray Burst Fundamental Plane
Author(s): **Christian Gilbertson**⁵, Maria Dainotti³, Sergey Postnikov¹, Shigehiro Nagataki², Richard Willingale⁴
Institution(s): ¹ *Indiana University*, ² *RIKEN*, ³ *Stanford University*, ⁴ *University of Leicester*, ⁵ *Virginia Polytechnic Institute and State University*

149.03 A Spatially - Resolved Study of the GRB 020903 Host Complex
Author(s): **Mallory Thorp**¹, Emily M. Levesque¹
Institution(s): ¹ *University of Washington*

150 Intergalactic Medium, QSO Absorption Line Systems Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

150.01 Quasar Absorption Lines and SDSS Galaxies
Author(s): **Emileigh Suzanne Shoemaker**¹, Jennifer E. Scott¹, Katarzyna Oldak¹
Institution(s): ¹ *Towson University*

150.02 Shock waves and particle acceleration in clusters of galaxies
Author(s): **Dongsu Ryu**², Hyesung Kang¹, Ji-Hoon Ha²
Institution(s): ¹ *Pusan National University*, ² *UNIST*

150.03 First light with Trident: multi-platform synthetic quasar spectra
Author(s): **Devin W. Silvia**³, Cameron B. Hummels¹, Britton Smith²
Institution(s): ¹ *California Institute of Technology*, ² *Institute for Astronomy*,
³ *Michigan State University*

150.04 A Measurement of the z=4 Ultraviolet Background from the Proximity Effect
Author(s): **Jennifer E. Scott**¹
Institution(s): ¹ *Towson Univ.*

150.05 Understanding the IGM Through the Use of a Lensed Quasar

Author(s): **Teresa Panurach**¹, Matthew O'Dowd²

Institution(s): ¹ CUNY Hunter College, ² CUNY Lehman College

150.06 Deeper Insights into the Circumgalactic Medium using Multivariate Analysis Methods

Author(s): **James Lewis**¹, Christopher W. Churchill¹, Nikole M. Nielsen², Glenn Kacprzak²

Institution(s): ¹ New Mexico State University, ² Swinburne University of Technology

151 Stellar Atmospheres, Winds, Be Stars, & Wolf-Rayet Phenomena Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

151.01 Circumstellar Dust Composition of M-type Mira Variables observed with phase with Spitzer

Author(s): **Tina Güth**¹, Michelle J. Creech-Eakman¹

Institution(s): ¹ New Mexico Institute of Mining and Technology

151.02 Bridging the Gap between Coronal and Non-Coronal Evolved Stars

Author(s): **Kenneth G. Carpenter**², Krister E. Nielsen¹, Gladys V. Kober¹

Institution(s): ¹ Catholic University of America, ² NASA's GSFC

151.03 Stratification in Ap star atmospheres: Simulations

Author(s): **Charles R. Cowley**², Fiorella Castelli¹

Institution(s): ¹ Istituto Nazionale di Astrofisica, Osservatorio Astronomico di Trieste, ² Univ. of Michigan

151.04 Spectroscopic Parameters of B Stars in the Carina Nebula

Author(s): **Richard Hanes**¹, M. Virginia McSwain¹

Institution(s): ¹ Lehigh University

151.05 The Fe Group Abundances in the B3 IV Standard ι Herculis Determined from ASTRAL II Observations

Author(s): **Geraldine J. Peters**³, Charles R. Proffitt¹, Saul J. Adelman², Thomas R. Ayres⁴

Institution(s): ¹ Space Telescope Science Institute, ² The Citadel, ³ Univ. of Southern California, ⁴ University of Colorado

151.06 The Be Population in 10 Galactic Open Clusters From the Discovery Channel Telescope

Author(s): **Pa Chia Thao**¹, Noel Richardson³, Cody Gerhartz³, Karen S. Bjorkman³, Jon Eric Bjorkman³, John P. Wisniewski², Anthony Burrow², Jamie R Lomax⁴, Kevin R. Covey⁵

Institution(s): ¹ Mount Holyoke College, ² University of Oklahoma, ³ University of Toledo, ⁴ University of Washington, ⁵ Western Washington University

WEDNESDAY, 4 JANUARY 2017

- 151.07 Variable Circumstellar Disks: Prevalence, Timescales, and Physical Mechanisms**
Author(s): **Anthony Burrow**², John P. Wisniewski², Jamie R Lomax², Karen S. Bjorkman³, Jon Eric Bjorkman³, Kevin R. Covey⁴, Cody Gerhartz³, Noel Richardson³, Pa Thao¹
Institution(s): ¹ Mount Holyoke, ² University of Oklahoma, ³ University of Toledo, ⁴ Western Washington University
- 151.08 A spectroscopic orbit for the late-type Be star β CMi**
Author(s): **Nick Dulaney**⁴, Noel Richardson⁴, Cody Gerhartz⁴, Jon Eric Bjorkman⁴, Karen S. Bjorkman⁴, Alex C. Carciofi³, Luqian Wang², Nancy D. Morrison⁴, Robert Klement¹
Institution(s): ¹ European Organisation for Astronomical Research, ² Georgia State University, ³ Universidade de Sao Paulo, ⁴ University of Toledo
Contributing team(s): Ritter Observing Team
- 151.09 Destruction of Be star disk by large scale magnetic fields**
Author(s): **Asif Ud-Doula**¹, Stanley P. Owocki², Nathaniel Kee³, Michael Vanyo¹
Institution(s): ¹ Penn State Worthington Scranton, ² University of Delaware, ³ University of Tübingen
- 151.10 Spectral Classification of Central Stars of Bowshock Nebulae**
Author(s): **William T. Chick**², Henry A. Kobulnicky², Matthew S. Povich¹, Don Dixon¹, Daniel Lee¹
Institution(s): ¹ California State Polytechnic University, Pomona, ² University of Wyoming
- 151.11 Polarization signatures of bow shocks: A diagnostic tool to constrain the properties of stellar winds and ISM**
Author(s): **Manisha Shrestha**², Jennifer L. Hoffman², Hilding R. Nielson³, Richard Ignace¹
Institution(s): ¹ East Tennessee State University, ² University of Denver, ³ University of Toronto
- 151.12 Exploring X-ray Emission from Winds in Two Early B-type Binary Systems**
Author(s): **John P. Rotter**², Tabettha Hole², Richard Ignace¹, Lida Oskina³
Institution(s): ¹ East Tennessee State University, ² Norwich University, ³ U. Potsdam
- 151.13 The Variability of the BRITe-est Wolf-Rayet star gamma Velorum. Photometric and Spectroscopic Evidence of Colliding Winds.**
Author(s): **Noel Richardson**⁵, Lucas St-Jean⁴, Anthony F. J. Moffat⁴, Nicole St. Louis⁴, Christopher Michael Post Russell², Tomer Shenar³, Herbert Pablo⁴, Grant M. Hill¹, Tahina Ramiamanantsoa⁴, Kenji Hamaguchi², Michael F. Corcoran²
Institution(s): ¹ Keck Observatory, ² NASA Goddard, ³ Universitat Potsdam, ⁴ Universite de Montreal, ⁵ University of Toledo

151.14 Stagnant Shells in the Vicinity of the Dusty Wolf-Rayet-O/B Binary WR 112

Author(s): **Ryan M. Lau**¹, Matthew Hankins², R. Schoedel³, Joel Sanchez-Bermudez⁵, Anthony F. J. Moffat⁶, Michael E. Ressler⁴

*Institution(s):*¹ Caltech, ² Cornell University, ³ Instituto de Astrofísica de Andalucía (CSIC), ⁴ JPL, ⁵ Max-Planck-Institut für Astronomie, ⁶ Université de Montreal

151.15 TRES Survey of Variable Diffuse Interstellar Bands

Author(s): **Charles Law**¹, Dan Milisavljevic², Kyle Crabtree³, Sommer Johansen³, Daniel Patnaude²

*Institution(s):*¹ Harvard University, ² Smithsonian Astrophysical Observatory, ³ University of California Davis

152 Pulsating & Variable Stars Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

152.01 Variable Stars in the Large Magellanic Cloud from Archival HST Observations

Author(s): **Gabriel Alejandro Fuentes**¹, Ata Sarajedini¹

*Institution(s):*¹ University of Florida

152.02 The First Kepler Observations of the Pulsations of R Coronae Borealis Stars

Author(s): **Geoffrey C. Clayton**², C. Simon Jeffery¹, Edward Montiel⁴, Hideyuki Saio³, Gavin Ramsay¹

*Institution(s):*¹ Armagh Observatory, ² Louisiana State Univ., ³ Tohoku University, ⁴ UC Davis

152.03 Multiband Fourier Analysis and Interstellar Reddening of Variable Stars in the Globular Cluster NGC 6584

Author(s): **Nathan J. Villiger**¹, Sedrick Weinschenk¹, Paul T Hettinger¹, Brian W. Murphy¹

*Institution(s):*¹ Butler University

152.05 Monitoring Period and Amplitude Changes in Classical Cepheids

Author(s): **Mary Erickson**¹, Scott G. Engle¹

*Institution(s):*¹ Villanova University

Contributing team(s): Mark Wells (Penn State University)

152.06 Discovering Cepheid and RR Lyrae Stars: Pan-STARRS Science Archive @ STScI and Robotically Controlled Telescopes

Author(s): **Elizabeth Johnson**⁴, Louis-Gregory Strolger³, Scott G. Engle⁴, Richard Irving Anderson¹, Armin Rest³, Annalisa Calamida², Ori Dosovitz Fox³, David Laney⁵

*Institution(s):*¹ Johns Hopkins University, ² NOAO, ³ Space Telescope Science Institute, ⁴ Villanova University, ⁵ Western Kentucky University

152.07 The Search for RR Lyrae Variables in the Dark Energy Survey

Author(s): **Chandler Nielsen**¹, Jennifer L. Marshall², James Long²

*Institution(s):*¹ Purdue University, ² Texas A&M University

WEDNESDAY, 4 JANUARY 2017

- 152.08 KELT RR Lyrae Variable Stars Observed by NKU Schneider and Michigan State Observatories**
Author(s): **Nathan M. De Lee**⁵, Stacy Brueneman⁵, Logan Hicks⁵, Neil Russell⁵, Karen Kinemuchi¹, Joshua Pepper³, Joseph Rodriguez², Martin Paegert², Horace A. Smith⁴
Institution(s): ¹ Apache Point Observatory, ² Harvard–Smithsonian Center for Astrophysics, ³ Lehigh University, ⁴ Michigan State University, ⁵ Northern Kentucky University
- 152.09 Reddening determination of RR Lyrae from small scale observations**
Author(s): **Lucas Stahl**¹, Donald J. Bord¹, William I. Clarkson¹
Institution(s): ¹ University of Michigan - Dearborn
- 152.10 Evidence for Binarity in Kepler Observations of the Pulsating RV Tau Variable DF Cygni**
Author(s): **Laura D. Vega**³, Rodolfo Montez Jr.², Keivan G. Stassun³, Patricia T. Boyd¹
Institution(s): ¹ NASA's Goddard Space Flight Center, ² Smithsonian Astrophysical Observatory, ³ Vanderbilt University
- 152.11 O-C analysis of the pulsating subdwarf B star PG 1219 + 534**
Author(s): **Tomomi Otani**¹, Alexander Stone-Martinez¹, Terry D. Oswalt¹, Claudia Morello¹, Adam Moss¹, Dana Singh¹, Kenneth Sampson¹, Caila DeAbreu¹, Aliyah Khan¹, Austin Seepersad¹, Mehvesh Shaikh¹, Linda Wilson¹
Institution(s): ¹ Embry-Riddle Aeronautical University
- 152.12 Radiative Transfer Modeling of the Mid-IR/Far-IR Dust Emissions of the Symbiotic Mira, V* R Aqr**
Author(s): **Eric B. Omelian**³, Ravi Sankrit⁴, L. Andrew Helton⁴, Uma Gorti², R. Mark Wagner¹
Institution(s): ¹ LBT Observatory, ² NASA Ames/SETI, ³ NASA Ames/SOFIA/Logyx, ⁴ USRA/SOFIA
- 152.13 Period Analysis of Three SRS: Stars in the Kepler Field**
Author(s): **Wesley Red**¹, Gabrielle Jones¹, Jennifer Cash¹, Donald K. Walter¹
Institution(s): ¹ South Carolina State University
- 152.14 A Testing Ground for Polarized Maser Transport: Multi-Epoch Analysis of a $\pi/2$ Electric Vector Rotation**
Author(s): **Taylor Tobin**¹, Athol J. Kembell¹
Institution(s): ¹ University of Illinois

153 Star Formation Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 153.01 Probing turbulent, magnetized star formation with ALMA observations and next-generation AREPO simulations**
 Author(s): **Charles L. H. Hull**², Philip Mocz², Blakesley K. Burkhart², Josep Miquel Girart¹, Alyssa A. Goodman², Paulo Cortes⁵, Zhi-Yun Li⁶, Shih-Ping Lai⁴, Lars Hernquist², Volker Springel³
 Institution(s): ¹ CSIC-IEEC, ² Harvard-CfA, ³ HITS, ⁴ National Tsing Hua University, ⁵ NRAO, ⁶ University of Virginia
- 153.02 Simulating Stellar Cluster Formation and Early Evolution**
 Author(s): **Joshua Wall**², Stephen L. W. McMillan², Mordecai-Mark Mac Low¹, Juan Ibañez-Mejía⁴, Simon Portegies Zwart³, Andrew Pellegrino²
 Institution(s): ¹ American Museum of Natural History, ² Drexel University, ³ Leiden Observatory, ⁴ University of Cologne
- 153.03 Is Episodic Accretion Necessary to Resolve the Luminosity Problem in Low-Mass Protostars?**
 Author(s): **Raymond Andrew Sevrinsky**¹, Michael Dunham¹
 Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics
- 153.04 Predicting Complex Organic Molecule Emission from TW Hya**
 Author(s): **Shreyas Vissapragada**¹, Catherine Walsh²
 Institution(s): ¹ Columbia University, ² Sterrewacht Leiden
- 153.05 Modeling Protostar Envelopes and Disks Seen With ALMA**
 Author(s): **Susan Terebey**¹, Lixandra Flores-Rivera¹, Karen Willacy²
 Institution(s): ¹ Cal. State Univ. at Los Angeles, ² Jet Propulsion Lab
- 153.06 3-D MHD disk wind simulations of jets and outflows from high-mass protostars**
 Author(s): **Jan E. Staff**³, Kei Tanaka², Jonathan C. Tan², Yichen Zhang¹, Mengyao Liu²
 Institution(s): ¹ RIKEN, ² University of Florida, ³ University of the Virgin Islands
- 153.07 Argus: a new 16-pixel millimeter-wave spectroscopic instrument for star formation studies at the Green Bank Telescope**
 Author(s): **Nichol Cunningham**², David T. Frayer², Sarah E. Church⁴, Matthew Sieth⁴, Andrew I. Harris⁵, Kieran Cleary¹, Joshua O. Gundersen⁶, Paul Goldsmith³, Dongwoo Chung⁴, Anthony C. S. Readhead¹, todd gaier³, Pekka Kangaslahti³, Lorene Samoska³
 Institution(s): ¹ California Institute of Technology, ² Green Bank Observatory, ³ Jet Propulsion Laboratory, ⁴ Stanford University, ⁵ University of Maryland, ⁶ University of Miami
- 153.08 An LMT/AzTEC 1.1 mm Survey of Dense Cores in the Monoceros R2 Giant Molecular Cloud**
 Author(s): **Alyssa D Sokol**², Robert A. Gutermuth², Grant Wilson², Stella Offner², Mark H. Heyer², Riway Pokhrel², Arturo Gomez-Ruiz¹, Abraham Luna¹
 Institution(s): ¹ National Institute of Astrophysics, Optics and Electronics, ² University of Massachusetts Amherst

WEDNESDAY, 4 JANUARY 2017

- 153.09 High Resolution 33 GHz Observations of Embedded Star Formation in NGC 6240**
Author(s): **Antonio J Porras**¹, Aaron S. Evans², Sean Linden³, Loreto Barcos³
Institution(s): ¹ *Fisk-Vanderbilt Bridge Student*, ² *National Radio Astronomy Observatory*, ³ *University of Virginia*
- 153.10 The Dense Gas Fraction in the Central Molecular Zone in the Milky Way**
Author(s): **Irene Vargas-Salazar**², Cara Battersby¹, Daniel Walker¹, Qizhou Zhang¹
Institution(s): ¹ *Harvard-Smithsonian CFA*, ² *Louisiana State University*
Contributing team(s): CMZoom
- 153.11 Interactions of mid-infrared bubbles with the interstellar medium: are bubble rims associated with collapsing cores?**
Author(s): **Kathryn E. Devine**¹, Johanna Mori¹, Christer Watson²
Institution(s): ¹ *College of Idaho*, ² *Manchester University*
- 153.12 Stars and Star Clusters: A Look at Intermediate-Mass Star-Forming Regions**
Author(s): **Michael J. Lundquist**¹, Henry A. Kobulnicky³, Ryan M. Lau²
Institution(s): ¹ *Gemini Observatory*, ² *Jet Propulsion Laboratory*, ³ *University of Wyoming*
- 153.13 Investigating Star-Gas Correlation and Evolution in the 100pc Cygnus X Complex**
Author(s): **Robert A. Gutermuth**¹, Mark H. Heyer¹, Stella Offner¹
Institution(s): ¹ *Univ. of Massachusetts*
- 153.14 ATLASGAL: Chemical evolution of star forming clumps**
Author(s): **Charles C. Figura**³, James S Urquhart², Friedrich Wyrowski¹
Institution(s): ¹ *Max Planck Institute for Radio Astronomy*, ² *University of Kent*, ³ *Wartburg College*
- 153.15 A Star-Formation Rate Atlas of the Nearby Universe**
Author(s): **Tristan Ashton**², David Pooley², Saul A. Rappaport¹
Institution(s): ¹ *MIT*, ² *Trinity University*
- 153.16 How Does Dense Molecular Gas Contribute to Star Formation in the Starburst Galaxy NGC 2146?**
Author(s): **Alia Wofford**¹
Institution(s): ¹ *Elizabeth City State University*

154 Stellar Evolution, Stellar Populations Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 154.01 Comparing Stellar Populations of Galaxies Across the Hubble Sequence**
Author(s): **Sarina Marie Etheridge**², Catherine Kaleida³, Rolf Jansen¹
Institution(s): ¹ *Arizona State University*, ² *College of Charleston*, ³ *Space Telescope Science Institute*

- 154.02 Kinematics of H α Emitting Stars in Andromeda**
 Author(s): **Megha Ilango**¹, Anita Ilango¹, Gabriel Damon³, Laura Prichard², Puragra Guhathakurta⁴
Institution(s): ¹ *Cupertino High School*, ² *Oxford University*, ³ *Santa Cruz High School*, ⁴ *UC Santa Cruz*
 Contributing team(s): PHAT collaboration, SPLASH collaboration
- 154.03 A Mysterious Population of Stars With Weak CN Absorption in the Disk of M31**
 Author(s): **Anika Kamath**³, Alyssa Sales², Atmika Sarukkai², Puragra Guhathakurta⁵, Jon Hays¹, Philip Rosenfield⁴
Institution(s): ¹ *Cabrillo College*, ² *Castilleja School*, ³ *Crystal Springs Uplands School*, ⁴ *Harvard CfA*, ⁵ *UC Santa Cruz*
 Contributing team(s): SPLASH collaboration, PHAT collaboration
- 154.04 The Red Supergiant Content of the LMC and SMC**
 Author(s): **Kate Anne Evans**¹, Philip Massey¹
Institution(s): ¹ *Lowell Observatory*
- 154.05 Stellar Evolution of the Star Cluster NGC 602 and Massive Star Formation in the Low-Density Wing of the SMC**
 Author(s): **Leah Fulmer**², Lida Oskinova¹, Varsha Ramachandran¹, Wolf-Rainer Hamann¹, John S. Gallagher²
Institution(s): ¹ *Universität Potsdam - Institut für Physik*, ² *University of Wisconsin - Madison*
- 154.06 M dwarfs kink and TPAGB in the MIST and PARSEC Infrared Isochrones**
 Author(s): **Hyun-chul Lee**³, Jose Ortiz², Dionicio Garza², Wendy Montano¹, Jessica Garza³, Iannelly Bernal³
Institution(s): ¹ *Nikki Rowe High School*, ² *Robert Vela High School*, ³ *The University of Texas Rio Grande Valley*
- 154.07 Rotation in Praesepe with K2**
 Author(s): **Luisa M. Rebull**¹, John R. Stauffer¹
Institution(s): ¹ *Caltech*
 Contributing team(s): K2 Clusters Team
- 154.08 Isochrone Fitting of Hubble Photometry in UV-Vis Bands**
 Author(s): **Hallie Barker**¹, Nathaniel Paust¹
Institution(s): ¹ *Whitman College*
- 154.09 Conservation of Angular Momentum Confirmed: Rotational Deceleration in an Intermediate-Age Star Cluster**
 Author(s): **Richard de Grijs**², Xiaohan Wu², Chengyuan Li², Licai Deng¹
Institution(s): ¹ *National Astronomical Observatories, Chinese Academy of Sciences*, ² *Peking University*
- 154.10 Follow up of stellar migrants from globular clusters using the Hobby-Eberly Telescope**
 Author(s): **Matthew D. Shetrone**¹, Sarah L. Martell²
Institution(s): ¹ *Univ. of Texas*, ² *University of New South Wales*

WEDNESDAY, 4 JANUARY 2017

- 154.11 Sakurai's Object Continues to Brighten and Expand**
Author(s): **Kenneth H. Hinkle**¹, Richard R. Joyce¹, Thomas Matheson¹
Institution(s):¹ *NOAO*
- 154.12 Sizing Up Southern Red Dwarfs in the Solar Neighborhood**
Author(s): **Michele L. Silverstein**³, Todd J. Henry⁵, Wei-Chun Jao³, Adric R. Riedel¹, Sergio Dieterich², Jennifer G. Winters⁴, Kenneth J. Slatten⁵
Institution(s): ¹ *California Institute of Technology*, ² *Department of Terrestrial Magnetism, Carnegie Institution of Washington*, ³ *Georgia State University*, ⁴ *Harvard-Smithsonian Center for Astrophysics*, ⁵ *RECONS Institute*
Contributing team(s): The RECONS Team
- 154.13 Modeling the spatial distribution of fragments formed from tidally disrupted stars**
Author(s): **Eden Girma**¹, James Guillochon²
Institution(s): ¹ *Harvard College*, ² *Harvard-Smithsonian Center for Astrophysics*
Contributing team(s): Banneker Institute
- 154.14 Understanding Activity Cycles of Solar Type Stars with Kepler**
Author(s): **Guadalupe Tovar**³, Benjamin Montet², John A. Johnson¹
Institution(s):¹ *Harvard-Smithsonian Center for Astrophysics*, ² *University of Chicago*, ³ *University of Washington*
- 154.15 Extension of H-alpha/H-beta Photometry to Additional Luminosity Classes and Emission Line Objects**
Author(s): **Eric G. Hintz**¹, Michael D. Joner¹
Institution(s):¹ *Brigham Young Univ.*
- 154.16 Calibrating the Luminosity of Carbon Stars: An Archival Study of Galaxies in the Nearby Universe**
Author(s): **Aaron J. Grocholski**³, Roeland P. Van Der Marel², Marla C. Geha⁴, Geoffrey C. Clayton¹
Institution(s): ¹ *Louisiana State University*, ² *STScI*, ³ *Swarthmore College*, ⁴ *Yale University*
- 154.17 Detailed Iron-Group Abundances in a Very Metal-Poor Main Sequence Turnoff Star**
Author(s): **Chris Sneden**¹, Ian U. Roederer³, Ann M. Boesgaard², James E. Lawler⁶, Elizabeth Den Hartog⁶, John J. Cowan⁴, Jennifer Sobeck⁵
Institution(s):¹ *Univ. of Texas*, ² *University of Hawaii*, ³ *University of Michigan*, ⁴ *University of Oklahoma*, ⁵ *University of Virginia*, ⁶ *University of Wisconsin*
- 154.18 A Multi-Fiber Spectroscopic Search for Low-mass Young Stars in Orion OB1**
Author(s): **Jacqueline Loerincs**³, Cesar Briceno², Nuria Calvet⁴, Mario L. Mateo⁴, Jesus Hernandez¹
Institution(s): ¹ *Centro de Investigaciones de Astronomía*, ² *Cerro Tololo Inter-American Observatory*, ³ *Colorado School of Mines*, ⁴ *University of Michigan*
- 154.19 An Analytical Approach to the Evolution and Death of AGB Stars**
Author(s): **Henry Alexander Prager**², Lee Anne M. Willson¹, Massimo Marengo¹, Michelle J. Creech-Eakman²
Institution(s): ¹ *Iowa State University*, ² *New Mexico Tech*

WEDNESDAY, 4 JANUARY 2017

POSTERS

WEDNESDAY

- 154.20 Investigating the Common Origins of Stars Using Dynamical Modeling**
Author(s): **Elizabeth Gutierrez**², Ivan Ramirez¹
Institution(s): ¹ *The University of Texas at Austin*, ² *Villanova University*
- 154.21 A near-infrared surface compositional analysis of blue straggler stars in open cluster M67.**
Author(s): **Richard Seifert**¹, Natalie M. Gosnell¹, Chris Sneden¹
Institution(s): ¹ *University of Texas at Austin*
- 154.22 The Evolutionary Status of the Enigmatic Field Star RZ Piscium: A Search for Comoving Companions**
Author(s): **Lydia Gingerich**¹, Tori Knapp², Kristina Punzi³, Joel H. Kastner³, Carl Melis⁵, Ben M. Zuckerman⁴
Institution(s): ¹ *Haverford College*, ² *Ithaca College*, ³ *RIT Center for Imaging Science*, ⁴ *UC Los Angeles*, ⁵ *UC San Diego*
- 154.23 Neutron-Capture Elements in Low Metallicity Stars within the Inner Galactic Halo**
Author(s): **Kenneth A Jumper**¹, Debra L. Burris¹
Institution(s): ¹ *University of Central Arkansas*
- 154.24 A Fast Method to Predict Distributions of Binary Black Hole Masses Based on Gaussian Process Regression**
Author(s): **Yuqi Yun**¹, Michael Zevin², Laura Sampson², Vassiliki Kalogera²
Institution(s): ¹ *Duke University*, ² *Northwestern University*
- 154.25 Automated Detection of Dwarf Galaxies and Star Clusters in SMASH through the NOAO Data Lab**
Author(s): **Knut A. Olsen**¹, David L. Nidever¹, Michael J. Fitzpatrick¹, Kenneth J. Mighell¹
Institution(s): ¹ *NOAO*
Contributing team(s): SMASH Collaboration, NOAO Data Lab Team
- 154.26 A Novel Approach to Constraining Uncertain Stellar Evolution Models**
Author(s): **Philip Rosenfield**¹, Leo Girardi², Julianne Dalcanton⁵, L. C. Johnson⁷, Benjamin F. Williams⁵, Daniel R. Weisz⁶, Alessandro Bressan⁴, Morgan Foesneau³
Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*, ² *INAF Padova*, ³ *MPIA Heidelberg*, ⁴ *SISSA*, ⁵ *Univ. of Washington*, ⁶ *University of California Berkeley*, ⁷ *University of California San Diego*
- 154.27 On the Quantification of Incertitude in Astrophysical Simulation Codes**
Author(s): **Melissa Hoffman**², Maximilian P. Katz², Donald E. Willcox², Scott Ferson¹, F. Douglas Swesty², Alan Calder²
Institution(s): ¹ *Applied Biomathematics*, ² *Stony Brook University*

155 Ground Based Facilities & Instrumentation Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

WEDNESDAY, 4 JANUARY 2017

- 155.01 Re-development of the Mount Evans Womble Observatory**
Author(s): **Robert E. Stencel**¹
Institution(s): ¹ *Univ. Denver*
- 155.02 Instruments at the Lowell Observatory Discovery Channel Telescope (DCT)**
Author(s): **George H. Jacoby**¹, Thomas A. Bida¹, Debra Fischer⁵, Elliott Horch², Alexander Kutyrev³, Gregory N. Mace⁴, Philip Massey¹, Henry G. Roe¹, Lisa A. Prato¹
Institution(s): ¹ *Lowell Observatory*, ² *Southern Connecticut State University*, ³ *University of Maryland*, ⁴ *University of Texas*, ⁵ *Yale*
- 155.03 First Light of the Renovated Thacher Observatory**
Author(s): **Katie O'Neill**¹, Yao Yin¹, Nick Edwards¹, Jonathan Swift¹
Institution(s): ¹ *The Thacher School*
- 155.04 Quality Control of The Miniature Exoplanet Radio Velocity Array(MINERVA)**
Author(s): **Kevin O Rivera García**², Jason D Eastman¹
Institution(s): ¹ *Harvard University*, ² *University of Puerto Rico Rio Piedras campus*
- 155.05 Brown University Radio Student Telescope (BURST)**
Author(s): **Michelle Miller**¹
Institution(s): ¹ *Brown University*
- 155.06 Weizmann Fast Astronomical Survey Telescope (WFAST)**
Author(s): **Guy Nir**², Eran Oded Ofek², Sagi Ben-Ami¹, Ilan Manulis², Avishay Gal-Yam², Oz Diner², Michael Rappaport²
Institution(s): ¹ *Harvard Smithsonian Astrophysical Observatory*, ² *Weizmann Institute*
- 155.07 Estimating Noise in the Hydrogen Epoch of Reionization Array**
Author(s): **Philip Englund Mathieu**¹
Institution(s): ¹ *Brown University*
Contributing team(s): HERA Team
- 155.08 Spectrographs and Large Telescopes: A Study of Instrumentation**
Author(s): **Haley Diane Fica**¹, Jeffrey D. Crane², Alan K. Uomoto², Tyson Hare²
Institution(s): ¹ *Barnard College*, ² *Carnegie Observatories*
- 155.09 Use of the Half-Degree Imager as a Photometric Instrument**
Author(s): **J. Allyn Smith**¹
Institution(s): ¹ *Austin Peay State Univ.*
Contributing team(s): WIYN-0.9m Consortium
- 155.10 On-Sky Performance Verification of the CHARIS IFS**
Author(s): **Tyler Dean Groff**⁴, Jeffrey K. Chilcote¹, Jeremy Kasdin⁵, Timothy Brandt², Michael Galvin⁵, Craig Loomis⁵, Michael Carr⁵, Gillian R. Knapp⁵, Olivier Guyon⁶, Nemanja Jovanovic⁶, Julien Lozi⁶, Naruhisa Takato⁶, Masahiko Hayashi³
Institution(s): ¹ *Dunlap Institute for Astronomy and Astrophysics, University of Toronto*, ² *Institute for Advanced Study*, ³ *NAOJ*, ⁴ *NASA Goddard Space Flight Center*, ⁵ *Princeton University*, ⁶ *Subaru Telescope*

- 155.11 Photometric Calibration of the Gemini South Adaptive Optics Imager**
Author(s): Sarah Anne Stevenson², Eleazar Rodrigo Carrasco Damele¹, Joanna Thomas-Osip¹
Institution(s): ¹ Gemini Observatory, ² Williams College
- 155.12 DuOCam: A Two-Channel Camera for Simultaneous Photometric Observations of Stellar Clusters**
Author(s): Erin R Maier³, Emily Witt¹, Darren L. Depoy², Luke M. Schmidt²
Institution(s): ¹ St. Olaf College, ² Texas A&M University, ³ University of Iowa
- 155.13 Spectro-spatial reconstruction of Wide Field Imaging Interferometry Testbed (WIIT) data**
Author(s): Roser Juanola-Parramon¹, David Leisawitz¹, Matthew R Bolcar¹, Alexander Iacchetta², Stephen F Maher¹, Stephen Rinehart¹
Institution(s): ¹ NASA Goddard Space Flight Center, ² The Institute of Optics - University of Rochester
- 155.14 Simulations and Interpretations of BETTII Observations**
Author(s): Arnab Dhabal², Lee G. Mundy², Maxime Rizzo¹, Stephen Rinehart¹, Roser Juanola-Parramon¹
Institution(s): ¹ NASA Goddard Space Flight Center, ² University of Maryland
- 155.15 Monitoring Telluric Water Absorption with CAMAL**
Author(s): Ashley Baker¹, Cullen Blake¹, David Sliski¹
Institution(s): ¹ University of Pennsylvania
- 155.16 Wide Band Artificial Pulsar**
Author(s): Zackary Parsons¹
Institution(s): ¹ National Radio Astronomy Observatory
- 155.17 Preparing ZEUS-2 for Observing Run at the APEX Telescope**
Author(s): Patrick Dahlin², Amit Vishwas¹, Thomas Nikola¹, Gordon J. Stacey¹
Institution(s): ¹ Cornell University, ² University of Michigan - Ann Arbor
- 155.18 Developing a Single-shot Polarimeter for Astronomy with Stessed-engineered Optics**
Author(s): Tristan Wolfe¹, Robert E Stencel¹
Institution(s): ¹ University of Denver
- 155.19 Design Considerations for the Installation of an Iodine (I2) Cell onto TRES**
Author(s): Juliana Garcia-Mejia¹
Institution(s): ¹ Harvard University
- 155.20 A dispersed fringe sensor prototype for the Giant Magellan Telescope**
Author(s): Danielle Frostig¹, Brian A. McLeod¹, Derek Kopon¹
Institution(s): ¹ Harvard Smithsonian Center for Astrophysics
- 155.21 Camera Development for the Cherenkov Telescope Array**
Author(s): Roberto Jose Moncada¹
Institution(s): ¹ University of Wisconsin-Madison

WEDNESDAY, 4 JANUARY 2017

156 Catalogs Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 156.01 The SUPERBLINK all-sky catalog of 2.8 million stars with proper motions larger than 40 mas/yr, enhanced with data from the first GAIA release**
Author(s): **Sebastien Lepine**¹
Institution(s): ¹ *Georgia State University*
- 156.02 The Reliability of Galaxy Classifications by Citizen Scientists**
Author(s): **Lennox Francis**², Stefan J. Kautsch², Dmitry Bizyaev¹
Institution(s): ¹ *Apache Point Observatory*, ² *Nova Southeastern University*
- 156.03 Cross-matching within the Chandra Source Catalog**
Author(s): **Arnold H. Rots**¹, Douglas J. Burke¹, Francesca Civano¹, Roger Hain¹, Dan Nguyen¹
Institution(s): ¹ *Harvard-Smithsonian CfA*
- 156.04 Classifying TDSS Stellar Variables**
Author(s): **Rachael Christina Amaro**², Paul J. Green¹
Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*, ² *University of Illinois at Urbana-Champaign*
Contributing team(s): The TDSS Collaboration

157 Societal Matters Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 157.01 The AAS Working Group on Accessibility and Disability (WGAD): Year 1 Highlights**
Author(s): **Alicia Aarnio**⁴, Jacqueline Monkiewicz¹, Nicholas Arnold Murphy², Jason Nordhaus³, Sarah E. Tuttle⁵
Institution(s): ¹ *Arizona State University*, ² *Harvard-Smithsonian Center for Astrophysics*, ³ *Rochester Institute of Technology*, ⁴ *University of Michigan*, ⁵ *University of Texas*
- 157.02 Astronomy Allies**
Author(s): **Heather Flewelling**², Katherine A. Alatalo¹
Institution(s): ¹ *Carnegie Observatories*, ² *University of Hawaii*

158 HAD IV: Poster Session

Wednesday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 158.01 This Month in Astronomical History: Preliminary Survey Results**
Author(s): **Teresa Wilson**¹
Institution(s): ¹ *Michigan Technological University*

- 158.02 Oxford Astronomer John Knight Fotheringham (1874-1936) as Unwitting Godfather of J.R.R. Tolkien's Fictional Luni-solar Holiday "Durin's Day"**
Author(s): **Kristine Larsen**¹
*Institution(s):*¹ *Central Connecticut State University*
- 158.03 Caroline Furness and the Evolution of Visual Variable Star Observing**
Author(s): **Kristine Larsen**¹
*Institution(s):*¹ *Central Connecticut State University*
- 158.04 Changes in Latitude, Changes in Attitude: U.S. Naval Observatory Observations of Solar Eclipses 1869 to the Present**
Author(s): **Malynda R. Chizek Frouard**¹, Linda Towne¹, George H. Kaplan¹
*Institution(s):*¹ *US Naval Observatory*
- 158.05 Instrumentation for Infrared Astronomy in the Collections of the National Air and Space Museum, Smithsonian Institution**
Author(s): **David H. DeVorkin**¹
*Institution(s):*¹ *Smithsonian Inst.*
- 158.06 Airborne Infrared Astronomical Telescopes**
Author(s): **Edwin F. Erickson**¹
*Institution(s):*¹ *NASA Ames Research Center*
- 158.07 Urania in the Marketplace: The Blue Comet (A Railroad's Astronomical Heritage)**
Author(s): **Kenneth S. Rumstay**¹
*Institution(s):*¹ *Valdosta State Univ.*

SPS Evening of Undergraduate Science

Wednesday, 6:30 pm - 8:30 pm; Yellow Rose Ballroom

The Society of Physics Students (SPS) sponsors this meeting and invites all undergraduates attending the AAS Meeting. At this meeting students will have an opportunity to display their posters and showcase their research. A noted astronomer will give a short talk on astronomy as a personal endeavor, providing a perspective on the field and the SPS Director will give a short presentation on career tools, resume writing skills, and astronomy trivia. The session provides an opportunity to slow down and savor the field and the accomplishments of one's colleagues.

Organizer(s): Brad Conrad (Society for Physics Students/AIP)

CSMA Meet & Greet

Wednesday, 6:30 pm - 7:30 pm; San Antonio 5

The CSMA Meet & Greet is an informal forum for students and researchers from underrepresented minority groups, and their allies, to meet with each other and AAS leadership (including CSMA members), network, and disseminate information about how to pursue a career in Astronomy and get involved with the AAS. Confirmed Speakers Jorge Moreno (CSMA chair), Adam Burgasser (AAS Council)

Organizer(s): Adam Burgasser (UC San Diego)

WEDNESDAY, 4 JANUARY 2017

Career Networking and Job Fair

Wednesday, 6:30 pm - 8:00 pm; Grapevine C

The AAS Employment Committee invites employers and potential employees to the Career Networking and Job Fair. Learn about the various career services offered at the meeting and by the association, including the Career Center, Job Register, career hours, workshops, and much more. Employers have a special opportunity to sponsor a table at the concurrent Job Fair. This is an open event, but registration is requested. Sign up to sponsor this event at aas.org/meetings/aas229/jobfair.

Organizer(s): AAS Employment Committee (AAS)

LGBTIQA Networking Dinner

Wednesday, 6:30 pm - 8:30 pm; AAS Registration Desk

The AAS Committee for Sexual-Orientation and Gender Minorities in Astronomy (SGMA) works to promote equality for lesbian, gay, bisexual, transgender, intersex, questioning, and asexual individuals within our profession. Join us for dinner on Wednesday evening, January 4. We'll meet in front of the Meeting Registration Desk at 7:30 and walk to a local restaurant. Please bring a method of payment for this dinner.

Organizer(s): William Dixon (Space Telescope Science Institute)

Science Opportunities with the NASA K2 and TESS Missions

Wednesday, 7:30 pm - 9:00 pm; Texas C

The NASA K2 and TESS missions have many similar science goals and guest observer opportunities. This Town Hall will present summaries of the mission status and science highlights for K2 and mission progress and guest observer plans for TESS. Many of the K2 and TESS project staff will be on hand to answer questions and chat in the informal reception to follow a few brief talks.

Organizer(s): Steve Howell (NASA ARC)

159 LSST Town Hall

Wednesday, 7:30 pm - 9:00 pm; Grapevine A

All US scientists, and a growing list of scientists affiliated with international partners, have the opportunity to contribute now to the development of the LSST observing strategy and to precursor scientific studies. This broad astronomical community will also have equal access to all LSST transient alerts, data products and software. The LSST Town Hall will bring updates to the community on the activities and policies of the LSST Project (Beth Willman), LSST Corporation (Pat Eliason), and LSST Science Collaborations (Lucianne Walkowicz). This town hall will include emphasis on elucidating the complementary missions of these entities, highlighting ways for community members to get involved in LSST now, and soliciting community feedback.

Organizer(s): Suzanne Jacoby (Large Synoptic Survey Telescope)

Film Screening: StarMen

Wednesday, 8:00 pm - 10:00 pm; Grapevine D

Four exceptional astronomers celebrate 50 years of work and friendship on a return road trip in the southwestern United States, recapturing youthful adventures and recounting each other's influences on the most exciting period in astronomy's history. I wanted to go with them because I became enchanted with astronomy as a young girl, at the time they were becoming leaders in their field: Roger the instrument-maker, Donald the theoretician, Nick the visionary, and Wal the observer. Together they represent the most productive period astronomy has ever had. They helped build the world's biggest observatories and made revolutionary discoveries about the evolving universe, discoveries that have the power to change the way humanity sees itself. In old age and facing death, their journey through memory and the breathtaking landscape provokes them to reflect on how their profound work on the universe has reflected back on the individual, affecting their sense of religious faith, how life may have purpose, and what is knowable and unknowable. Filmed in California, Arizona, New Mexico and Utah, the film features POV narration, and draws a character-driven, intimate portrait of friendship as the men travel from the century-old telescope on Mt. Wilson through a progression of larger and more powerful observatories. They pause at the Grand Canyon, and re-take a hike that nearly defeated them when they were young. Alison Rose is a producer, director, and writer whose filmmaking explores how people experience and understand the world – scientifically; ethically. Alison worked at the Canadian Institute for Theoretical Astrophysics for 18 months during the making of this film. Her previous documentaries include *Galileo's Sons & Love at the Twilight Motel*. *STAR MEN* is her first cross-platform project.

THURSDAY, 5 JANUARY 2017

200 Plenary Talk: The LED Outdoor Lighting Revolution: Opportunities, Threats and Mitigation, Martin Aubé (Cégep de Sherbrook)

Thursday, 8:30 am - 9:20 am; Texas A

Chair: James Lowenthal (Smith College)



200.01 The LED outdoor lighting revolution : Opportunities, threats and mitigation

Author(s): **Martin Aubé**¹

Institution(s): ¹ Cégep de Sherbrooke

201 Plenary Session: AAS Prize Presentations: Buchalter Cosmology, Weber, George Van Biesbroeck, Tinsley, LAD Astrophysics Prize, Education

Thursday, 9:20 am - 9:40 am; Texas A

Chair: Christine Jones (Harvard-Smithsonian, CfA)

Citations:

Weber: James J. (Jamie) Bock For his development of low noise “spider web” bolometers that enable a broad range of submillimeter and millimeter observations with ground-based, balloon-based, and space-based instruments, leading to critically important measurements of the cosmic microwave background radiation.

Van B: Richard (Rick) A. Perley For his tireless and unrelenting career-long service to the global astronomical community, and the dedication of his unparalleled expertise in radio interferometry to the design, commissioning, and optimization of the world’s premier radio telescope, the Very Large Array.

Tinsley: Andrew Gould For his development of gravitational microlensing as an important tool for the discovery and characterization of exoplanets.

LAD Astrophysics Prize: Peter Beiersdorfer For his numerous contributions to the study of astronomical environments at extreme-ultraviolet and X-ray wavelengths.

Education: Lynn R. Cominsky For her long-standing leadership of the Sonoma State University Education and Public Outreach Group, which has had a broad and significant impact both locally and nationally. Cominsky has done extensive work on teacher training and on public outreach for many high-energy-astronomy missions, including XMM-Newton, Swift, Fermi, and NuSTAR.

2017 Eclipse of the Sun: Education and Outreach

Thursday, 10:00 am - 11:30 am; San Antonio 1

This 90-minute discussion and share-a-thon, organized by members of the AAS Solar Eclipse Task Force, is an opportunity to learn what education and outreach projects other astronomers and institutions are doing in anticipation of the August 2017 eclipse of the Sun, and to share information about your own plans with your peers. Even if you plan to go to the path of totality, you may want to be part of eclipse outreach in the months preceding the event. Tables will be set out for an exchange of handouts or brochures, and panelists will discuss some of the key projects now under discussion or under way. Among these will be: • The AAS NSF small grants program for eclipse outreach programs to underserved communities • Where the work of the AAS Solar Eclipse Task Force (and its committees) stand now and what else needs to be done • NASA's plans for education, outreach, and citizen science • Other planned national citizen science and outreach projects, plus examples of promising local and regional outreach activities • Insights from the Astronomical Society of the Pacific's December meeting on eclipse outreach to inner city and other diverse communities • Projects for bulk distribution of eclipse glasses and safe-viewing information • Tips and resources for setting up your own local eclipse outreach events • Work with the medical and public-safety communities • Media related projects and materials. If you would like to share information about your education or outreach project through a handout, bring 200 copies with you to the meeting.

Organizer(s): Andrew Fraknoi (Foothill College)

202 Extrasolar Planets: Characterization & Theory II

Thursday, 10:00 am - 11:30 am; Texas A

Chair: Zdzislaw Musielak (Univ. of Texas, Arlington)

202.01 Cloud and Haze in the Atmospheres of Wide-Separation Exoplanets

Author(s): **Renyu Hu**¹

Institution(s): ¹Jet Propulsion Laboratory

202.02 Formation of Hazes & Clouds on Tidally Locked Hot-Jupiters: Insights from Size Distribution Dynamics

Author(s): **Diana Powell**², Xi Zhang², Peter Gao¹, Vivien Parmentier³

Institution(s): ¹California Institute of Technology, ²UC Santa Cruz, ³University of Arizona

202.03 Impact of Sulfur Hazes on the Reflected Light Spectra of Giant Exoplanets

Author(s): **Peter Gao**¹, Mark S. Marley¹, Kevin Zahnle¹, Tyler D. Robinson³, Nikole K. Lewis²

Institution(s): ¹NASA Ames Research Center, ²Space Telescope Science Institute, ³University of California, Santa Cruz

202.04D The Exo-Atmosphere of WASP-103b

Author(s): **Kimberly Michelle Star Cartier**¹, Jason Wright¹, Thomas G. Beatty¹

Institution(s): ¹Pennsylvania State University

THURSDAY, 5 JANUARY 2017

202.05 Probing the Physics and Chemistry in Hot Jupiter Exoclimates for Future Missions

Author(s): **Mahmuda Afrin Badhan**⁴, Ravi Kumar Kopparapu⁴, Shawn Domagal-Goldman¹, Drake Deming⁴, Eric Hébrard³, Patrick GJ Irwin⁵, Natasha Batalha², Avi Mandell¹

Institution(s): ¹. NASA Goddard Space Flight Center, ². Pennsylvania State University, ³. University of Exeter, ⁴. University of Maryland College Park, ⁵. University of Oxford

202.06 Through the Looking-Glass: Reflected Light from Other Worlds

Author(s): **Jayne Birkby**¹, Roi Alonso², Sergio Hoyer², Mercedes Lopez-Morales¹
Institution(s): ¹. Harvard-Smithsonian Center for Astrophysics, ². Instituto de Astrofísica de Canarias

202.07D Searching for new diagnostics of exoplanet atmospheres

Author(s): **Antonija Oklopčić**¹, Christopher M. Hirata², Kevin Heng³
Institution(s): ¹. California Institute of Technology, ². Ohio State University, ³. University of Bern

203 AGN, QSO, Blazars: Energetics & Physics

Thursday, 10:00 am - 11:30 am; Texas C

Chair: Nico Cappelluti (Yale University)

203.01 A Radiative Transport Model for Blazars

Author(s): **Tiffany Lewis**¹, Finke Justin², Peter A. Becker¹
Institution(s): ¹. George Mason University, ². Naval Research Laboratory

203.02D Kepler and K2 Light Curves of Active Galaxies: Optical Time Domain Windows into the Central Engine

Author(s): **Krista Lynne Smith**⁴, Richard Mushotzky⁴, Patricia T. Boyd³, Steve B. Howell², Neil Gehrels³, Dawn M. Gelino¹
Institution(s): ¹. Caltech, ². NASA ARC, ³. NASA GSFC, ⁴. University of Maryland College Park

203.03D Excitation Mechanisms of Near-Infrared Emission Lines in LINER Galaxies

Author(s): **Anna Boehle**¹
Institution(s): ¹. UCLA

203.04 The Similarity of Luminosity in Quasar Doppelgänger Pairs

Author(s): **Michael S. Brotherton**², Thomas Bernard Rochais², Vikram Singh², William T. Chick², Jaya Maithil², Jessica Sutter², Zhaohui Shang¹
Institution(s): ¹. Tianjin Normal University, ². Univ. of Wyoming

203.05D Probing Feedback with the Thermal Sunyaev-Zel'dovich Effect

Author(s): **Devin T Crichton**¹
Institution(s): ¹. Johns Hopkins University
Contributing team(s): Atacama Cosmology Telescope Collaboration

204 Star Formation: Galactic to Extragalactic

Thursday, 10:00 am - 11:30 am; Texas D

Chair: Anuj Sarma (DePaul Univ.)

204.01 Mapping the High-Dimensional ISM with Kinetic Tomography

Author(s): Gail Zasowski², Joshua Eli Goldston Peek², Kirill Tchernyshyov¹
 Institution(s): ¹ Johns Hopkins University, ² Space Telescope Science Institute

204.02D Deciphering Galactic Hydrogen with 21-SPONGE

Author(s): Claire Murray⁴, Snezana Stanimirovic⁴, Miller Goss¹, Carl E. Heiles²,
 John Miller Dickey³, Robert Lindner⁴, Brian L Babler⁴
 Institution(s): ¹ NRAO, ² University of California - Berkeley, ³ University of
 Tasmania, ⁴ University of Wisconsin - Madison

204.03D Bridging the Gap from Galactic to Extragalactic: Star Formation and Giant Molecular Clouds within the Nearby Spiral Galaxy NGC 300

Author(s): Christopher Faesi¹
 Institution(s): ¹ Harvard Univ.

204.04D Untangling the magnetic fields in spiral galaxy NGC 6946 with wide-band polarimetry

Author(s): Anna Williams², George Heald¹, Eric M. Wilcots², Ellen Gould Zweibel²
 Institution(s): ¹ CSIRO, ² University of Wisconsin-Madison

204.05D The EDGE--CALIFA Survey: Molecular Gas Depletion Time in Galaxy Centers

Author(s): Dyas Utomo², Leo Blitz², Alberto D. Bolatto⁴, Tony H. Wong³, Eve C. Ostriker¹
 Institution(s): ¹ Princeton University, ² University of California, Berkeley,
³ University of Illinois, ⁴ University of Maryland
 Contributing team(s): the EDGE--CALIFA collaboration

205 First Galaxies & Early Universe

Thursday, 10:00 am - 11:30 am; Grapevine A

Chair: Kim-Vy Tran (Texas AandM University)

205.01 The pair and major merger history of galaxies up to z=6 over 3 square degrees

Author(s): Christopher Conselice², Carl Mundy², Kenneth Duncan¹
 Institution(s): ¹ Leiden Observatory, ² Univ. of Nottingham

205.02D The formation and evolution of high-redshift dusty galaxies

Author(s): Jingzhe Ma⁷, Anthony H. Gonzalez⁷, Jian Ge⁷, Joaquin D. Vieira⁸,
 Jason X. Prochaska⁵, Justin Spilker⁶, Maria Strandet³, Matthew Ashby¹, Pasquier
 Noterdaeme², Britt Lundgren⁹, Yinan Zhao⁷, Tuo Ji⁴, Shaohua Zhang⁴, Paul
 Caual²
 Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² Institut
 d'Astrophysique de Paris, ³ Max-Planck-Institut für Radioastronomie, ⁴ Polar
 Research Institute of China, ⁵ UC Santa Cruz, ⁶ University of Arizona, ⁷ University
 of Florida, ⁸ University of Illinois at Urbana-Champaign, ⁹ University of
 Wisconsin - Madison

Contributing team(s): SPT SMG collaboration

THURSDAY, 5 JANUARY 2017

205.03 Physical and observable properties of the first galaxies

Author(s): **John Wise**¹, Kirk Stuart Simeon Barrow¹, Brian W. O'Shea², Michael L. Norman³, Hao Xu³

*Institution(s):*¹ Georgia Institute of Technology, ² Michigan State University, ³ UC - San Diego

205.04D High-Redshift Astrophysics Using Every Photon

Author(s): **Patrick Breysse**¹, Ely Kovetz¹, Mubdi Rahman¹, Marc Kamionkowski¹

*Institution(s):*¹ Johns Hopkins University

205.05 RELICS: Reionization Lensing Cluster Survey

Author(s): **Dan A. Coe**¹

*Institution(s):*¹ STScI

Contributing team(s): RELICS Team

205.06D Magnetizing the Universe during the Epoch of Reionization

Author(s): **Daegene Koh**¹, John Wise¹

*Institution(s):*¹ Georgia Institute of Technology

206 Space Missions from Cubesats to LUVOIR

Thursday, 10:00 am - 11:30 am; Texas 5

Chair: **Brendan Crill** (Jet Propulsion Laboratory)

206.01D The Behavior of Warm Molecules in Planet-forming Disks and CHES: a Pathfinder UV Spectrograph for the LUVOIR Surveyor

Author(s): **Keri Hoadley**¹, Kevin France¹

*Institution(s):*¹ University of Colorado - Boulder

206.02 Optics Technologies for LUVOIR & HabEx: Polarization & Mirror Count

Author(s): **James B. Breckinridge**¹

*Institution(s):*¹ College of Optical Sciences, University of Arizona

206.03 A new active method to correct for the effects of complex apertures on coronagraph performance

Author(s): **Johan Mazoyer**², Laurent Pueyo², Mamadou N'Diaye², Kevin Fogarty², Marshall D. Perrin², Remi Soummer², Colin Arthur Norman¹

*Institution(s):*¹ Johns Hopkins University, ² Space Telescope Science Institute

206.04 Improving HST/WFC3 photometric calibration

Author(s): **Susana E. Deustua**¹

*Institution(s):*¹ Space Telescope Science Institute

Contributing team(s): WFC3 Team

206.05 CubeSats for Astrophysics: The Current Perspective

Author(s): **David R. Ardila**³, Evgenya Shkolnik¹, Varoujan Gorjian²

*Institution(s):*¹ Arizona State University, ² Jet Propulsion Laboratory, ³ The Aerospace Corporation

206.06 The Crisis in Astrophysics and Planetary Science: How Commercial Space and Program Design Principles will let us Escape

Author(s): **Martin Elvis**¹

*Institution(s):*¹ Harvard-Smithsonian CfA

206.07 Exoplanet mass determination using precision imaging astrometry and coronagraphy

Author(s): **Eduardo Bendek**², Ruslan Belikov², Emily R Finan³, Olivier Guyon³, Eugene Pluzhnik², Stephen Ammons¹

Institution(s): ¹ Lawrence Livermore National Laboratory, ² NASA Ames, ³ University of Arizona

207 Black Holes II

Thursday, 10:00 am - 11:30 am; Grapevine C

Chair: **Maria Dainotti (Stanford University)**

207.01 Tidal Disruption Events Across Cosmic Time

Author(s): **Anastasia Fialkov**¹, Abraham Loeb¹

Institution(s): ¹ Harvard

207.02 What sets the line widths in tidal disruption events?

Author(s): **Nathaniel Roth**², Daniel Kasen¹

Institution(s): ¹ Univ. of California, Berkeley, ² University of Maryland, College Park

207.03 Discovery of transient infrared emission from dust heated by stellar tidal disruption flares

Author(s): **Sjoert Van Velzen**², Julian H. Krolik², Varoujan Gorjian¹

Institution(s): ¹ JPL, ² The Johns Hopkins University

207.04 New Results from Chandra on the X-ray Emission from the Massive Black Hole in the Compact Starburst Galaxy Henize 2-10

Author(s): **Amy E. Reines**², Mark Reynolds⁵, Jon M. Miller⁵, Gregory R. Sivakoff⁴, Jenny E. Greene³, Ryan C. Hickox¹, Kelsey E. Johnson⁶

Institution(s): ¹ Dartmouth, ² NOAO, ³ Princeton University, ⁴ University of Alberta, ⁵ University of Michigan, ⁶ University of Virginia

207.05 NuSTAR Discovery of a Possible Black Hole HMXB and Cygnus X-1 Progenitor

Author(s): **Jonathan E. Grindlay**², Charles James Hailey¹, Shuo Zhang¹, Kaya Mori¹, Sebastian Gomez², Jaesub Hong², John Tomsick³

Institution(s): ¹ Columbia University, ² Harvard-Smithsonian, CfA, ³ University of California

207.06D Spectral-Timing to Probe Strong Gravity in X-ray Binaries

Author(s): **Abigail Stevens**¹, Phil Uttley¹

Institution(s): ¹ Anton Pannekoek Institute

207.07 Finding Free-Floating Black Holes using Astrometric Microlensing

Author(s): **Jessica R. Lu**¹, Eran Oded Ofek⁴, Evan Sinukoff², Andrzej Udalski³, Szymon Kozłowski³

Institution(s): ¹ UC Berkeley, ² University of Hawaii, ³ Warsaw University Observatory, ⁴ Weizmann Institute

THURSDAY, 5 JANUARY 2017

207.08 Improved Constraints to the Local Supermassive Black Hole Occupation Fraction

Author(s): **Jianfeng Wu**², Elena Gallo², Brendan P. Miller¹

Institution(s): ¹ College of St. Scholastica, ² University of Michigan

208 HEAD II: The Physics of the Perseus Cluster, and Other Highlights, From Hitomi

Thursday, 10:00 am - 11:30 am; Grapevine D

Before the tragic loss of the spacecraft, the Soft X-ray Spectrometer on the Hitomi/Astro-H observatory observed the Perseus cluster of galaxies, producing X-ray spectral data with unprecedented spectral resolution. This session reviews the scientific impact of these transformation data on our understanding of cluster physics and the central active galaxy. We end with a discussion of Hitomi observations of the three other objects for which Hitomi data were obtained, the Crab Nebula, G21.5 and N132D

Chair: **Christopher Reynolds (Univ. of Maryland)**

208.01 Hitomi measurements of the dynamics of the intracluster medium in the Perseus Cluster

Author(s): **Andrew C Fabian**¹

Institution(s): ¹ University of Cambridge

Contributing team(s): Hitomi Collaboration

208.02 Hitomi results on the Perseus cluster thermodynamics, elemental abundances, and emission processes

Author(s): **Maxim L. Markevitch**¹

Institution(s): ¹ NASA GSFC

Contributing team(s): Hitomi collaboration

208.03 Hitomi Results -NGC 1275: The Origin of Fe-K α Line

Author(s): **Richard Mushotzky**¹

Institution(s): ¹ University of Maryland

Contributing team(s): Hitomi Collaboration

208.04 Highlights from Hitomi observations of non-Perseus targets

Author(s): **Hiroya Yamaguchi**⁴, Aya Bamba⁷, Manabu Ishida³, Satoru Katsuda¹, John Patrick Hughes⁵, Greg Madejski⁶, Yasushi Fukazawa²

Institution(s): ¹ Chuo University, ² Hiroshima University, ³ JAXA/ISAS, ⁴ NASA/GSFC, ⁵ Rutgers University, ⁶ Stanford University, ⁷ The University of Tokyo

Contributing team(s): Hitomi Collaboration

209 Making Great Observatories Even Better: Hubble's Hand in Studying the Multi-Wavelength Universe

Thursday, 10:00 am - 11:30 am; Texas 1

Hubble has a long history of encouraging and facilitating multi-wavelength science through its joint observing programs. Since Cycle 9 of HST in the year 2000, scientists thinking about multi-wavelength projects with Hubble have been able to propose for

an expanding list of facilities that now spans the Chandra X-ray Observatory, NOAO telescopes, Spitzer, XMM-Newton, and NRAO telescopes. This science is often more than the sum of its parts, and enables time-domain and synergistic astrophysics studies not possible with the traditional double-jeopardy approach to arranging observing campaigns. Almost 4000 HST orbits in about 350 joint observing programs have been awarded since the inception of the joint observing program framework, equivalent to more than a year's worth of Hubble observations. The purpose of this special session is to describe some of the important science results which have been enabled through the joint observing programs, and look ahead to enabling science from additional joint programs. The invited speaker list consists of astronomers who have authored papers resulting from data obtained through joint observing programs, and will highlight the breadth of science enabled from these several joint programs. We propose for a poster session to accompany the oral session, for additional contributions by the science community.

Chair: Rachel Osten (Space Telescope Science Institute)

209.01 Coordinated UV and X-ray Observations of AGN Outflows

Author(s): **Gerard A. Kriss**¹

*Institution(s):*¹ STScI

209.02 Leo P: A very low-mass, extremely metal-poor, star-forming galaxy

Author(s): **Kristen B. McQuinn**¹

*Institution(s):*¹ University of Texas

Contributing team(s): Leo P team

209.03 High Resolution Studies of Mass Loss from Massive Binary Stars

Author(s): **Michael F. Corcoran**⁷, Theodore R. Gull², Kenji Hamaguchi⁴, Noel Richardson⁶, Thomas Madura³, Christopher Michael Post Russell², Mairan Teodoro⁷, Joy S. Nichols¹, Anthony F. J. Moffat⁵, Tomer Shenar⁵, Herbert Pablo⁵
*Institution(s):*¹ CfA, ² NASA/GSFC, ³ San Jose State University, ⁴ UMBC, ⁵ University of Montreal, ⁶ University of Toledo, ⁷ USRA

209.04 Multi-wavelength Characterization of Exoplanet Host Stars with the MUSCLES Treasury Survey

Author(s): **Kevin France**², Allison Youngblood², R. O. Parke Loyd², Christian Schneider¹

*Institution(s):*¹ ESA, ² Univ of Colorado

209.05 Extrasolar Storms: Mapping Cloud Cover Evolution with Joint HST-Spitzer Observations

Author(s): **Daniel Apai**¹

*Institution(s):*¹ University of Arizona

Contributing team(s): Extrasolar Storms Team

209.06 Multi-Wavelength Spectroscopy of Super-Earth Atmospheres

Author(s): **Diana Dragomir**², Björn Benneke¹, Ian Crossfield³, Joshua Lothringer⁴, Heather Knutson¹

*Institution(s):*¹ Caltech, ² MIT, ³ UC Santa Cruz, ⁴ University of Arizona

THURSDAY, 5 JANUARY 2017

209.07 HST, ALMA, and revealing the throes of planet formation

Author(s): Aaron C. Boley¹

Institution(s): ¹ The University of British Columbia

210 The Presidential Transition: What Can We Expect?

Thursday, 10:00 am - 11:30 am; Grapevine B

A new president has been elected and the incoming administration is currently preparing to take charge. How does this transition process impact federal support of science, especially at NASA, NSF, and DOE? Policy experts will discuss the process of a presidential transition, with a particular emphasis on federal support of science.

Chair: Joel Bregman (Univ. of Michigan)

211 The Value of Astronomical Data & Long Term Preservation

Thursday, 10:00 am - 11:30 am; Texas 3

As more sky surveys collect large amounts of data, we automatically assume that all the data will be accessible, preserved and curated for eternity. However, as more data is accumulating, we will have to face some hard tradeoffs what to keep and what to discard, and how much to invest in long-term preservation. As these issues are becoming more and more acute, it is time to have a public discussion about how to make these difficult choices and how to create a sustainable data preservation strategy for the US Astronomy community. The session would feature five speakers and would have an extended open discussion.

Chair: Alexander Szalay (Johns Hopkins Univ.)

211.01 The long term future of astronomical archives

Author: Alex Szalay

211.02 Curating and Archiving LSST Data Products

Author: Beth Wilman

211.03 NASA Astronomy Archives: Enabling Science Now and in the Future

Author: Lisa J. Storrie-Lombardi

211.04 Policy and Practice for Data Preservation at NIST

Author: Robert J. Hanisch

211.05 The PanSTARRS Public Data Archive: A Case Study in Data Preservation

Author: Marc Postman

212 Young Stellar Objects, Very Young Stars, T-Tauri Stars, H-H Objects

Thursday, 10:00 am - 11:30 am; Texas 4

Chair: James De Buizer (SOFIA/USRA)

212.01 Assessing Magnetospheric Accretion in Herbig Ae/Be Stars

Author(s): **Alicia Aarnio**¹, John D. Monnier¹

Institution(s): ¹ University of Michigan

212.02 A WISE Study of Star Formation in Canis Major and Target Selection for JWST

Author(s): **William J. Fischer**², Deborah Padgett², Karl R. Stapelfeldt¹, Marta M. Sewilo²

Institution(s): ¹ JPL, ² NASA Goddard Space Flight Center

212.03D Searching for the bottom of the IMF

Author(s): **Taran Esplin**¹, Kevin Luhman¹

Institution(s): ¹ Pennsylvania State University

212.04 A Newly Discovered Source with Peculiar Chemistry Near the HH 111/HH 121 Protostellar System

Author(s): **Jennifer J. Wiseman**², Marta M. Sewilo², Remy Indebetouw³, Johan Lindberg², Steven B. Charnley², Jaime E. Pineda¹

Institution(s): ¹ Max Planck Institute for Extraterrestrial Physics, ² NASA / GSFC, ³ University of Virginia

212.05 A Triple Protostar System in L1448 IRS3B Formed via Fragmentation of a Gravitationally Unstable Disk

Author(s): **John J. Tobin**⁹, Kaitlin M. Kratter⁷, Magnus Persson¹, Leslie Looney⁸, Michael Dunham⁵, Dominique Segura-Cox⁸, Zhi-Yun Li¹⁰, Claire J. Chandler⁴, Sarah Sadavoy², Robert J. Harris⁸, Carl Melis⁶, Laura M. Perez³

Institution(s): ¹ Chalmers University of Technology, Onsala Space Observatory, ² Harvard-Smithsonian Center for Astrophysics, ³ Max Planck Institute for Radio Astronomy, ⁴ National Radio Astronomy Observatory, ⁵ SUNY - Fredonia, ⁶ UC San Diego, ⁷ University of Arizona, ⁸ University of Illinois, ⁹ University of Oklahoma, ¹⁰ University of Virginia

212.06D HST 1.6 μ m Imaging Survey of Orion Protostars

Author(s): **Joseph J. Booker**⁹, S. Thomas Megeath⁹, William J. Fischer¹, Marina Kounkel⁶, Charles A. Poteet³, Elise Furlan², Amelia Marie Stutz⁵, Manoj Puravankara⁴, John J. Tobin⁷, Zsafia Nagy⁹, Dan M. Watson⁸

Institution(s): ¹ Goddard Space Flight Center, ² IPAC, ³ Space Telescope Institute, ⁴ Tata Institute of Fundamental Research, ⁵ Universidad de Concepción, ⁶ University of Michigan, ⁷ University of Oklahoma, ⁸ University of Rochester, ⁹ University of Toledo

Contributing team(s): Herschel Orion Protostar Survey

213 Innovations in Astronomy Teaching & Learning

Thursday, 10:00 am - 11:30 am; Grapevine 1

The field of Astronomy Education Research is a quickly advancing area of study that gives insights into the teaching and learning of astronomy. Presenters in this special session will discuss the results of research on a variety of recent innovations in astronomy education for college-level instruction and lifelong learning. Topics will include innovations in Pedagogy, Assessment, and Curricular materials for face-to-face, and online college-level instruction as well as MOOCs (Massive Open Online Courses).

Chair: Chris Impey (Univ. of Arizona)

THURSDAY, 5 JANUARY 2017

213.01 Results of Studying Astronomy Students' Science Literacy, Quantitative Literacy, and Information Literacy

Author(s): **Sanlyn Buxner**⁴, Chris David Impey⁴, Katherine B. Follette³, Erin F. Dokter⁴, Don McCarthy⁴, Beau Vezino⁴, Martin Formanek⁴, James M Romine¹, Laci Brock⁴, Megan Neiberding², Edward E. Prather⁴
Institution(s): ¹ Independent, ² NOAO, ³ Stanford University, ⁴ University of Arizona

213.02 A Preliminary Analysis of College Students' Preinstructional Ideas About Planet Formation

Author(s): **Molly Simon**¹, Chris David Impey¹, Sanlyn Buxner¹
Institution(s): ¹ University of Arizona

213.03 Using pedagogical discipline representations (PDRs) to enable Astro 101 students to reason about modern astrophysics

Author(s): **Colin Scott Wallace**⁴, Edward E. Prather¹, Timothy G. Chambers³, Julia R. Kamenetzky⁵, Seth D. Hornstein²
Institution(s): ¹ University of Arizona, ² University of Colorado Boulder, ³ University of Michigan, ⁴ University of North Carolina at Chapel Hill, ⁵ Westminster College
Panel Discussion and Audience Q&A

213.04 Astronomy for Astronomical Numbers with Massive Open Online Classes

Author(s): **Chris David Impey**¹, Matthew Wenger¹, Sanlyn Buxner¹, Martin Formanek¹
Institution(s): ¹ Univ. of Arizona

213.05 Research on Peer Grading in an Astronomy Massive Open Online Course

Author(s): **Martin Formanek**¹, Chris David Impey¹, Matthew Wenger¹, Tenzin Sonam¹, Sanlyn Buxner¹
Institution(s): ¹ University of Arizona

213.06 Studying Student Motivations in an Astronomy Massive Open Online Class

Author(s): **Matthew Wenger**¹, Chris David Impey¹, Sanlyn Buxner¹, Martin Formanek¹
Institution(s): ¹ University of Arizona
Panel Discussion and Audience Q&A

214 Galaxies at High Redshift

Thursday, 10:00 am - 11:30 am; Grapevine 2

Chair: Rachael Livermore (University of Texas at Austin)

214.01D The diversity of evolutionary pathways of compact elliptical galaxies in cosmological simulations

Author(s): **Sarah Wellons**¹
Institution(s): ¹ Harvard University

214.02 What drives the kinematic evolution of star-forming galaxies?

Author(s): **Chao-Ling Hung**³, Christopher C. Hayward², Tiantian Yuan¹
Institution(s): ¹ Australian National University, ² Center for Computational Astronomy, ³ University of Texas at Austin

214.03D Star formation history and chemical enrichment in the early Universe: clues from the rest-optical and rest-UV spectra of z~2-3 star-forming galaxies in the Keck Baryonic Structure Survey

Author(s): **Allison L. Strom**¹
Institution(s): ¹ Caltech

214.04 Fast-Timescale Star Formation at z ~ 1 Revealed by H alpha

Author(s): **Peter Kurczynski**³, Eric J. Gawiser³, Viviana Acquaviva², Marc Rafelski⁴, Harry I. Teplitz¹
Institution(s): ¹ Infrared Processing and Analysis Center, MS 100-22, CalTech, ² New York City College of Technology, ³ Rutgers University, ⁴ Space Telescope Science Institute
Contributing team(s): UVUDF Team, CANDELS Team

214.05 The Evolution of Massive Morphological Spheroid and Disk Galaxies in CANDELS from 11 to 6 Billion Years Ago

Author(s): **Daniel H. McIntosh**¹
Institution(s): ¹ University of Missouri-Kansas City
Contributing team(s): CANDELS Collaboration

214.06 The ZINGRS Radio Survey: Probing metallicities at high-z with far-IR fine-structure lines and the radio continuum

Author(s): **Carl Ferkinhoff**⁴, Sarah Higdon², James L. Higdon², Hannah Tidwell², Miguel Rangel², Amit Vishwas¹, Thomas Nikola¹, Gordon J. Stacey¹, Drew Brisbin³
Institution(s): ¹ Cornell University - Department of Astronomy, ² Georgia Southern, ³ Universidad Diego Portales, ⁴ Winona State University

215 Cataclysmic Variables, Novae, & Symbiotic Stars

Thursday, 10:00 am - 11:30 am; Fort Worth 6

Chair: Eric Schlegel (Univ. of Texas, San Antonio)

215.01 Mind the Gap when Data Mining the Ritter-Kolb Cataclysmic Variable Catalogue

Author(s): **Warren M. Sparks**¹, Edward M. Sion²
Institution(s): ¹ formerly LANL, ² Villanova University

215.02 The Disk Instability Model for SU UMa systems - a Comparison of the Thermal-Tidal Model and Plain Vanilla Model

Author(s): **John K. Cannizzo**¹
Institution(s): ¹ NASA/GSFC/CRESST/UMBC

THURSDAY, 5 JANUARY 2017

215.03D Radio Observations as a Tool to Investigate Shocks and Asymmetries in Accreting White Dwarf Binaries

Author(s): **Jennifer Helen Seng Weston**¹

Institution(s): ¹ *Columbia University*

Contributing team(s): The E-Nova Project

215.04 SOFIA/FORCAST Observations of the Symbiotic Mira, R Aquarii

Author(s): **Ravi Sankrit**⁴, Eric B. Omelian³, L. Andrew Helton⁴, Uma Gorti², R. Mark Wagner¹

Institution(s): ¹ *LBT Observatory*, ² *NASA Ames/SETI*, ³ *NASA/SOFIA/LOGYX*, ⁴ *SOFIA/USRA*

215.05 New Results on RZ Leo and CC Scl

Author(s): **Paula Szkody**¹, Anjum S. Mukadam¹, Boris T Gaensicke², Odette Toloza², Zhibin Dai³

Institution(s): ¹ *Univ. of Washington*, ² *University of Warwick*, ³ *Yunnan Observatories*

Contributing team(s): HST GO12870 team

215.06 The luminous red nova M101-OT2015-1: a candidate for common envelope ejection

Author(s): **Nadejda Blagorodnova**¹, Mansi M. Kasliwal¹, Rubina Kotak²

Institution(s): ¹ *Caltech*, ² *Queens University Belfast*

215.07 The Peculiar Evolution of V1535 Sco

Author(s): **Justin D. Linford**², Laura Chomiuk⁵, Thomas Nelson⁸, Thomas Finzell⁵, Jennifer L. Sokoloski¹, Michael P. Rupen⁴, Koji Mukai⁷, Amy J. Mioduszewski⁶, Jennifer Helen Seng Weston³

Institution(s): ¹ *Columbia University*, ² *George Washington University*, ³ *Green Bank Observatory*, ⁴ *Herzberg Institute for Astrophysics*, ⁵ *Michigan State University*, ⁶ *NRAO*, ⁷ *University of Maryland Baltimore County*, ⁸ *University of Pittsburgh*

216 The Galactic Disk, Galactic Bulge, & Galactic Center

Thursday, 10:00 am - 11:30 am; Dallas 6

Chair: **Robyn Sanderson (Columbia University)**

216.01 Chemical Cartography in the Milky Way with SDSS/APOGEE: Multi-element abundances and abundance ratio variations

Author(s): **Jon A. Holtzman**¹, Sten Hasselquist¹, Jennifer Johnson², Jonathan C. Bird⁴, Steven R. Majewski³

Institution(s): ¹ *New Mexico State Univ.*, ² *Ohio State University*, ³ *University of Virginia*, ⁴ *Vanderbilt University*

Contributing team(s): SDSS/APOGEE team

216.02 On the Radial Abundance Gradients of Europium and Oxygen of Stars Inside the Disk of a Simulated Milky Way

Author(s): **Krystal Ruiz-Rocha**¹, Gabriela Montes¹, Enrico Ramirez-Ruiz¹

Institution(s): ¹ *University of California, Santa Cruz*

- 216.03 Multiple stellar populations and the origin of the double red clump in the Milky Way bulge**
Author(s): **Young-Wook Lee**¹
Institution(s): ¹ *Yonsei University*
- 216.04 Can Star-Disk Collisions Explain the Missing Red Giants Problem in the Galactic Center?**
Author(s): **Tamara Bogdanovic**¹, Thomas Kieffer¹
Institution(s): ¹ *Georgia Institute of Technology*
- 216.05D The Mysterious Galactic Center Radio Source N3**
Author(s): **Dominic Ludovici**⁵, Cornelia C. Lang⁵, Mark Morris⁴, Robert Lucien Mutel⁵, Elisabeth A.C. Mills¹, James E Toomey³, Juergen Ott²
Institution(s): ¹ *Jan Jose State University*, ² *NRAO*, ³ *United States Coast Guard Academy*, ⁴ *University of California*, ⁵ *University of Iowa*
- 216.06 High Resolution Surveys of the Water and Methanol Star Formation Masers in the Central Molecular Zone**
Author(s): **Matthew Rickert**⁴, Farhad Yusef-Zadeh⁴, Juergen Ott², David S. Meier³, Nico Krieger¹
Institution(s): ¹ *Max-Planck-Institut fur Astronomie*, ² *National Radio Astronomy Observatory*, ³ *New Mexico Institute of Mining and Technology*, ⁴ *Northwestern University*
Contributing team(s): SWAG
- 216.07 Modelling the thermal X-ray emission around the Galactic center from colliding Wolf-Rayet winds**
Author(s): **Christopher Michael Post Russell**¹, Q. Daniel Wang³, Jorge Cuadra²
Institution(s): ¹ *NASA/GSFC*, ² *Pontificia Universidad Católica de Chile*, ³ *University of Massachusetts Amherst*
- 216.08 Probing the Southern Fermi Bubble in Ultraviolet Absorption**
Author(s): **Md. Tanveer Karim**³, Andrew Fox², Edward B. Jenkins¹
Institution(s): ¹ *Princeton University Observatory*, ² *Space Telescope Science Institute*, ³ *University of Rochester*

Education and Public Outreach Event, Student Welcome

Thursday, 11:40 am - 12:10 pm; Grapevine C

THURSDAY, 5 JANUARY 2017

217 Plenary Talk: What We Don't Know about the Beginning of the Universe, Sean Carroll (Caltech)

Thursday, 11:40 am - 12:30 pm; Texas A

Chair: Jack Burns (Univ. of Colorado at Boulder)



217.01 What We Don't Know about the Beginning of the Universe

Author(s): Sean Carroll¹

Institution(s): ¹ Caltech

Career Hour 2: Interviewing: What you Need to Do Before, During, and After to Get the Job

Thursday, 12:30 pm - 1:30 pm; San Antonio 1

Find out what you need to know and do to get the job from the first moment of contact to the moment you leave the interview.

Organizer(s): AAS Employment Committee (AAS)

New Methods for Teaching in the Flipped Classroom

Thursday, 12:30 pm - 2:00 pm; Dallas 1

Been thinking about flipping your class? So have we! Working with a national collaboration of astronomy educators we have developed a suite of active learning materials that can be used during the freed-up class time the flipped classroom offers. Come engage in a fun and supportive environment designed to help you successfully motivate students to participate, facilitate student learning groups, assess student learning, and manage time in the flipped classroom. Participants will come away with instructional materials and assessment strategies ready for immediate classroom use. Presenters will be Edward Prather and Gina Brissenden (Center for Astronomy Education, Steward Observatory, Univ. of Arizona), who encourage you to bring your lunch! This workshop is based upon work supported by NASA under award number NNX16AC65A. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Aeronautics and Space Administration.

Organizer(s): Gina Brissenden (Center for Astronomy Education (CAE), Steward Observatory, Univ. of Arizona)

218 NASA Town Hall

Thursday, 12:45 pm - 1:45 pm; Texas C

Senior representatives from NASA's Science Mission Directorate and Astrophysics Division will discuss NASA's science program and outlook. Topics will include the

status of the research program, highlights of operating missions, NASA's progress in implementing the 2010 Decadal Survey and planning for the 2020 Decadal Survey, progress of missions in development, and anticipated opportunities for both non-flight basic research awards (grants) and flight mission investigations.

Organizer(s): Linda Sparke (NASA Headquarters)

Annual meeting of the USVOA

Thursday, 2:00 pm - 3:30 pm; Appaloosa 1

The USVOA (US Virtual Observatory Alliance) is a forum for collaboration in the US in the area of data and interoperability standards for astronomy. This collaboration represents the US community in the International Virtual Observatory Alliance, the world-wide collaboration times at developing and establishing these standards. The annual meeting will discuss progress and issues in this areas, and also in the area of astronomy user tools enabled by these standards.

Organizer(s): Giuseppina Fabbiano (Harvard-Smithsonian, CfA)

219 Extrasolar Planets: Characterization & Theory III

Thursday, 2:00 pm - 3:30 pm; Texas A

Chair: Jayne Birkby (Harvard-Smithsonian Center for Astrophysics)

219.01 Orbital Architectures of Planet-Hosting Binaries: Testing Co-alignment

Author(s): **Trent J. Dupuy**³, Adam L. Kraus³, Kaitlin M. Kratter², Lisa A. Prato¹

Institution(s): ¹ *Lowell Observatory*, ² *Steward Observatory*, ³ *University of Texas at Austin*

219.02 Exploring the optical contrast effect in strong atomic lines for exoplanets transiting active stars

Author(s): **Paul W. Cauley**¹, Seth Redfield¹

Institution(s): ¹ *Wesleyan University*

219.03 Characterizing K2 Planetary Systems Orbiting Cool Dwarfs

Author(s): **Courtney D. Dressing**¹, Elisabeth R. Newton³, Joshua Schlieder⁴, Andrew Vanderburg², David Charbonneau², Heather Knutson¹

Institution(s): ¹ *California Institute of Technology*, ² *Harvard University*, ³ *Massachusetts Institute of Technology*, ⁴ *NASA Exoplanet Science Institute*
Contributing team(s): K2C2

219.04 Confirming Variability in the Secondary Eclipse Depth of the Rocky Super-Earth 55 Cancri e

Author(s): **Patrick Tamburo**², Avi Mandell¹, Drake Deming², Emily Garhart²

Institution(s): ¹ *NASA GSFC*, ² *University of Maryland*

219.05 The Ruinous Influence of Close Binary Companions on Planetary Systems

Author(s): **Adam L. Kraus**², Michael Ireland¹, Andrew Mann², Daniel Huber³, Trent J. Dupuy²

Institution(s): ¹ *Australian National University*, ² *The University of Texas at Austin*, ³ *University of Sydney*

THURSDAY, 5 JANUARY 2017

219.06 Assessing the Effect of Stellar Companions to Kepler Objects of Interest

Author(s): **Lea Hirsch**², David R. Ciardi¹, Andrew Howard¹

Institution(s): ¹ Caltech, ² UC Berkeley

219.07D Hubble Case Studies of Transiting Giant Exoplanets

Author(s): **Ashlee N. Wilkins**⁷, Drake Deming⁷, Adrian Barker⁶, Björn Benneke¹, Laetitia Delrez⁵, Michaël Gillon⁵, Douglas P. Hamilton⁷, Emmanuel Jehin⁵, Heather Knutson¹, Nikole K. Lewis⁴, Nikku Madhusudhan², Avi Mandell³, Peter R. McCullough⁴, Hannah R Wakeford³

Institution(s): ¹ California Institute of Technology, ² Cambridge University, ³ NASA GSFC, ⁴ Space Telescope Science Institute, ⁵ Université de Liège, ⁶ University of Leeds, ⁷ University of Maryland

219.08 Bayesian Inference of Giant Exoplanet Physics

Author(s): **Daniel Thorngren**¹, Jonathan J Fortney¹

Institution(s): ¹ UCSC

220 AGN, QSO, Blazars: High Redshift

Thursday, 2:00 pm - 3:30 pm; Texas C

Chair: **Steven B. Kraemer** (Catholic University of America)

220.01D Quasars at Cosmic Dawn: Discoveries and Probes of the Early Universe

Author(s): **Feige Wang**², Xue-Bing Wu², Xiaohui Fan³, Jinyi Yang², Fuyan Bian¹, Ian D. McGreer³, Richard F. Green³, Qian Yang², Linhua Jiang², Ran Wang²

Institution(s): ¹ Australian National University, ² Peking University, ³ University of Arizona

Contributing team(s): DECaLS team, UHS team

220.02D Surveys of Luminous Quasars in the Post-reionization Universe at $z=5-6$

Author(s): **Jinyi Yang**², Xue-Bing Wu², Xiaohui Fan³, Feige Wang², Ian D. McGreer³, Fuyan Bian¹, Richard F. Green³, Qian Yang², Linhua Jiang², Ran Wang², Weimin Yi⁴

Institution(s): ¹ Australian National University, ² Peking University, ³ University of Arizona, ⁴ Yunnan Observatories

Contributing team(s): UHS team

220.03D The $z \sim 4$ Quasar Luminosity Function: Implications for supermassive black hole growth, reionization, and future time domain surveys

Author(s): **Yusra AlSayyad**¹, Andrew J. Connolly³, Ian D. McGreer², Zeljko Ivezic³, Xiaohui Fan²

Institution(s): ¹ Princeton University, ² University of Arizona, ³ University of Washington

Contributing team(s): LSST Data Management

220.04D The High-Redshift Clustering of Photometrically Selected Quasars

Author(s): **John Timlin**¹

Institution(s): ¹ Drexel University

220.05 New High-z Fermi BL Lacs with the Photometric Dropout Technique

Author(s): **A. Kaur**¹, Arne Rau², Marco Ajello¹, Dieter Hartmann¹, Vaidehi Paliya¹, Jan Bolmer², Jochen Greiner², Patricia Schady²
 Institution(s): ¹ *Clemson University*, ² *MPE*

221 Star Associations, Star Clusters - Galactic & Extragalactic II

Thursday, 2:00 pm - 3:30 pm; Texas D

Chair: Peter Frinchaboy (Texas Christian Univ. (TCU))

221.01D NLTE Effects in Globular Cluster Integrated Light Spectra and Photometric Colors

Author(s): **Mitchell Young**¹, C. Ian Short¹
 Institution(s): ¹ *Saint Mary's University*

221.02 The Evolutionary Population Synthesis Model for Helium-Enhanced Stellar Populations

Author(s): **Chul Chung**¹, Suk-Jin Yoon², Young-Wook Lee²
 Institution(s): ¹ *Center for Galaxy Evolution Research*, ² *Department of Astronomy, Yonsei University*

221.03 Two Groups of Red Giants with Distinct Chemical Abundances in the Bulge Globular Cluster NGC 6553 Through the Eyes of APOGEE

Author(s): **Baitian Tang**⁶, Roger Cohen⁶, Douglas Geisler⁶, Ricardo P. Schiavon³, Steven R. Majewski¹, Sandro Villanova⁶, Ricardo Carrera², Olga Zamora², D Garcia-Hernandez², Matthew D. Shetrone⁷, Peter M. Frinchaboy⁴, Jose Gregorio Fernandez Trincado⁵
 Institution(s): ¹ *University of Virginia*, ² *Instituto de Astrofísica de Canarias*, ³ *Liverpool John Moores University*, ⁴ *Texas Christian University*, ⁵ *Universite de Franche-Comte*, ⁶ *University of Concepcion*, ⁷ *University of Texas at Austin*
 Contributing team(s): APOGEE Team

221.04 RR Lyrae stars as a tracer of multiple stellar populations in globular clusters

Author(s): **Sohee Jang**¹, Young-Wook Lee¹
 Institution(s): ¹ *Yonsei Univ.*

221.05 The Multiple Generations and Populations of the Massive Globular Cluster NGC 6273 (M 19)

Author(s): **Christian I. Johnson**³, Nelson Caldwell³, Robert Michael Rich⁵, Mario L. Mateo⁶, John Ira Bailey², William I. Clarkson⁷, Edward W. Olszewski⁴, Matthew G Walker¹
 Institution(s): ¹ *Carnegie Mellon*, ² *Leiden University*, ³ *Smithsonian Astrophysical Observatory*, ⁴ *University of Arizona*, ⁵ *University of California, Los Angeles*, ⁶ *University of Michigan*, ⁷ *University of Michigan-Dearborn*

221.06 The High-mass Truncation of the Star Cluster Mass Function: Limits on Massive Cluster Formation

Author(s): **L. C. Johnson**¹
 Institution(s): ¹ *University of California, San Diego*
 Contributing team(s): PHAT Team

THURSDAY, 5 JANUARY 2017

222 Starburst Galaxies Near & Far

Thursday, 2:00 pm - 3:30 pm; Grapevine A

Chair: Michael N. Fanelli (NASA Ames Research Center)

222.01D Characterizing Lyman Alpha Scattering in Nearby Galaxies

Author(s): Joanna Bridge¹, Matthew Hayes², Jens Melinder², Göran Östlin², Caryl Gronwall¹

Institution(s): ¹ Pennsylvania State University, ² Stockholm University

222.02 Green Peas emit X-rays: Extreme Star Formation in Early Universe Analog Galaxies

Author(s): Matthew Brorby¹, Philip Kaaret¹

Institution(s): ¹ University of Iowa

222.03 The Dense Molecular Gas and Nuclear Activity in the Local ULIRG IRAS 13120-5453

Author(s): George C. Privon⁶, Susanne Aalto², Niklas Falstad², Sebastien Muller², Eduardo González-Alfonso⁸, Kazimierz Sliwa⁴, Ezequiel Treister⁶, Francesco Costagliola², Lee Armus⁷, Aaron S. Evans¹⁰, Santiago Garcia-Burillo⁵, Takuma Izumi⁹, Kazushi Sakamoto¹, Paul van der Werf³

Institution(s): ¹ Academia Sinica, ² Chalmers University of Technology, ³ Leiden University, ⁴ Max Planck Institute for Astronomy, ⁵ Observatorio de Madrid, ⁶ Pontificia Universidad Católica de Chile, ⁷ SSC/Caltech, ⁸ Universidad de Alcalá, ⁹ University of Tokyo, ¹⁰ University of Virginia

222.04 Scaling Relations of Galactic Winds with Star Formation Rate

Author(s): Ryan Tanner¹, Gerald Cecil², Fabian Heitsch²

Institution(s): ¹ Augusta University, ² University of North Carolina at Chapel Hill

222.05D Simulating Galactic Winds on Supercomputers

Author(s): Evan Schneider¹

Institution(s): ¹ University of Arizona

222.06 Photometric Redshifts for High Resolution Radio Galaxies in the SuperCLASS Field

Author(s): Sinclair Manning¹, Caitlin Casey¹, Richard Battye⁴, Christopher A. Hales⁵, Scott Chapman², Ian Smail³

Institution(s): ¹ Department of Astronomy, University of Texas at Austin, ² Department of Physics and Atmospheric Science, Dalhousie University, ³ Institute for Computational Cosmology, Durham University, ⁴ Jodrell Bank Centre for Astrophysics, University of Manchester, ⁵ National Radio Astronomy Observatory

Contributing team(s): SuperCLASS Team

222.07 Probing the Circumgalactic Medium of Submillimeter Galaxies with QSO Absorption Line Spectroscopy

Author(s): Hai Fu⁶, Joseph F Hennawi¹, Jason X. Prochaska⁴, Alan N. Stockton⁵, Robert Lucien Mutel⁶, Caitlin Casey⁷, Asantha R. Cooray², Dusan Keres³

Institution(s): ¹ MPIA, ² UC Irvine, ³ UC San Diego, ⁴ UC Santa Cruz, ⁵ University of Hawaii, ⁶ University of Iowa, ⁷ UT Austin

223 Surveys & Data - From the Ground

Thursday, 2:00 pm - 3:30 pm; Grapevine B

Chair: Namir Kassim (NRL)

223.01 The Dynamic Infrared Sky

Author(s): Mansi M. Kasliwal¹

Institution(s): ¹ Caltech

Contributing team(s): SPIRITS (Spitzer InfraRed Intensive Transients Survey) Team

223.02 Guard Earth, but Monitor the Universe: ATLAS and the Variable Sky

Author(s): Aren Heinze¹, John Tonry¹, Larry Denneau¹, Brian Stalder¹, Andrei Sherstyuk¹, Armin Rest², Ken Smith², Steven Smartt²

Institution(s): ¹ Institute for Astronomy, University of Hawaii, ² Queen's University Belfast

223.03 The Pan-STARRS1 Survey Data Release

Author(s): Kenneth C. Chambers¹

Institution(s): ¹ Univ. of Hawaii

Contributing team(s): Pan-STARRS Team

223.04D Late-Time Follow-up of ASAS-SN Tidal Disruption Events

Author(s): Thomas Warren-Son Holoien¹

Institution(s): ¹ The Ohio State University

Contributing team(s): The ASAS-SN Team

223.05 Selected First Results from the 7 Ms Chandra Deep Field-South Survey

Author(s): W. Niel Brandt¹

Institution(s): ¹ Penn State Univ.

Contributing team(s): Chandra Deep Field-South Team

223.06 A Numerical Study on the Streams of Star Debris after Tidal Disruption

Author(s): Priscila Camacho Olachea¹, Enrico Ramirez-Ruiz¹, Jamie Law-Smith¹

Institution(s): ¹ University of California Santa Cruz

224 Large Scale Structure, Cosmic Distance Scale

Thursday, 2:00 pm - 3:30 pm; Grapevine C

Chair: Mehmet Alpaslan (NASA Ames Research Centre)

224.01 Where does cosmic far-infrared background come from? Interpreting the Planck and Herschel results using physical and empirical models

Author(s): Hao-Yi Wu¹, Olivier Doré¹

Institution(s): ¹ California Institute of Technology.

224.02D Methods for accurate analysis of galaxy clustering on non-linear scales

Author(s): Mohammadjavad Vakili¹

Institution(s): ¹ New York University

THURSDAY, 5 JANUARY 2017

224.03 Redshift-Independent Distances in the NASA/IPAC Extragalactic Database Surpass 166,000 Estimates for 77,000 Galaxies

Author(s): Ian Steer¹

Institution(s): ¹ NED

224.04D Galaxy-galaxy and galaxy-CMB Lensing with SDSS-III BOSS galaxies

Author(s): Sukhdeep Singh¹, Rachel Mandelbaum¹

Institution(s): ¹ Carnegie Mellon University

224.05 Efficient Cosmological Perturbation Theory with FAST-PT

Author(s): Xiao Fang¹, Jonathan Blazek¹, Joseph McEwen¹, Christopher M. Hirata¹

Institution(s): ¹ The Ohio State University

225 Extremes of Time Domain Astrophysics: Stellar Mergers to Black Hole Outbursts

Thursday, 2:00 pm - 3:30 pm; Grapevine D

Time Domain Astrophysics (TDA) covers an enormous landscape of timescales and energies: from stellar birth to death; and from mergers of stars, to stellar mass black holes, to supermassive black hole mergers -- to list but a few. We propose a Special Session to focus on the extremes of TDA phenomena, with duration timescales from months to milliseconds and currently observed (or inferred) rates (if recurrent) of $< \sim 10^{-2}$ -- $> \sim 10^{+3}$ per year. The Session will deal not only with extreme phenomena, but the current and planned surveys and analysis methods to study them. Both observation and analysis techniques will be paramount to the session organization. An accompanying Poster session will be solicited. This session is also designed to promote the newly formed (2014) Working Group on Time Domain Astronomy (WGTA) and enlist new members to work in and promote this now major field of Astronomy/Astrophysics as well as to consider its future needs and plans for the coming 2020 Decadal Survey.

Chair: Stanislav Djorgovski (Caltech)

225.01 Stellar Mergers and Common Envelope Episodes in the Transient Night Sky

Author(s): Morgan MacLeod¹

Institution(s): ¹ Institute for Advanced Study

225.02 Fast Radio Bursts

Author(s): Victoria M. Kaspi¹

Institution(s): ¹ McGill Univ.

225.03 Changing Look Quasars

Author(s): Paul J. Green², Chelsea MacLeod², Scott F. Anderson⁵, Michael Eracleous³, John J. Ruan⁵, Jessie C. Runnoe⁴, Matthew J. Graham¹

Institution(s): ¹ California Institute of Technology, ² Harvard-Smithsonian CfA, ³ Penn State University, ⁴ University of Michigan, ⁵ University of Washington

225.04 Exciting Developments in Tidal Disruption Event Observations

Author(s): Suvi Gezari¹

Institution(s): ¹ University of Maryland

225.05 Electromagnetic Counterparts to Gravitational Waves

Author(s): **Mansi M. Kasliwal**¹

*Institution(s):*¹ *Caltech*

Contributing team(s): GROWTH collaboration, IPTF/ZTF collaboration

225.06 Harvesting Extremes of Time Domain Astrophysics in the 2020s and Beyond

Author(s): **Jonathan E. Grindlay**¹

*Institution(s):*¹ *Harvard-Smithsonian, CfA*

226 Science with the Hyper Suprime-Cam (HSC) Survey

Thursday, 2:00 pm - 3:30 pm; Texas 1

This goal of this session, including both talks and poster contributions, is to present a selection of initial science results from the first year of the HSC survey, including exciting results in the fields of weak gravitational lensing, strong lensing, galaxy clusters including SZ-selected ACT clusters, galaxy evolution, and high-redshift quasars. The Hyper Suprime-Cam (HSC) Subaru Strategic Program is an ongoing 300 night survey at the 8.2m Subaru telescope using the wide-field HSC imager over a period of five years. The survey has three layers — wide, deep, and ultra-deep — covering 1400 deg², 27 deg², and 3.5 deg², respectively; observations are being taken in five broadband filters and several narrow-band filters. The survey depth ($r \sim 26$ for the wide layer) and the excellent imaging quality (median seeing of 0.6 arcsec in the *i* band), combined with the overlap with many ancillary multi-wavelength datasets like SDSS/BOSS and ACTPol, makes this survey very powerful for a wide range of scientific goals, from weak lensing cosmology, to studies of galaxies at low and high redshift, to quasars (with many additional investigations in other areas enabled by the dataset). The first dataset from the survey will be released in early 2017. For more information about the HSC survey, see <http://hsc.mtk.nao.ac.jp/ssp/>.

Chair: Satoshi Miyazaki (NAOJ)

226.01 The Subaru Hyper Suprime-Cam Survey

Author(s): **Michael A. Strauss**¹

*Institution(s):*¹ *Princeton Univ.*

Contributing team(s): the Hyper Suprime-Cam team

226.02 Weak gravitational lensing with the Hyper Suprime-Cam survey

Author(s): **Rachel Mandelbaum**¹

*Institution(s):*¹ *Carnegie Mellon University*

Contributing team(s): The Hyper Suprime-Cam (HSC) collaboration

226.03 Weak Lensing with the Hyper Suprime-Cam Survey: Connecting the Mass Profiles of Massive Galaxies with their Dark Matter Halos

Author(s): **Alexie Leauthaud**¹

*Institution(s):*¹ *UCSC*

Contributing team(s): HSC Survey Collaboration

226.04 HSC Weak Lensing Measurement of ACTPol SZ-selected Galaxy Clusters

Author(s): **Hironao Miyatake**¹

*Institution(s):*¹ *Jet Propulsion Laboratory/California Institute of Technology*

Contributing team(s): HSC collaboration, ACTPol collaboration

THURSDAY, 5 JANUARY 2017

226.05 One survey to find them all: detecting and studying galaxy clusters from infancy to maturity with Subaru HyperSuprimeCam Survey

Author(s): **Yen-Ting Lin**¹

*Institution(s):*¹ *Academia Sinica*

Contributing team(s): HSC collaboration

226.06 Exciting discoveries of strong gravitational lenses from the HSC Survey

Author(s): **Anupreeta More**¹

*Institution(s):*¹ *Kavli IPMU, U. of Tokyo*

Contributing team(s): Team 1: Masayuki Tanaka, Kenneth Wong, et al.; Team 2:

Chien-Hsiu Lee, Masamune Oguri, et al.

226.07 Environment and Structure of Massive Central Galaxies through the Eye of Hyper Suprime-Cam

Author(s): **Song Huang**¹

*Institution(s):*¹ *Kavli-IPMU, University of Tokyo*

Contributing team(s): The HSC Survey Collaboration

226.08 Subaru High-z Exploration of Low-Luminosity Quasars (SHELLQs): New $z > 6$ Quasar Survey with Subaru/HSC

Author(s): **Yoshiki Matsuoka**¹

*Institution(s):*¹ *National Astronomical Observatory of Japan*

Contributing team(s): The SHELLQs collaboration

227 W. M. Keck Observatory: A Resource for NASA and the Entire US Community

Thursday, 2:00 pm - 3:30 pm; Texas 5

This 90 minute session will feature 6 speakers, presenting a broad array of science highlighting the scientific complementarity between NASA missions and Keck Observations. The session will include such scientific milestones as: 1) The confirmation of planets from the Kepler and K2 missions to establish the demography and physical properties of planetary systems; 2) Spectroscopy of exoplanets revealing the presence of various molecular species; 3) Spectroscopic measurements of Pluto's surface and atmosphere to provide context for the New Horizon's encounter; 4) Spectroscopy of brown dwarf candidates identified by WISE, allowing astronomers to establish new spectroscopic classes T and Y; 5) The validation and characterization of extremely high redshift galaxies first located by NASA space observatories Spitzer and HST; 6) The ongoing effort to observe a large number of high redshift galaxies to determine their spectroscopic redshifts in preparation for Euclid and WFIRST. The session will also inform the attendees on how the broad US community can apply for Keck time through the NASA Exoplanet Science Institute (NExSci), as well as how to access public Keck data through the NASA-Keck joint Keck Observatory Archive (KOA).

Chair: Anne Kinney (NASA Headquarters)

227.01 Andrew Howard

- 227.01 Direct spectroscopy of exoplanets revealing the presence of various molecular species**
 Author(s): **Quinn M. Konopacky**¹
 Institution(s): ¹ *University of California, San Diego*
- 227.02 Every Member of the U.S. Astronomical Community Can Apply for NASA Keck Time**
 Author(s): **Dawn M. Gelino**¹
 Institution(s): ¹ *NASA Exoplanet Science Institute*
- 227.03 Spectroscopic constraints on Pluto's coupled surface and atmosphere: context for the New Horizons encounter**
 Author(s): **Eliot F. Young**¹
 Institution(s): ¹ *Southwest Research Inst.*
- 227.04 Exploring Substellar Evolution with the Coldest Brown Dwarfs**
 Author(s): **Trent J. Dupuy**¹
 Institution(s): ¹ *University of Texas at Austin*
- 227.05 The Confirmation and Characterization of the Highest Redshift Galaxies: The Power of Complementary Observations by Keck, Spitzer and Hubble.**
 Author(s): **Garth D. Illingworth**¹
 Institution(s): ¹ *UC, Santa Cruz*
- 227.06 C3R2 - Complete Calibration of the Color-Redshift Relation: Keck spectroscopy to train photometric redshifts for Euclid and WFIRST**
 Author(s): **Daniel Stern**¹
 Institution(s): ¹ *JPL/ Caltech*
 Contributing team(s): C3R2 Team

228 White Dwarfs

Thursday, 2:00 pm - 3:30 pm; Texas 3

Chair: Terry Oswalt (Embry-Riddle Aeronautical University)

- 228.01 White Dwarf Pulsational Constraints on Stellar Evolution**
 Author(s): **Bart H. Dunlap**¹, J. Christopher Clemens¹, Patrick C. O'Brien¹, J. J. Hermes¹, Joshua T Fuchs¹
 Institution(s): ¹ *University of North Carolina at Chapel Hill*
- 228.02D Outbursts from Cool Pulsating White Dwarfs in Kepler and K2**
 Author(s): **Keaton J. Bell**², J. J. Hermes¹, Michael H. Montgomery², Donald E. Winget²
 Institution(s): ¹ *University of North Carolina-Chapel Hill*, ² *University of Texas-Austin*
- 228.03 Evolution of double white dwarf binaries undergoing direct-impact accretion: Implications for gravitational wave astronomy**
 Author(s): **Kyle Kremer**¹, Katelyn Breivik¹, Shane L. Larson¹, Vassiliki Kalogera¹
 Institution(s): ¹ *CIERA-Northwestern University*

THURSDAY, 5 JANUARY 2017

228.04 When flux standards go wild: white dwarfs in the age of Kepler

Author(s): **JJ Hermes**¹

Institution(s): ¹ *University of North Carolina at Chapel Hill*

228.05D A Uniform Set of DAV Atmospheric Parameters to Enable Differential Seismology

Author(s): **Joshua T Fuchs**¹, Bart H. Dunlap¹, J. Christopher Clemens¹, Jesus Meza¹, Erik Dennihy¹

Institution(s): ¹ *University of North Carolina at Chapel Hill*

228.06D Compact binaries in the globular cluster 47 Tucanae

Author(s): **Lilliana Rivera Sandoval**⁷, Maureen Van Den Berg⁷, Craig O. Heinke⁶, Haldan N. Cohn², Phyllis M. Lugger², Paulo Freire³, Jay Anderson⁵, Adrienne Cool⁴, Jonathan Grindlay¹, Peter Edmonds¹, Rudy Wijnands⁷, Natalia Ivanova⁶

Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*, ² *Indiana University*, ³ *Max Planck Institute for Radio Astronomy*, ⁴ *San Francisco State University*, ⁵ *Space Telescope Science Institute*, ⁶ *University of Alberta*, ⁷ *University of Amsterdam*

229 Star-forming Galaxies at $z \sim 2$

Thursday, 2:00 pm - 3:30 pm; Texas 4

Chair: **Stephan McCandliss (Johns Hopkins University)**

229.01D A Multi-Wavelength Census of Dust and Star Formation in Galaxies at $z \sim 2$

Author(s): **Irene Shivaie**¹, Naveen Reddy¹

Institution(s): ¹ *UC Riverside*

Contributing team(s): MOSDEF collaboration

229.02 ZFIRE: Similar Stellar Growth in H α -emitting Cluster and Field Galaxies at $z \sim 2$

Author(s): **Kim-Vy Tran**⁶, Leo Alcorn⁶, Glenn Kacprzak⁵, Themiya Nanayakkara⁵, Caroline Straatman⁴, Tiantian Yuan¹, Michael Cowley³, Romeel Dave⁹, Karl Glazebrook⁵, Lisa J. Kewley¹, Ivo Labbe², Davide Martizzi⁷, Casey J. Papovich⁶, Ryan Quadri⁶, Lee Spitler³, Adam R. Tomczak⁸

Institution(s): ¹ *Australian National University*, ² *Leiden University*, ³ *Macquarie University*, ⁴ *MPIA*, ⁵ *Swinburne University*, ⁶ *Texas A&M University*, ⁷ *UC Berkeley*, ⁸ *UC Davis*, ⁹ *University of Edinburgh*

229.03D The Physical Properties of $z \sim 2$ Lyman-alpha Emitters and their Use as Tracers of the Star Forming Galaxy Population

Author(s): **Alex Hagen**¹, Robin Ciardullo¹, Caryl Gronwall¹, Joanna Bridge¹, Henry Gebhardt¹, Gregory Zeimann²

Institution(s): ¹ *Pennsylvania State University*, ² *University of Texas at Austin*
Contributing team(s): HETDEX Team

229.04D The MOSDEF Survey: Outflows from Broadened Emission Lines at $z=[1.3 - 3.8]$

Author(s): **William R. Freeman**², Brian D. Siana², Mariska T Kriek³, Alice E. Shapley⁴, Alison L. Coil⁵, Naveen Reddy², Bahram Mobasher², Irene Shivaie², Mojegan Azadi⁵, Ryan Sanders⁴, Sedona Price³, Laura DeGroot¹, Dusan Keres⁵, Alexander Muratov⁵

Institution(s): ¹. Denison University, ². Univ of CA Riverside, ³. Univ of CA, Berkeley, ⁴. Univ of CA, Los Angeles, ⁵. Univ of CA, San Diego

229.05 Low Gas Fractions Connect Compact Star-Forming Galaxies to their $z \sim 2$ Quiescent Descendants

Author(s): **Justin Spilker**², Rachel Bezanson¹, Daniel P. Marrone², Benjamin J. Weiner², Katherine E. Whitaker³, Christina C. Williams²

Institution(s): ¹. Princeton University, ². University of Arizona, ³. University of Massachusetts - Amherst

230 Cool Stars II

Thursday, 2:00 pm - 3:30 pm; Grapevine 1

Chair: Elisabeth Newton (Harvard Univ.)

230.01 An X-ray and Optical Spectroscopic Study of the Perplexing Star RZ Piscium

Author(s): **Kristina Marie Punzi**¹, Joel H. Kastner¹, Carl Melis³, Ben M. Zuckerman²

Institution(s): ¹. Rochester Institute of Technology, ². University of California, Los Angeles, ³. University of California, San Diego

230.02 Flares of Nearby, Mid-to-late M-dwarfs Characterized by the MEarth Project

Author(s): **Nicholas Mondrik**², David Charbonneau², Jonathan Irwin¹, Elisabeth R. Newton³

Institution(s): ¹. Center for Astrophysics, ². Harvard University, ³. MIT

230.03D Companions and Environments of Low-Mass Stars: From Star-Forming Regions to the Field

Author(s): **Kimberly Ward-Duong**², Jenny Patience², Robert J De Rosa⁷, Joanna Bulger⁶, Abhijith Rajan², Simon Goodwin¹⁰, Richard J Parker⁵, Donald W. McCarthy⁹, Craig Kulesa⁹, Gerrit van der Plas³, Francois Menard⁸, Christophe Pinte⁸, Alan Patrick Jackson², Geoffrey Bryden⁴, Neal J. Turner⁴, Paul M. Harvey¹¹, Antonio Hales¹

Institution(s): ¹. ALMA/JAO, ². Arizona State University, ³. DAS, Universidad de Chile, ⁴. JPL, ⁵. Liverpool John Moores University, ⁶. Subaru Telescope, ⁷. UC Berkeley, ⁸. Univ. Grenoble Alpes, IPAG, ⁹. University of Arizona, ¹⁰. University of Sheffield, ¹¹. UT Austin

230.04D Elucidating the True Binary Fraction of VLM Stars and Brown Dwarfs with Spectral Binaries

Author(s): **Daniella Bardalez Gagliuffi**⁶, Adam J. Burgasser⁶, Christopher R. Gelino¹, JOHANNES SAHLMANN⁵, Sarah J. Schmidt⁴, Jonathan Gagne², Nathalie Skrzypek³

Institution(s): ¹. California Institute of Technology, ². Carnegie Institution of Washington, ³. Imperial College, ⁴. Leibniz-Institut für Astrophysik, ⁵. Space Telescope Science Institute, ⁶. University of California, San Diego

THURSDAY, 5 JANUARY 2017

230.05 The Active Latitudes of HAT-P-11

Author(s): **Brett Morris**², Leslie Hebb¹, James R. A. Davenport³, Suzanne L. Hawley²

Institution(s): ¹ Hobart and William Smith Colleges, ² University of Washington, ³ Western Washington University

230.06 About K Dwarfs - Investigating the Goldilocks Stars of Exobiology

Author(s): **Manfred Cuntz**¹, Edward F. Guinan²

Institution(s): ¹ Univ. of Texas at Arlington, ² Villanova University

231 Galaxy Clusters & Local Environment

Thursday, 2:00 pm - 3:30 pm; Grapevine 2

Chair: Alexandra Pope (Univ. of Massachusetts, Amherst)

231.01 Probing the mass distribution at the outskirts of galaxy clusters using weak lensing

Author(s): **Matthew Fong**¹, Lindsay J King¹

Institution(s): ¹ University of Texas, Dallas

231.02 Unusually gas-rich central galaxies in small groups

Author(s): **Steven Janowiecki**¹

Institution(s): ¹ ICRAR/UWA

Contributing team(s): xGASS team

231.03 The Massive and Distant Clusters of WISE Survey (MaDCoWS): Stellar mass fractions in a sample of infrared-selected galaxy clusters at $z \sim 1$

Author(s): **Bandon Decker**¹, Mark Brodwin¹

Institution(s): ¹ University of Missouri -- Kansas City

231.04 Low star formation efficiencies in $z=1.62$ star-forming proto-cluster galaxies as seen in CO(1-0).

Author(s): **Gregory Rudnick**¹

Institution(s): ¹ University of Kansas

231.05D Faint Submillimeter Galaxies Behind Lensing Clusters

Author(s): **Li-Yen Hsu**³, Lennox Lauchlan Cowie³, Amy J. Barger⁴, Vandana Desai¹, Eric J. Murphy²

Institution(s): ¹ Infrared Processing and Analysis Center, ² NRAO, ³ University of Hawaii, ⁴ University of Wisconsin–Madison

231.06 The ALMA Frontier Fields

Author(s): **Franz E. Bauer**², Jorge Gonzalez-Lopez², Nicolas Laporte⁴, Alejandra Muñoz Arancibia³, Eric Villard¹, Ruediger Kneissl¹, Sam Kim²

Institution(s): ¹ ALMA-JAO, ² Pontificia Universidad Católica de Chile,

³ Universidad de Valparaiso, ⁴ University College London

Contributing team(s): The ALMA Frontier Fields Team

231.07 CANDELS Sheds Light on the Environmental Quenching of Low-mass Galaxies

Author(s): **Yicheng Guo**², Eric F. Bell³, David C. Koo², Sandra M. Faber², Yu Lu¹

Institution(s): ¹ Carnegie Observatories, ² UCO/Lick Observatory, ³ University of Michigan

231.08 Effect of local environment and stellar mass on galaxy quenching at $0.3 < z < 2.5$ in ZFOURGE

Author(s): Lalitwadee Kawinwanichakij¹, Casey J. Papovich¹, Ryan Quadri¹

Institution(s):¹ Texas A&M University

Contributing team(s): the ZFOURGE team

232 Stellar Evolution, Stellar Populations

Thursday, 2:00 pm - 3:30 pm; Fort Worth 6

Chair: Rodolfo Montez Jr. (Vanderbilt University)

232.01 Seeing Stars Like Never Before: A Multi-Year Interferometric Imaging Study of Red Supergiants in the H-Band.

Author(s): Ryan P. Norris¹, Fabien Baron¹

Institution(s):¹ Center for High Angular Resolution Astronomy, Georgia State University

232.02D Bayesian Analysis and Characterization of Multiple Populations in Galactic Globular Clusters

Author(s): Rachel A. Wagner-Kaiser⁶, David Stenning⁴, Ata Sarajedini⁶, Ted von Hippel², David A van Dyk³, Elliot Robinson¹, Nathan Stein⁵, William H. Jefferys⁷

Institution(s):¹ Argiope Technical Solutions, ² Embry Riddle Aeronautical University, ³ Imperial College London, ⁴ Statistical and Applied Mathematical Sciences Institute, ⁵ The Wharton School, University of Pennsylvania, ⁶ University of Florida, ⁷ University of Texas

Contributing team(s): BASE-9, HST UVIS Globular Cluster Treasury Program

232.03 Searching for New Highly r-Process-Enhanced Stars in the Halo of the Milky Way

Author(s): Timothy C. Beers³, Vinicius Placco³, Erika M. Holmbeck³, Terese T. Hansen¹, Joshua D. Simon¹, Ian Thompson¹, Anna Frebel²

Institution(s):¹ Carnegie Observatories, ² MIT, ³ University of Notre Dame

232.04 Kinematics and chemistry of faint high latitude dwarf carbon stars

Author(s): Jinmi Yoon², Timothy C. Beers², Sarah Dietz², Young Sun Lee¹, Vinicius M Placco²

Institution(s):¹ Chungnam National University, ² University of Notre Dame

232.05D Testing the Wind-Shock Paradigm for B-Type Star X-Ray Production with θ Carinae

Author(s): Trisha Doyle (Mizusawa)¹, Veronique Petit¹, David Held Cohen⁴, Maurice A. Leutenegger², Alexander W. Fullerton³

Institution(s):¹ Florida Institute of Technology, ² GSFC, ³ STScI, ⁴ Swarthmore College

THURSDAY, 5 JANUARY 2017

232.06 Using a Weak CN Spectral Feature as a Marker for Massive AGB Stars in the Andromeda Galaxy

Author(s): **Puragra Guhathakurta**⁴, Anika Kamath³, Alyssa Sales², Atmika Sarukkai², Jon Hays¹

Institution(s): ¹ Cabrillo College, ² Castilleja School, ³ Crystal Springs Uplands School, ⁴ UC, Santa Cruz

Contributing team(s): PHAT collaboration, SPLASH collaboration

232.07 Variable Polarization from Co-Rotating Interaction Regions in Massive Star Winds

Author(s): **Richard Ignace**¹, Nicole St. Louis², Patrick Tremblay², Felix Proulx-Giraldeau²

Institution(s): ¹ East Tennessee State Univ., ² University of Montreal

233 Neutron Stars (Pulsars, Magnetars, Pulsar Wind Nebulae) I

Thursday, 2:00 pm - 3:30 pm; Dallas 6

Chair: Sarah Vigeland (University of Wisconsin)

233.01D Polarized X-ray Scattering and Birefringence in Magnetars

Author(s): **Joseph Barchas**¹, Matthew G. Baring¹

Institution(s): ¹ Rice University

233.02 Testing the electron-capture supernova scenario using universal relations between neutron star properties

Author(s): **William Newton**¹

Institution(s): ¹ Texas A&M University-Commerce

233.03 A Model for Axions Producing Extended gamma-ray Emission from Neutron Star J0108-1431

Author(s): **Bijan Berenji**¹

Institution(s): ¹ California State University, Los Angeles

Contributing team(s): Fermi LAT Collaboration

233.04D An Analytic Particle Acceleration Model in Pulsar Wind Termination Shocks Applied to the Crab Nebula Gamma-Ray Flares

Author(s): **John J. Kroon**², Peter A. Becker¹, Finke Justin², Charles D. Dermer²

Institution(s): ¹ George Mason University, ² Naval Research Lab

233.05 A Library of known X-ray Pulsars in the Small Magellanic Cloud: Time Evolution of their Luminosities and Spin Periods

Author(s): **Jun Yang**², Silas Laycock², Dimitris Christodoulou², Jeremy J. Drake¹, Jaesub Hong¹, Vallia Antoniou¹, Andreas Zezas¹, Malcolm Coe³, Wynn Ho³

Institution(s): ¹ Harvard-Smithsonian CfA, ² University of Massachusetts, ³ University of Southampton

233.06D Characterization of a Precision Pulsar Timing Gravitational Wave Detector

Author(s): **Michael T. Lam**¹

Institution(s): ¹ West Virginia University

234 Plenary Session: Dannie Heineman Prize for Astrophysics: Increasing Accuracy and Increasing Tension in Ho, Wendy Freedman (University of Chicago)

Thursday, 3:40 pm - 4:30 pm; Texas A

Chair: Robert Brown (AIP)



234.01 Increasing Accuracy and Increasing Tension in Ho

Author(s): **Wendy L. Freedman**¹

Institution(s): ¹ *The University of Chicago*

Citation: For her outstanding contributions and leadership role in using optical and infrared space- and ground-based observations of Cepheid variable stars, together with innovative analysis techniques, to greatly improve the accuracy of the cosmic distance scale and thereby constrain fundamental cosmological parameters.

235 Plenary Session: HEAD Bruno Rossi Prize: A Good Hard Look at Growing Supermassive Black Holes in the Distant Universe, W. Neil Brandt (Pennsylvania State University)

Thursday, 4:30 pm - 5:20 pm; Texas A

Chair: Christopher Reynolds (Univ. of Maryland)



235.01 A Good Hard Look at Growing Supermassive Black Holes in the Distant Universe

Author(s): **W. Niel Brandt**¹

Institution(s): ¹ *Penn State Univ.*

Contributing team(s): The Chandra Deep Fields Tea

Citation: Who led the effort to obtain the deepest Chandra fields, enabling the most sensitive cosmological X-ray surveys to date. His work traces the accretion history of SMBH and their coevolution with host galaxies across cosmic time.

POSTER SESSIONS

236 Computation, Data Handling, Image Analysis & Light Pollution Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 236.01 When Will It Be ...?: U.S. Naval Observatory Sidereal Time and Julian Date Calculators**
Author(s): **Malynda R. Chizek Frouard**¹, Michael V. Lesniak¹, Jennifer L. Bartlett¹
Institution(s): ¹ *US Naval Observatory*
- 236.02 Automated Approaches to RFI Flagging**
Author(s): **Karthik Garimella**¹, Emmanuel Momjian²
Institution(s): ¹ *Hendrix College*, ² *National Radio Astronomy Observatory*
- 236.03 First Science Verification of the VLA Sky Survey Pilot**
Author(s): **Amy Cavanaugh**¹
Institution(s): ¹ *West Chester University*
- 236.04 Image-based query-by-example for big databases of galaxy images**
Author(s): **Lior Shamir**¹, Evan Kuminski¹
Institution(s): ¹ *Lawrence Technological University*
- 236.05 Bifrost: a Modular Python/C++ Framework for Development of High-Throughput Data Analysis Pipelines**
Author(s): **Miles Cranmer**¹, Benjamin R Barsdell³, Danny C Price⁴, Hugh Garsden¹, Gregory B. Taylor⁵, Jayce Dowell⁵, Frank Schinzel², Timothy Costa¹, Lincoln J. Greenhill¹
Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*, ² *National Radio Astronomy Observatory*, ³ *NVIDIA*, ⁴ *University of California, Berkeley*, ⁵ *University of New Mexico*
- 236.06 photPARTY: Python automated square-aperture photometry**
Author(s): **Teresa A. Symons**¹, Barbara J. Anthony-Twarog¹
Institution(s): ¹ *University of Kansas*
- 236.07 A Modified Bootstrap Monte Carlo Method to Investigate the Impact of Systematic Effects on Calibrated Optical Interferometry Data**
Author(s): **Mahmudul Hasan**¹, Christopher Tycner¹, Aaron Sigut², Robert T. Zavala³
Institution(s): ¹ *Central Michigan University*, ² *The University of Western Ontario*, ³ *US Naval Observatory, Flagstaff Station*
- 236.08 DRAGraces: An open source pipeline to extract your GRACES data!**
Author(s): **André-Nicolas Chené**¹
Institution(s): ¹ *Gemini Observatory*
- 236.09 TOASTing Your Images With Montage**
Author(s): **G. Bruce Berriman**¹, John Good¹
Institution(s): ¹ *Caltech*

- 236.10 Galaxy Classification using Machine Learning**
 Author(s): **Lucas Fowler**¹, Kevin Schawinski¹, Ben-Elias Brandt¹, Nicole Widmer¹
 Institution(s): ¹ *ETH Zürich*
- 236.11 Gemini Observatory Operations and Software for the 2020s**
 Author(s): **Bryan W. Miller**², Andrew W. Stephens¹, Arturo Nunez², Mischa Schirmer²
 Institution(s): ¹ *Gemini Observatory - North*, ² *Gemini Observatory - South*
- 236.12 Maestro and Castro: Simulation Codes for Astrophysical Flows**
 Author(s): **Michael Zingale**⁴, Ann Almgren², Vince Beckner², John Bell², Brian Friesen², Adam Jacobs³, Maximilian P. Katz⁴, Christopher Malone¹, Andrew Nonaka², Weiqun Zhang²
 Institution(s): ¹ *LANL*, ² *LBNL*, ³ *MSU*, ⁴ *Stony Brook University*
- 236.13 Top ten reasons to register your code with the Astrophysics Source Code Library**
 Author(s): **Alice Allen**¹, Kimberly DuPrie¹⁰, G. Bruce Berriman⁴, Jessica D. Mink⁹, Robert J. Nemiroff⁷, Thomas Robitaille³, Judy Schmidt¹, Lior Shamir⁶, Keith Shortridge⁵, Peter J. Teuben¹¹, John F. Wallin⁸, Rein Warmels²
 Institution(s): ¹ *Astrophysics Source Code Library*, ² *European Southern Observatory*, ³ *Freelance*, ⁴ *IPAC, Caltech*, ⁵ *Knave and Varlet*, ⁶ *Lawrence Technological University*, ⁷ *Michigan Technological Univ.*, ⁸ *Middle Tennessee State University*, ⁹ *Smithsonian Astrophysical Observatory*, ¹⁰ *STScI*, ¹¹ *University of Maryland*
- 236.14 3D Immersive Visualization with Astrophysical Data**
 Author(s): **Brian R. Kent**¹
 Institution(s): ¹ *NRAO*
- 236.15 SciServer: An Online Collaborative Environment for Big Data in Research and Education**
 Author(s): **Jordan Raddick**¹, Barbara Souter¹, Gerard Lemson¹, Manuchehr Taghizadeh-Popp¹
 Institution(s): ¹ *Johns Hopkins University*
- 236.16 Understanding and Using the Fermi Science Tools**
 Author(s): **Joseph Asercion**¹
 Institution(s): ¹ *Fermi Science Support Center*
 Contributing team(s): Fermi Science Support Center
- 236.17 Secondary Standard Sequence and BVRI-H-alpha Light Curves for NGC 4151**
 Author(s): **Melissa Hallum**¹, Micheal Joner¹
 Institution(s): ¹ *Brigham Young University*
- 236.18 Improving Photometric Redshifts for Hyper Suprime-Cam**
 Author(s): **Josh S Speagle**¹, Alexie Leauthaud⁵, Daniel Eisenstein¹, Kevin Bundy⁵, Peter L. Capak³, Boris Leistedt⁴, Daniel C. Masters³, Daniel Mortlock², Hiranya Peiris⁶
 Institution(s): ¹ *Harvard University*, ² *Imperial College London*, ³ *IPAC*, ⁴ *NYU*, ⁵ *UCSC*, ⁶ *University College London*
 Contributing team(s): HSC Photo-z Team, HSC Weak Lensing Team

THURSDAY, 5 JANUARY 2017

236.19 Comparing High-redshift Galaxy Dropouts in GOODS-S from SelfCal and MultiDrizzle Maps

Author(s): **Jennifer Cooper**¹, Asantha R. Cooray², Hooshang Nayyeri²
Institution(s): ¹ California State University Los Angeles, ² UC Irvine

236.20 Measuring the color and brightness of artificial sky glow from cities using an all-sky imaging system calibrated with astronomical methods in the Johnson-Cousins B and V photometric systems

Author(s): **Ashley Pipkin**², Dan M Duriscoe², Christian Lughinbuhl¹
Institution(s): ¹ Flagstaff Dark Skies Coalition, ² National Park Service

236.21 Studying the Light Pollution around Urban Observatories: Columbus State University's WestRock Observatory

Author(s): **Brendon Andrew O'Keeffe**¹, Michael Johnson¹
Institution(s): ¹ Columbus State University

237 Surveys & Large Programs Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

237.01 A methodology to address mixed AGN and starlight contributions in emission line galaxies found in the RESOLVE survey and ECO catalog

Author(s): **Chris T. Richardson**¹, Sheila Kannappan², Ashley Bittner², Rohan Isaac²
Institution(s): ¹ Elon University, ² University of North Carolina
Contributing team(s): RESOLVE

237.02 Structure and Morphology of RESOLVE Galaxies in Relation to Environment, Gas, and Star Formation

Author(s): **Sheila Kannappan**¹, Callie Hood¹, Elaine M. Snyder¹, Kathleen D. Eckert¹, David Stark¹
Institution(s): ¹ Univ. of North Carolina
Contributing team(s): RESOLVE team

237.03 The Environmental Dependence of the Galaxy Stellar Mass Function in the ECO Survey

Author(s): **Hannah Richstein**², Andreas A. Berlind⁵, Victor Calderon⁵, Kathleen D. Eckert³, Sheila Kannappan³, Amanda J. Moffett⁴, David Stark¹
Institution(s): ¹ Kavli IPMU, ² Texas Christian University, ³ University of North Carolina, Chapel Hill, ⁴ University of Western Australia, ⁵ Vanderbilt University

237.04 An Automated Census Of Variable X-Ray Objects in the Direction of Clusters of Galaxies

Author(s): **Lupe MacIntosh**¹, Elizabeth Cunningham², Melville P. Ulmer³
Institution(s): ¹ Harvey Mudd College, ² Loyola University, ³ Northwestern University

237.05 Point and Condensed H α Sources in the Interior of M33

Author(s): **J. Ward Moody**¹, Eric G. Hintz¹, Peter Roming¹, Michael D. Joner¹, Brian Bucklein²
Institution(s): ¹ Brigham Young Univ., ² Missouri Western

- 237.06 Pan-STARRS1 Medium Deep Survey**
 Author(s): **Mark Huber**¹
Institution(s): ¹ *Institute for Astronomy, University of Hawaii*
 Contributing team(s): PS1 Science Consortium, Pan-STARRS IPP Team
- 237.07 Pan-STARRS Data Release 1**
 Author(s): **Heather Flewelling**¹
Institution(s): ¹ *University of Hawaii*
- 237.08 Census of the Local Universe (CLU) Galaxy Survey: Results Within Preliminary Fields**
 Author(s): **David O. Cook**¹, Mansi M. Kasliwal¹, Angela Van Sistine², Daniel A. Dale³, Jessica Sutter³, Jordan Turner³, Ryan Parziale³
Institution(s): ¹ *Caltech*, ² *University of Wisconsin - Milwaukee*, ³ *University of Wyoming*
 Contributing team(s): iPTF Team
- 237.09 Highlights from the La Silla QUEST Variability Survey**
 Author(s): **Paolo S. Coppi**¹
Institution(s): ¹ *Yale Univ.*
 Contributing team(s): The La Silla QUEST Survey Team
- 237.10 Transients Discovered by the All-Sky Automated Survey for Supernovae**
 Author(s): **Jonathan Brown**¹, Thomas Warren-Son Holoien¹
Institution(s): ¹ *The Ohio State University*
 Contributing team(s): The ASAS-SN Team
- 237.11 The Expansion of the Astronomical Photographic Data Archive at PARI**
 Author(s): **J. Donald Cline**¹, Thurburn Barker¹, Michael Castelaz¹
Institution(s): ¹ *Pisgah Astronomical Research Institute*
- 237.12 The first two years of the Gemini Fast Turnaround Proposal Program**
 Author(s): **Morten Andersen**², Rachel Mason¹, Thomas R. Geballe¹, Kristin Chiboucas¹, Ricardo Salinas², Michael J. Lundquist¹, Julia scharwaechter¹, Mischa Schirmer¹, Karleyene silva¹
Institution(s): ¹ *Gemini Observatory*, ² *Gemini Observatory, Southern Operations Center*
- 237.13 The Formation of COINS: Equity and Inclusion in SDSS**
 Author(s): **Sarah J. Schmidt**³, Jose Ramon Sanchez-Gallego¹¹, Nancy J. Chanover⁷, Kelly Holley-Bockelmann¹², Sara Lucatello⁶, Alfonso Aragon-Salamanca¹⁰, Francesco Belfiore¹, Brian Cherinka², Diane Feuillet⁵, Amy Jones⁴, Karen Masters⁹, Audrey Simmons⁷, Ashley Ross⁸, Keivan G. Stassun¹², Jamie Tayar⁸
Institution(s): ¹ *Cambridge University*, ² *Johns Hopkins University*, ³ *Leibniz-Institute for Astrophysics Potsdam (AIP)*, ⁴ *MPA*, ⁵ *MPIA*, ⁶ *National Institute for Astrophysics (INAF)*, ⁷ *New Mexico State University*, ⁸ *Ohio Sate University*, ⁹ *Portsmouth University*, ¹⁰ *University of Nottingham*, ¹¹ *University of Washington*, ¹² *Vanderbilt*

THURSDAY, 5 JANUARY 2017

238 Space Missions & Instrumentation Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 238.01 NASA Astrophysics Prioritizes Technology Development Funding for Strategic Missions**
Author(s): **Harley A. Thronson**¹, Bruce Pham¹, Opher Ganel¹
Institution(s): ¹ NASA GSFC
- 238.02 Ensuring the Enduring Viability of the Space Science Enterprise: New Questions, New Thinking, New Paradigms**
Author(s): **Jonathan Arenberg**¹, Alberto Conti¹, Charles Atkinson¹
Institution(s): ¹ Northrop Grumman
- 238.03 Determination of the STIS CCD Gain**
Author(s): **Allyssa Riley**¹, TalaWanda R. Monroe¹, Sean A. Lockwood¹
Institution(s): ¹ Space Telescope Science Institute
- 238.04 HST Wide Field Camera 3: Instrument Status and Advice for Cycle 25 Proposers**
Author(s): **Ivelina G. Momcheva**¹
Institution(s): ¹ Space Telescope Science Institute
Contributing team(s): WFC3 Instrument Team
- 238.05 Charge transfer efficiency in HST WFC3/UVIS: monitoring and mitigation**
Author(s): **Sylvia M. Baggett**¹, Jay Anderson¹, Megan L. Sosey¹, Matthew Bourque¹, Catherine Martlin¹, Heather Kurtz¹, Clare Shanahan¹, Vera Kozhurina-Platais¹, Elena Sabbi¹
Institution(s): ¹ STScI
Contributing team(s): WFC3 Team
- 238.06 Low Frequency Flats for Imaging Cameras on the Hubble Space Telescope**
Author(s): **Diana Kossakowski**², Roberto J. Avila¹, David Borncamp¹, Norman A. Grogin¹
Institution(s): ¹ Space Telescope Science Institute, ² University of California, Berkeley
- 238.07 Fermi Science Support Center Data Servers and Archive**
Author(s): **Alexander Reustle**¹
Institution(s): ¹ Goddard Space Flight Center
Contributing team(s): FSSC, LAT Collaboration
- 238.08 Wide Field Lyman alpha Geocoronal Simulator (WFLaGS) for the Far-uv Off Rowland-circle Telescope for Imaging and Spectroscopy (FORTIS)**
Author(s): **Anna Carter**¹, Stephan R. McCandliss¹, Keith Redwine¹, Russell Pelton¹
Institution(s): ¹ Johns Hopkins University
- 238.09 LISA Pathfinder: A Summary of results to date**
Author(s): **James Thorpe**¹
Institution(s): ¹ NASA GSFC
Contributing team(s): LISA Pathfinder Team, LTP Team, DRS Team

238.10 Build up and integration of the rocket-borne Cosmic Infrared Background Experiment-2

Author(s): **Alicia E. Lanz**¹, Toshiaki Arai², John Battle¹, James Bock¹, Asantha R. Cooray⁹, Viktor Hristov¹, Tomoya Kojima⁶, Phillip Korngut¹, Dae Hee Lee⁵, Peter Mason¹, Toshio Matsumoto⁴, Shuji Matsuura⁶, Chi Nguyen⁷, Mai Shirahata², Aoi Takahashi⁶, Kohji Tsumurai⁸, Takehiko Wada⁴, Shiang-Yu Wang³, Michael B. Zemcov⁷

*Institution(s):*¹. California Institute of Technology, ². Genesis Corporation, ³. Institute of Astronomy and Astrophysics, Academia Sinica, ⁴. Japan Aerospace Exploration Agency, ⁵. Korea Astronomy and Space Science Institute (KASI), ⁶. Kwansai Gakuin University, ⁷. Rochester Institute of Technology, ⁸. Tohoku University, ⁹. University of California, Irvine

238.11 Near Ultraviolet Spectrograph for Cubesats

Author(s): **Sreejith Aickara Gopinathan**¹, Joice Mathew¹, Mayuresh Sarpotdar¹, Ambily Suresh¹, Nirmal Kaippacheri¹, Margarita Safonova¹, Jayant Murthy¹

*Institution(s):*¹. Indian Institute of Astrophysics

238.12 The James Webb Space Telescope: Observatory Status Update

Author(s): **Michael W. McElwain**¹, Charles W. Bowers¹, Mark Clampin¹, Malcolm B. Niedner¹, Randy A. Kimble¹

*Institution(s):*¹. NASA Goddard Space Flight Center

238.13 WebbPSF for JWST and WFIRST

Author(s): **Joseph D. Long**¹, Marshall D. Perrin¹, Neil T Zimmerman¹, Keira Brooks¹

*Institution(s):*¹. Space Telescope Science Institute

238.14 Cryo-Vacuum Testing of JWST's Integrated Telescope & Scientific Instrument Suite

Author(s): **Randy A. Kimble**⁶, Peter H. Apollo⁷, Lee Feinberg⁶, Stuart D Glazer⁶, Jeffrey M. Hanley¹, Ritva A. Keski-Kuha⁶, Jeffrey R. Kirk³, J. Scott Knight², Scott Lambros⁸, Juli A. Lander⁶, Douglas B McGuffey⁶, Kimberly I. Mehalick⁶, Raymond George Ohl⁶, Wes Ousley³, Carl A. Reis⁵, Paul J. Reynolds⁷, M. Begoña Vila⁹, Mark Voyton⁶, Mark Waldman⁸, Tony Whitman⁴

*Institution(s):*¹. Aerospace Corporation, ². Ball Aerospace & Technologies Corporation, ³. Genesis Engineering Solutions, Inc., ⁴. Harris, Inc., ⁵. Jacobs Technology, ⁶. NASA's GSFC, ⁷. Northrop Grumman Aerospace Systems, ⁸. Sigma Space Corporation, ⁹. Stinger Ghaffarian Technologies

238.15 Starshade Orbital Maneuver Study for WFIRST

Author(s): **Gabriel Soto**¹, Dmitry Savransky¹, Daniel Garrett¹, Christian Delacroix¹, Amlan Sinha¹

*Institution(s):*¹. Cornell University

238.16 Science Advancements for Black Hole Binaries from Observations with NICER

Author(s): **Ronald A. Remillard**¹, James F. Steiner¹, Jon M. Miller⁴, Jeroen Homan¹, Stephen S. Eikenberry⁵, Erin Kara³, Dheeraj Pasham¹, Phil Uttley²

*Institution(s):*¹. MIT, ². U Amsterdam, ³. U Maryland, ⁴. U Michigan, ⁵. University of Florida

Contributing team(s): Nicer Science Team

THURSDAY, 5 JANUARY 2017

- 238.17 eLISA Telescope In-Field Pointing and Scattered Light Study**
Author(s): **Jeffrey C. Livas**¹, Shannon R Sankar¹
Institution(s): ¹ *NASA Goddard Space Flight Center*
- 238.18 Origins Space Telescope: Study Plan**
Author(s): **Asantha R. Cooray**¹
Institution(s): ¹ *UC Irvine*
Contributing team(s): Origins Space Telescope Study Team
- 238.19 Origins Space Telescope: Community Participation**
Author(s): **Sean J. Carey**¹
Institution(s): ¹ *IPAC/Caltech*
Contributing team(s): Origins Space Telescope Study Team
- 238.20 Origins Space Telescope: Telescope Design and Instrument Specifications**
Author(s): **Margaret Meixner**⁷, Ruth Carter², David Leisawitz², Mike Dipirro², Anel Flores², Johannes Staguhn⁵, James Kellog², Thomas L. Roellig⁶, Gary J. Melnick³, Charles Bradford⁴, Edward L. Wright⁸, Jonas Zmuidzinas¹
Institution(s): ¹ *Caltech*, ² *Goddard Space Flight Center*, ³ *Harvard-Smithsonian CfA*, ⁴ *Jet Propulsion Lab*, ⁵ *Johns Hopkins University*, ⁶ *NASA Ames*, ⁷ *STScI*, ⁸ *UCLA*
Contributing team(s): Origins Space Telescope Study Team
- 238.21 Origins Space Telescope: Planet-forming disks and exoplanets**
Author(s): **Klaus Pontoppidan**¹
Institution(s): ¹ *Space Telescope Science Institute*
Contributing team(s): Origins Space Telescope Study Team
- 238.22 Origins Space Telescope: Galaxy and Black Hole Evolution over Cosmic Time**
Author(s): **Alexandra Pope**¹
Institution(s): ¹ *Univ. of Massachusetts, Amherst*
Contributing team(s): Origins Space Telescope Study Team
- 238.23 Origins Space Telescope: Solar System Science**
Author(s): **Edward L. Wright**¹
Institution(s): ¹ *UC, Los Angeles*
Contributing team(s): Origins Space Telescope Study Team
- 238.24 Origins Space Telescope: Interstellar Medium, Milky Way, and Nearby Galaxies**
Author(s): **Cara Battersby**¹
Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*
Contributing team(s): Origins Space Telescope Study Team
- 238.25 The Space Infrared Telescope for Cosmology and Astrophysics and Pending US Contribution**
Author(s): **Charles Bradford**¹
Institution(s): ¹ *Caltech/JPL*
Contributing team(s): SPICA Consortium, SAFARI Consortium

- 238.26 Depicting the MeV realm with the Compton Pair-Production Telescope (ComPair)**
 Author(s): **Elizabeth C. Ferrara**¹, Sara Buson¹
 Institution(s): ¹ NASA/GSFC
 Contributing team(s): ComPair Mission Team
- 238.27 Cosmic Evolution Through UV Spectroscopy (CETUS): A NASA Probe-Class Mission Concept**
 Author(s): **Sara R. Heap**¹
 Institution(s): ¹ NASA's GSFC (Emerita)
 Contributing team(s): the CETUS Team
- 238.28 Instrumental and Calibration Advancements for the Dark Ages Radio Explorer (DARE)**
 Author(s): **Raul A. Monsalve**⁴, Jack O. Burns⁴, Richard F. Bradley³, Keith Tauscher⁴, Bang Nhan⁴, Judd D. Bowman¹, William R. Purcell², David Newell², David Draper²
 Institution(s): ¹ Arizona State University, ² Ball Aerospace, ³ National Radio Astronomy Observatory, ⁴ University of Colorado Boulder
- 238.29 A Modular Orbital Demonstration of an Evolvable Space Telescope (MODEST)**
 Author(s): **Alberto Conti**¹, Jonathan Arenberg¹, Brian Baldauf¹
 Institution(s): ¹ Northrop Grumman Corporation
- 238.30 TeraHertz Space Telescope (TST)**
 Author(s): **Marina Madeline Dunn**⁴, David Lesser⁴, Stephan O'Dougherty⁴, Brandon Swift⁴, Terrance Pat⁴, German Cortez³, Steve Smith², Paul Goldsmith¹, Christopher K. Walker⁴
 Institution(s): ¹ JPL, ² SwRI, ³ University of Antioquia, ⁴ University of Arizona
- 238.31 Linear-constraint wavefront control for exoplanet coronagraphic imaging systems**
 Author(s): **He Sun**³, A J Eldorado Riggs¹, N. Jeremy Kasdin³, Robert J. Vanderbei³, Tyler Dean Groff²
 Institution(s): ¹ Jet Propulsion Laboratory, California Institute of Technology, ² NASA's Goddard Space Flight Center, ³ Princeton University
- 238.32 Soft x-ray transmission grating spectrometer for X-ray Surveyor and smaller missions with high resolving power**
 Author(s): **Ralf K. Heilmann**², Alexander Bruccoleri¹, Mark Schattenburg², jeffery Kolodziejczak³, Jessica Gaskin³, Stephen L. O'Dell³
 Institution(s): ¹ Izentis, LLC, ² MIT, ³ MSFC
- 238.33 Lightweight ZERODUR®: Validation of mirror performance and mirror modeling predictions**
 Author(s): **Anthony B. Hull**², H. Philip Stahl³, Thomas Westerhoff⁴, Martin Valente¹, Thomas Brooks³, Ron Eng³
 Institution(s): ¹ Arizona Optical Systems, ² Department of Physics and Astronomy, University of New Mexico, ³ NASA MSFC, ⁴ Schott AG

THURSDAY, 5 JANUARY 2017

238.34 Use of Plasma Enhanced ALD to Construct Efficient Interference Filters for Astronomy in the FUV - Year 2 Update

Author(s): Paul A. Scowen¹, Robert Nemanich¹, Brianna Eller¹, Hongbin Yu¹, Tom Mooney², Matt Beasley³

Institution(s): ¹ Arizona State Univ., ² Materion Precision Optics & Thin Film Coatings, ³ Planetary Resources Inc.

238.35 An Exploration of Software-Based GNSS Signal Processing at Multiple Frequencies

Author(s): Manuel Pasqual Paul¹, Pedro Elosegui², Frank Lind², Antonio Vazquez², Victor Pankratius²

Institution(s): ¹ California State University, San Bernardino, ² Massachusetts Institute of Technology, Haystack Observatory

238.36 Origins Space Telescope: Cosmology and Reionization

Author(s): Joaquin D. Vieira¹

Institution(s): ¹ University of Illinois at Urbana-Champaign
Contributing team(s): Origins Space Telescope Study Team

239 Making Great Observatories Even Better: Hubble's Hand in Studying the Multi-Wavelength Universe Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

239.01 A Multiwavelength Study of Three Hybrid Blazars

Author(s): Ethan Stanley³, Preeti Kharb¹, Matthew L. Lister³, Herman L. Marshall², Christopher O'Dea⁴, Stefi Baum⁴

Institution(s): ¹ Indian Institute of Astrophysics, ² Massachusetts Institute of Technology, ³ Purdue University, ⁴ Rochester Institute of Technology

239.02 A Multi-Observatory View of the Alpha Persei Coronal Conundrum

Author(s): Thomas R. Ayres¹

Institution(s): ¹ University of Colorado

239.03 The era of synoptic galactic archeology: using HST and Chandra observations to constrain the evolution of elliptical galaxies through the spatial distribution of globular clusters and X-ray binaries.

Author(s): Raffaele D'Abrusco², Giuseppina Fabbiano², Andreas Zezas¹

Institution(s): ¹ Physics Department & Institute of Theoretical & Computational Physics, University of Crete, ² Smithsonian Astrophysical Observatory

239.04 An Ultraviolet Counterpart to the Fast X-ray Outflow in the Quasar PG1211+143

Author(s): Gerard A. Kriss⁴, Julia C. Lee¹, Michael Nowak³, Tatao Fang⁵, Martin Hardcastle², Andrew J. Young⁶, Joseph Nielsen³, Herman L. Marshall³

Institution(s): ¹ Harvard, ² Hertfordshire, ³ MIT-Kavli, ⁴ STScI, ⁵ UC Riverside, ⁶ University of Bristol

239.05 The Survey of HI in Extremely Low-mass Dwarfs: A Multi-Wavelength Perspective on Low-Mass Galaxy Evolution

Author(s): **John M. Cannon**⁸, Andrew McNichols¹⁰, Yaron Teich⁸, Elizabeth A. Adams¹, Riccardo Giovanelli², Martha P. Haynes², Kristen B. McQuinn¹⁷, John Joseph Salzer⁵, Evan D. Skillman¹⁶, Andrew E. Dolphin¹², Edward C Elson¹⁵, Nathalie C. Haurberg⁷, Shan Huang⁹, Steven Janowiecki⁴, Gyula Jozsa¹³, Luke Leisman², Juergen Ott¹¹, Emmanouil Papastergis⁶, Katherine L. Rhode⁵, Amelie Saintonge¹⁴, Angela Van Sistine¹⁸, Steven R. Warren³
Institution(s):^{1.} *ASTRON*, ^{2.} *Cornell University*, ^{3.} *Cray Computing*, ^{4.} *ICRAR*, ^{5.} *Indiana University*, ^{6.} *Kapteyn Astronomical Institute*, ^{7.} *Knox College*, ^{8.} *Macalester College*, ^{9.} *New York University*, ^{10.} *NRAO*, ^{11.} *NRAO*, ^{12.} *Raytheon*, ^{13.} *SKA*, ^{14.} *University College London*, ^{15.} *University of Cape Town*, ^{16.} *University of Minnesota*, ^{17.} *University of Texas*, ^{18.} *University of Wisconsin Milwaukee*

240 Cool Stars & Others: Surveys, Spectra, Rotation, Fundamentals Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

240.01 Photometry and Kinematics of Ultracool Dwarfs in the Pan-STARRS 3pi Survey

Author(s): **William M. J. Best**¹, Eugene A. Magnier¹, Michael C. Liu¹, Kimberly Mei Aller¹, Zhoujian Zhang¹
Institution(s):^{1.} *University of Hawaii*

240.02 A Pan-STARRS1 Proper-Motion Survey for Young Brown Dwarfs in the Taurus and the Upper Scorpius Star-Forming Regions

Author(s): **Zhoujian Zhang**¹, Michael C. Liu¹, William M. J. Best¹, Eugene A. Magnier¹, Kimberly Mei Aller¹
Institution(s):^{1.} *University of Hawaii*

240.03 DECam Survey for Substellar and Low-mass Stellar Members of Sco-Cen

Author(s): **Eric E. Mamajek**², Fred Moolekamp⁶, David James⁴, Kevin Luhman⁵, Mark Pecaut⁷, Stanimir A. Metchev⁸, Sara Denbo³, Cameron P.M. Bell¹
Institution(s):^{1.} *ETH-Zurich*, ^{2.} *JPL/Caltech*, ^{3.} *Michigan State*, ^{4.} *NOAO*, ^{5.} *Penn State Univ.*, ^{6.} *Princeton*, ^{7.} *Rockhurst Univ.*, ^{8.} *University of Western Ontario*

240.04 Your Age is Showing: Understanding the Spectral Features of Young Brown Dwarfs

Author(s): **Victoria DiTomasso**⁵, Ellianna Schwab⁶, Emily L. Rice³, Adric R. Riedel², Kelle L. Cruz⁴, Jackie Faherty¹
Institution(s):^{1.} *American Museum of Natural History*, ^{2.} *California Institute of Technology*, ^{3.} *CUNY College of Staten Island*, ^{4.} *CUNY Hunter College*, ^{5.} *CUNY Macaulay Honors College at Hunter College*, ^{6.} *The City College of New York*

240.05 Principal Component Analysis of Brown Dwarfs

Author(s): **Colleen Cleary**², David Rodriguez¹
Institution(s):^{1.} *American Museum of Natural History*, ^{2.} *Hunter College*

THURSDAY, 5 JANUARY 2017

240.06 Comparison of BT Settl Model Spectra in NIR to Brown Dwarfs and Massive Exoplanets

Author(s): **Mark Popinchalk**¹, Cam Buzard², Munazza Alam⁴, Sara Camnasio⁶, Kelle L. Cruz⁵, Jacqueline K. Faherty¹, Emily L. Rice³

Institution(s): ¹ American Museum of Natural History, ² Barnard University, ³ College of Staten Island, ⁴ Harvard-Smithsonian Center for Astrophysics, ⁵ Hunter College, ⁶ New York University

240.07 Spectral Variability at the L/T Transition and Beyond

Author(s): **Jacqueline Radigan**⁵, Jonathan Davis⁵, Brian Andrew York³, Daniel Apai⁴, Mark S. Marley², Didier Saumon¹

Institution(s): ¹ LANL, ² NASA Ames, ³ Space Telescope Science Institute, ⁴ University of Arizona, ⁵ Utah Valley University

240.08 Too Cool for Stellar Rules: A Bayesian Exploration of Trends in Ultracool Magnetism

Author(s): **Kelle L. Cruz**³, Ellianna Schwab², Peter K. G. Williams⁴, David W. Hogg⁵, David R Rodriguez¹

Institution(s): ¹ American Museum of Natural History, ² CUNY - The City College of New York, ³ CUNY Hunter College and AMNH, ⁴ Harvard Smithsonian Center for Astrophysics, ⁵ New York University

Contributing team(s): BDNYC

240.09 The Search for Signatures Of Transient Mass Loss in Active Stars

Author(s): **Michael Kevin Crosley**¹, Rachel A. Osten²

Institution(s): ¹ Johns Hopkins University, ² Space Telescope Science Institute

240.10 H2 Fluorescence in M dwarf Systems: A Stellar Origin

Author(s): **Nicholas Kruczek**¹, Kevin France¹, William Evonosky², Allison Youngblood¹, R. O. Parke Loyd¹

Institution(s): ¹ University of Colorado Boulder, ² University of South Florida

240.11 Modeling molecular hydrogen emission in M dwarf exoplanetary systems

Author(s): **William Evonosky**², Kevin France¹, Nick E. Kruczek¹, Allison Youngblood¹

Institution(s): ¹ Laboratory for Atmospheric and Space Physics, University of Colorado, ² University of South Florida

Contributing team(s): Measurements of the Ultraviolet Spectral Characteristics of Low-mass Exoplanet host Stars (MUSCLES)

240.12 Tuning Into Brown Dwarfs: Long-Term Radio Monitoring of Two Very Low Mass Dwarfs

Author(s): **Russell Van Linge**², Adam J. Burgasser³, Carl Melis³, Peter K. G. Williams¹

Institution(s): ¹ Harvard, ² Palomar College, ³ UC San Diego

240.13 Knowing Our Neighbors: Four New Nearby High Proper Motion Systems

Author(s): **Jennifer L. Bartlett**⁷, John C. Lurie⁶, Philip A. Ianna⁴, Adric R. Riedel¹, Charlie T. Finch⁷, Jennifer G. Winters³, Wei-Chun Jao², John P. Subasavage⁵, Todd J. Henry⁴

*Institution(s):*¹ California Institute of Technology, ² Georgia State University, ³ Harvard-Smithsonian Center for Astrophysics, ⁴ RECONS Institute, ⁵ U.S. Naval Observatory, ⁶ University of Washington, ⁷ US Naval Observatory

240.14 Characterization of Low-mass K2 planet hosts using Near-Infrared Spectroscopy

Author(s): **Romy Rodríguez-Martínez**², Sarah Ballard¹

*Institution(s):*¹ Massachusetts Institute of Technology, ² University of Puerto Rico, Rio Piedras

240.15 A Nearby Survey of M-Dwarfs

Author(s): **Amy Elaine Ray**¹

*Institution(s):*¹ Mississippi State University

240.16 Investigating the Spectroscopic Variability and Magnetic Activity of Photometrically Variable M Dwarfs in SDSS

Author(s): **Jean-Paul Ventura**², Aurora Cid¹, Sarah J. Schmidt³, Emily L. Rice¹, Kelle L. Cruz²

*Institution(s):*¹ CUNY College of Staten Island, ² CUNY Hunter College, ³ Leibniz Institut für Astrophysik

240.17 Toward a Comprehensive Sample of VLM Chemical Abundances with APOGEE

Author(s): **Christian Aganze**⁴, Jessica L. Birky⁴, Christopher Theissen¹, Adam J. Burgasser⁴, Sarah J. Schmidt³, Johanna K. Teske², Keivan G. Stassun⁵, Jonathan C. Bird⁵

*Institution(s):*¹ Boston University, ² Carnegie Institution of Washington, ³ Leibniz-Institut für Astrophysik Potsdam (AIP), ⁴ UC San Diego, ⁵ Vanderbilt University

240.18 Modeling Stellar Parameters for High Resolution Late-M and Early-L Dwarf SDSS/APOGEE Spectra

Author(s): **Jessica L Birky**³, Christian Aganze³, Adam J. Burgasser³, Christopher Theissen³, Sarah J. Schmidt², Johanna K. Teske¹, Keivan G. Stassun⁴, Jonathan C. Bird⁴

*Institution(s):*¹ Carnegie Institute, ² Leibniz-Institut für Astrophysik Potsdam (AIP), ³ UC San Diego, ⁴ Vanderbilt University
Contributing team(s): UCSD FAST Team

240.19 Characterizing the Resolved M6 Dwarf Twin LP 318-218AB

Author(s): **Elizabeth Moreno Hilario**², Adam J. Burgasser¹, Daniella Bardalez Gagliuffi¹, Tomoki Tamiya¹

*Institution(s):*¹ University of California, San Diego, ² University of Guanajuato

240.20 Does the Eclipsing Binary KIC 10935310 Contain a Massively Inflated M Dwarf?

Author(s): **Jonathan Swift**³, Eunkyoo Han¹, Jeffrey Ding³, Kathleen O'Neill³, Yousef Lawrence³, Douglas Klink³, Philip Steven Muirhead¹, Yutong Shan²

*Institution(s):*¹ Boston University, ² Harvard, ³ The Thacher School

THURSDAY, 5 JANUARY 2017

240.21 M Dwarf Mysteries

Author(s): **Todd J. Henry**⁵, Wei-Chun Jao³, Jonathan Irwin⁴, Sergio Dieterich², Charlie T. Finch⁷, Adric R. Riedel¹, John P Subasavage⁶, Jennifer Winters⁴
Institution(s): ¹ Caltech, ² Carnegie Institution for Science, ³ Georgia State University, ⁴ Harvard-Smithsonian Center for Astrophysics, ⁵ RECONS, ⁶ USNO, ⁷ USNO

Contributing team(s): RECONS Team

240.22 The Rotational Properties of M Dwarfs

Author(s): **Steven Gilhool**¹, Cullen Blake¹
Institution(s): ¹ University of Pennsylvania

240.23 Differential rotation as a model for starspots in magnetically active stars

Author(s): **Christopher James Agostino**¹, Gibor S. Basri¹
Institution(s): ¹ University of California-Berkeley

240.24 Identification of Misclassified Rotational Variables in the ASAS Catalog

Author(s): **Kristine Larsen**¹, Jessica M. Johnson², Corwin Hoover¹
Institution(s): ¹ Central Connecticut State University, ² Earth & Planetary Sciences Department, University of New Mexico

240.26 Gyrochronology of Stars in Wide Binaries in the Kepler K2 Cycle 5 Field

Author(s): **Terry D. Oswalt**¹, Derek L. Buzasi², Tomomi Otani¹
Institution(s): ¹ Embry-Riddle Aeronautical University, ² Florida Gulf Coast University

240.27 M Dwarfs in the Solar Neighborhood: Analysis of 16,000 SUPERBLINK-K2 Light Curves

Author(s): **Dicy Ann E. Saylor**¹, Sebastien Lepine¹, Erik Petigura³, Ian Crossfield²
Institution(s): ¹ Georgia State University, ² UA/LPL, ³ University of California

240.28 The PTI Giant Star Angular Size Survey: Effective Temperatures & Linear Radii

Author(s): **Gerard van Belle**³, Kaspar von Braun³, David R. Ciardi², Genady Pilyavsky¹
Institution(s): ¹ Arizona State University, ² Caltech, ³ Lowell Observatory

240.29 The Fundamental Stellar Parameters of FGK Stars in the SEEDS Survey

Author(s): **Evan Rich**¹, John P. Wisniewski¹
Institution(s): ¹ University of Oklahoma
Contributing team(s): the SEEDS team

240.30 Fundamental Stellar Parameters with HST/FGS Dynamical Masses and HST/STIS Spectroscopy of M Dwarf Binaries

Author(s): **Sergio Dieterich**¹, Todd J. Henry⁴, George Fritz Benedict³, Wei-Chun Jao², Russel White²
Institution(s): ¹ Department of Terrestrial Magnetism, Carnegie Institution of Washington, ² Georgia State University, ³ McDonald Observatory, ⁴ RECONS Institute
Contributing team(s): RECONS

- 240.31 Spectrophotometry of Twenty of the Brightest Stars in the Southern Sky**
 Author(s): **Kevin Krisciunas**¹, Nicholas B. Suntzeff¹, Bethany Kelarek¹, Kyle Bonar¹, Joshua Stenzel¹
*Institution(s):*¹ *Texas AandM University*
- 240.32 Harvard Observing Project monitoring of Boyajian's Star (KIC 8462852)**
 Author(s): **Clea F Schumer**¹, Andrew Vanderburg¹, Allyson Bieryla¹, Theron Carmichael¹, Lehman H Garrison¹, Jane Huang¹, John Lewis¹, Andrew Mayo¹, Munazza Alam¹, Sebastian Gomez¹, Harshil Kamdar¹, Sihang Yuan¹, Rodrigo Cordova¹
*Institution(s):*¹ *Harvard University*
- 240.33 Analytic, piecewise solution to the Lane-Emden equation for stars with complex density profiles**
 Author(s): **Jeff Miller**¹, Tamara Bogdanovic¹
*Institution(s):*¹ *Georgia Institute of Technology*
- 240.34 The Evolution of Starspots on LO Pegasi**
 Author(s): **Robert O. Harmon**³, Mallory Cochran³, Derek Shank³, Nicholas Sweeney², Oana Vesa¹
*Institution(s):*¹ *Albion College*, ² *Haverford College*, ³ *Ohio Wesleyan Univ.*
- 240.35 PyHammer: An Automatic and Visual Suite for Spectral Typing Stars**
 Author(s): **Aurora Kesseli**¹, Andrew A West¹, Brandon Harrison¹, Mark Veyette¹, Daniel Feldman¹
*Institution(s):*¹ *Boston University*
- 240.36 FTS Spectra from the Mayall 4-m Telescope, 1975-1995**
 Author(s): **Catherine A. Pilachowski**¹, Kenneth H. Hinkle², Michael Young¹, Harold Dennis¹, Arvind Gopu¹, Robert Henschel¹, Soichi Hayashi¹
*Institution(s):*¹ *Indiana University*, ² *National Optical Astronomy Observatory*

241 Young Stellar Objects, Very Young Stars, T-Tauri Stars, H-H Objects Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 241.01 Constraining the orbits of young binary systems with ALMA**
 Author(s): **Natasha Nogueira**², Eric L. N. Jensen², Rachel L. Akeson¹
*Institution(s):*¹ *NASA Exoplanet Science Institute, Caltech*, ² *Swarthmore College*
- 241.02 The Young Visual Binary Database**
 Author(s): **Lisa A. Prato**², Ian Avilez², Thomas Allen², Saeid Zoonematkermani², Lauren Biddle², Ryan Muzzio², Matthew Wittal², Gail Schaefer¹, Michal Simon³
*Institution(s):*¹ *Georgia State University*, ² *Lowell Observatory*, ³ *SUNY Stony Brook*
- 241.03 Effective Temperatures for Young Stars in Binaries**
 Author(s): **Ryan Muzzio**², Ian Avilez⁴, Lisa A. Prato³, Lauren I Biddle⁴, Thomas Allen³, Nuria Meilani Laure Wright-Garba³, Matthew Wittal¹
*Institution(s):*¹ *Embry-Riddle Aeronautical University*, ² *Kenyon College*, ³ *Lowell Observatory*, ⁴ *Northern Arizona University*

THURSDAY, 5 JANUARY 2017

241.04 Variable Stellar and Circumstellar Properties of the Young Binary VV CrA

Author(s): **Ian Avilez**¹, Lisa A. Prato¹, Thomas Allen¹, Nuria Meilani Laure Wright-Garba¹, Lauren Biddle¹, Ryan Muzzio¹

Institution(s): ¹ *Lowell Observatory*

241.05 Orbiting Clouds of Material at or near the Keplerian Co-Rotation Radius in Late M Dwarfs WTTs of Upper Sco

Author(s): **John R. Stauffer**¹, Trevor J. David¹, Lynne Hillenbrand¹, Luisa M. Rebull¹, Ann Marie Cody²

Institution(s): ¹ *Caltech*, ² *NASA/Ames Research Center*

Contributing team(s): K2Clusters

241.06 Is the Young UY Auriga System a Triple?

Author(s): **Matthew Wittal**², Lisa A. Prato², Gail Schaefer¹, David R. Ciardi³, Allen Thomas², Lauren Biddle², Ian Avilez², Ryan Muzzio², Jennifer Patience⁴, Charles Beichman Charles.A.Beichman@jpl.nasa.gov³

Institution(s): ¹ *GSU CHARA*, ² *Lowell Observatory*, ³ *NASA NExSci*, ⁴ *Northern Arizona University*

241.07 Interpreting Infant Stars: SOFIA Imaging of Protostars in L1630 and NGC 2264

Author(s): **Hannah Drew-Moyer**², Valerie Rapson¹, David Principe³, Ralph Shuping⁴, Joel H. Kastner³

Institution(s): ¹ *Dudley Observatory*, ² *Rensselaer Polytechnic Institute*, ³ *Rochester Institute of Technology*, ⁴ *Space Science Institute*

241.08 A search for the lasts gasps of disk accretion in Orion T Tauri stars

Author(s): **Catherine Clark**³, Cesar Briceno², Nuria Calvet³, Jesus Hernandez¹

Institution(s): ¹ *Centro de Investigaciones de Venezuela*, ² *Cerro Tololo Inter-American Observatory*, ³ *University of Michigan*

241.09 X-ray Observations of LkCa 15: A T Tauri Star Hosting a Protoplanetary System

Author(s): **Steve L. Skinner**¹, Manuel Guedel²

Institution(s): ¹ *Univ. Of Colorado*, ² *Univ. of Vienna*

241.10 Finding High Quality Young Star Candidates in Ceph C using X-ray, Optical, and IR data

Author(s): **Laura Orr**⁶, Luisa M. Rebull², Milton Johnson¹, Alexandra Miller⁴, Anthony Aragon Orozco¹, Benjamin Bakhaj⁴, Jacquelyn Bakshian⁴, Elizabeth Chiffelle¹, Arie DeLint³, Stefan Gerber⁴, Jared Mader⁵, Amelia Marengo⁴, Jesse McAdams⁴, Cassandra Montufar¹, Quinton Orr⁶, Lis San Emeterio¹, Eliyah Stern⁴, Drew Weisserman⁴

Institution(s): ¹ *Bioscience High School*, ² *Caltech*, ³ *McCall-Donnelly High School*, ⁴ *Milken Community Schools*, ⁵ *Pilot Rock High School*, ⁶ *Ukiah High School*

241.11 An Infrared Search for Young Stellar Objects in IC 1396

Author(s): **Chelen H. Johnson**¹, Marcella Linahan³, John Gibbs⁴, Luisa M. Rebull², Andrew R Archibald⁴, Samantha Rose Dickmann³, Erica A Hart³, Audrey R Hedlund¹, Shannon L Hilfer⁴, Thomas Lacher³, John T. McKernan³, Emma M Medeiros¹, Samantha Brooks Nelson¹, Harrison O'Leary⁴, Nicholas D Peña⁴, Alexis Peterson⁴, Livia K Reader¹, Brandi Lucia Ropinski³, Gabriella Scarpa¹, Kiera A Sundeen¹, Amber L Takara⁴, Theresa Thiel³

Institution(s): ¹ Breck School, ² Caltech, ³ Carmel Catholic High School, ⁴ Glencoe High School

241.12 A full 1---40 micron spectral energy distribution for the Becklin-Neugebauer object: Placing constraints on disk size for a runaway massive young stellar object

Author(s): **Ralph Shuping**⁴, Luke D. Keller², Joseph D. Adams⁶, Maya Petkova⁵, Kenneth Wood⁵, Terry Herter¹, Greg Sloan¹, Daniel Thomas Jaffe⁷, Thomas P. Greene³, Kimberly Ennico³

Institution(s): ¹ Cornell Univ., ² Ithaca College, ³ NASA-Ames, ⁴ Space Science Institute, ⁵ Univ. of St. Andrews, ⁶ USRA-SOFIA, ⁷ UT Austin

241.13 Probing the Evolution of Massive Young Stellar Objects using Weak Class II 6.7GHz Methanol Maser Emission

Author(s): **Bethany Ann Ludwig**², Nichol Cunningham¹

Institution(s): ¹ National Radio Astronomy Observatory, ² University of California San Diego

241.14 Massive Star Formation in the Cygnus-X DR15 Complex

Author(s): **Anna Laws**¹, Joseph L. Hora¹, Qizhou Zhang¹

Institution(s): ¹ Harvard-Smithsonian CfA

241.15 Bipolar Outflows Properties from Class 0/I protostars in Perseus

Author(s): **Oscar A. De La Rosa**¹

Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics

Contributing team(s): Mass Assembly of Stellar Systems and their Evolution with the SMA (MASSES) Program

242 Neutron Stars (Pulsars, Magnetars, Pulsar Wind Nebulae) Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

242.01 Time Evolution of Pulsar Magnetosphere: An Implicit Approach

Author(s): **Sushilkumar Sreekumar**¹, Eric M. Schlegel¹

Institution(s): ¹ University of Texas San Antonio

242.02 Timing will Tell: Constraining Pulsar Timing Errors in the Search for Gravitational Waves

Author(s): **Ellianna Schwab**¹, Scott M. Ransom²

Institution(s): ¹ CUNY - The City College of New York, ² NRAO

Contributing team(s): NANOGrav

THURSDAY, 5 JANUARY 2017

- 242.03 Long-Term Timing of Globular Cluster Pulsars**
Author(s): **Sergio Roi Smith**², Ryan S Lynch¹
Institution(s): ¹ Green Bank Observatory, ² Howard University
- 242.04 A Multi-Frequency Study of Nearby MSP J1400-1431**
Author(s): **Joe K Swiggum**², David L.A. Kaplan², Maura McLaughlin³, Duncan Lorimer³, Brad Barlow¹
Institution(s): ¹ High Point University, ² University of Wisconsin - Milwaukee, ³ West Virginia University
- 242.05 Steep Spectrum Pulsar Candidates Near Sgr A***
Author(s): **Deven Bhakta**², Dale A. Frail¹
Institution(s): ¹ NRAO, ² Texas Tech University
- 242.06 Black Widow Pulsar radiation hydrodynamics simulation using Castro: Methodology**
Author(s): **Maria Barrios Sazo**², Michael Zingale², Weiqun Zhang¹
Institution(s): ¹ Lawrence Berkeley National Laboratory, ² Stony Brook University
- 242.07 A New, Low Braking Index For the LMC Pulsar B0540-69**
Author(s): **Francis E. Marshall**⁴, Lucas Guillemot¹, Alice Kust Harding⁴, Pierrick Martin³, David A Smith²
Institution(s): ¹ CNRS-Universite d'Orleans, ² CNRS-Universite de Bordeaux, ³ CNRS-Universite d'Toulouse, ⁴ NASA's GSFC
- 242.08 Post-outburst radio monitoring of the high magnetic field pulsar PSR J1119-6127**
Author(s): **Walid A. Majid**¹, Aaron Pearlman¹, jonathan kocz¹, Thomas A Prince¹, Jonas lippuner¹, Shinji Horiuchi¹
Institution(s): ¹ JPL/Caltech
- 242.09 FRB 121102: Searching for a Host**
Author(s): **Matthew W. Abruzzo**⁵, Robert Wharton³, Shami Chatterjee³, James M. Cordes³, Cees Bassa², Geoffrey C. Bower¹, Sarah Burke-Spolaor¹⁰, Bryan J. Butler¹⁰, Demorest Paul¹⁰, Jason Hessels², Victoria M. Kaspi⁷, Casey J. Law¹¹, Maura McLaughlin¹², Scott M. Ransom⁹, Paul Scholz⁴, Andrew Seymour⁸, Laura Spitler⁶, Shriharsh P. Tendulkar⁷
Institution(s): ¹ Academia Sinica, ² ASTRON, ³ Cornell University, ⁴ Dominion Radio Astrophysical Observatory, ⁵ Haverford College, ⁶ Max-Planck-Institut für Radioastronomie, ⁷ McGill University, ⁸ NAIC, ⁹ National Radio Astronomy Observatory, ¹⁰ National Radio Astronomy Observatory, ¹¹ University of California at Berkeley, ¹² West Virginia University
- 242.10 Seeking Fast Radio Burst Origins Using the Very Large Array**
Author(s): **Bridget Clare Andersen**², Sarah Spolaor¹, Paul Demorest¹
Institution(s): ¹ National Radio Astronomy Observatory, ² University of Virginia
Contributing team(s): Realfast
- 242.11 Quasi-Periodicities in the Anomalous Emission Events in Pulsars B1859+07 and B0919+06**
Author(s): **Haley Wahl**¹, Joanna M. Rankin¹
Institution(s): ¹ University of Vermont

- 242.12 Follow-up Observations of the Magnetar PSR J1745-2900 and Sgr A***
Author(s): **Rebecca Rimai Diesing**², Farhad Yusef-Zadeh², Lorant Sjouwerman¹, Doug Roberts²
Institution(s): ¹ National Radio Astronomy Observatory, ² Northwestern University
- 242.13 Nuclear pasta in protoneutron stars: simulations of neutrino emission from nuclear de-excitation**
Author(s): **Matthew Charles Witt**¹, William Newton¹
Institution(s): ¹ Texas A&M University, Commerce
- 242.14 High Time Resolution Studies with the GBT**
Author(s): **Natalia Lewandowska**¹, Ryan S Lynch¹
Institution(s): ¹ Green Bank Observatory
- 242.16 The Arecibo Remote Command Center Network**
Author(s): **Fronefield Crawford**¹, Fredrick Jenet⁷, Brian Christy⁴, Timothy Dolch², Alma Guerreo-Miller⁷, Volker Quetschke⁷, Xavier Siemens⁸, Tristan L. Smith⁵, Kevin Stovall⁶, Leslie Wade³, Madeline Wade³
Institution(s): ¹ Franklin and Marshall College, ² Hillsdale College, ³ Kenyon College, ⁴ Notre Dame of Maryland University, ⁵ Swarthmore College, ⁶ University of New Mexico, ⁷ University of Texas Rio Grande Valley, ⁸ University of Wisconsin - Milwaukee
- 242.17 Searches for Optical Counterparts to Fermi Unassociated Sources with the Intermediate Palomar Transient Factory**
Author(s): **Eric Christopher Bellm**¹, Thomas A Prince¹, David L.A. Kaplan², Thomas Kupfer¹, Megan E. DeCesar², Russ Laher¹, Frank J. Masci¹, David L. Shupe¹
Institution(s): ¹ Caltech, ² University of Wisconsin, Milwaukee
Contributing team(s): Intermediate Palomar Transient Factory Collaboration
- 242.18 Upper Limits On High-Frequency Single-Source Gravitational Waves**
Author(s): **Daniel Halmrast**³, Elif Beklen⁵, Shami Chatterjee², James M. Cordes², Timothy Dolch³, Justin Ellis⁴, Michael T. Lam⁶, Maura McLaughlin⁶, Timothy Pennucci¹
Institution(s): ¹ Columbia University, ² Cornell University, ³ Hillsdale College, ⁴ Jet Propulsion Laboratory, ⁵ Süleyman Demirel University, ⁶ West Virginia University
- 242.19 The CHIME Fast Radio Burst Project**
Author(s): **Victoria M. Kaspi**¹
Institution(s): ¹ McGill Univ.
Contributing team(s): CHIME/FRB Collaboration

243 Cataclysmic Variables, Novae, & Symbiotic Stars Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

THURSDAY, 5 JANUARY 2017

243.01 Realistic MHD Modelling of Cataclysmic Variable Spin-Down

Author(s): **Alex Lascelles**¹, Cecilia Garraffo¹, Jeremy J. Drake¹, Ofer Cohen²
Institution(s): ¹ *Harvard-Smithsonian Centre for Astrophysics*, ² *University of Massachusetts Lowell*

243.02 Cataclysmic Variables discovered in the ChaMPPlane Survey

Author(s): **Ping Zhao**¹, Jonathan E. Grindlay¹, JaeSub Hong¹, Mathieu Servillat², Maureen Van Den Berg¹
Institution(s): ¹ *Harvard-Smithsonian, CfA*, ² *Observatoire de Paris-Meudon*

243.03 The Kepler2 70-day Observation of the Eclipsing Cataclysmic AC Cnc

Author(s): **Eric M. Schlegel**², R. K. Honeycutt¹
Institution(s): ¹ *Indiana University*, ² *Univ. of Texas, San Antonio*

243.05 Detecting Nova Shells around known Cataclysmic Variable systems

Author(s): **Enia Xhakaj**², Thomas Kupfer¹, Thomas A Prince¹
Institution(s): ¹ *California Institute of Technology*, ² *Lafayette College*

243.06 The Fall and Rise of FO Aquarii - King of the Intermediate Polars

Author(s): **Peter M. Garnavich**³, Colin Littlefield³, Mark Kennedy⁴, Erin Aadland¹, Grace V. Calhoun², Donald M. Terndrup²
Institution(s): ¹ *Minnesota State University*, ² *Ohio State University*, ³ *Univ. of Notre Dame*, ⁴ *University College Cork*

243.07 Recent Observations of AG Pegasi's Latest Outburst Phase by Harvard Observing Project

Author(s): **Jose Luis Espinel**¹, John Lewis¹, Rimute Budreviciute¹, Allyson Bieryla¹, Kate Denham Alexander¹, Peter Blanchard¹, Theron Carmichael¹, Lehman H Garrison¹, Jane Huang¹, Andrew Mayo¹, Missy McIntosh¹, Andrew Vanderburg¹, Munazza Alam¹, Rodrigo Cordova¹, Sebastian Gomez¹, Ian Weaver¹, Sihon Yuan¹, Evander Price¹
Institution(s): ¹ *Harvard University*

243.08 Long-term Accretion Variations of the Magnetic Cataclysmic Variable Star QQ Vulpecula

Author(s): **Sanaea C. Rose**^{1,4}, Stella Kafka², R. K. Honeycutt³, Regina Jorgenson⁴, Derrick Carr^{5,4}, Francesca Childs^{6,4}, Holly Christenson^{7,4}, Md. Tanveer Karim^{8,4}, Tarini Konchady^{9,4}, Gary E. Walker⁴
Institution(s): ¹ *Wellesley College*, ² *American Association of Variable Star Observers*, ³ *Indiana University*, ⁴ *Maria Mitchell Observatory*, ⁵ *Haverford College*, ⁶ *Harvard College*, ⁷ *Western Washington University*, ⁸ *University of Rochester*, ⁹ *Johns Hopkins University*

244 White Dwarfs Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

244.01 Orbital Stability of the Hierarchical Triple System HIP 3678

Author(s): **Asher Kirschbaum**¹, Jason Nordhaus¹
Institution(s): ¹ *Rochester Institute of Technology*

244.02 Searching For Infrared Excesses Around White Dwarf Stars

Author(s): **Elin Deeb Wilson**², Luisa M. Rebull¹, John H. Debes³, Chris Stark³
Institution(s): ¹ Caltech, ² Montana State University, ³ Space Telescope Science Institute

244.03 Transit probabilities for debris around white dwarfs

Author(s): **John Arban Lewis**¹, John A. Johnson¹
Institution(s): ¹ Harvard University

244.04 White Dwarf Pollution by Disk Accretion of Tidally Disrupted Rocky Bodies

Author(s): **Wanda Feng**¹, Steven Desch¹
Institution(s): ¹ Arizona State University

244.05 Three-Dimensional Simulations of the Convective Urca Process in Pre-Supernova White Dwarfs

Author(s): **Donald E. Willcox**¹, Dean Townsley², Michael Zingale¹, Alan Calder¹
Institution(s): ¹ Department of Physics and Astronomy, Stony Brook University, ² Department of Physics and Astronomy, The University of Alabama

244.06 Spectroscopic Reductions of White Dwarf Stars to Support Dark Energy Survey Calibrations

Author(s): **Deborah Jean Gulledge**¹, Jacob M. Robertson¹, Douglas Lee Tucker², J. Allyn Smith¹, William Wester², Pier-Emmanuel Tremblay³, Mees B. Fix³
Institution(s): ¹ Austin Peay State University, ² Fermi National Accelerator Laboratory, ³ Space Telescope Science Institute

245 Extrasolar Planets: Characterization & Theory Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

245.01 Characterizing Extrasolar Planets from Transit Light Curves obtained at the Universidad de Monterrey Observatory – Part 2

Author(s): **Pedro Valdés Sada**¹
Institution(s): ¹ Universidad De Monterrey

245.02 Simulated JWST/NIRISS Spectroscopy of Anticipated TESS Planets and Selected Super-Earths Discovered from K2 and Ground-Based Surveys

Author(s): **Dana Louie**², Loic Albert¹, Drake Deming²
Institution(s): ¹ Institut de recherche sur les exoplanètes (iREx), ² University of Maryland

245.03 Exploring JWST's Capability to Constrain Habitability on Simulated Terrestrial TESS Planets

Author(s): **Luke Tremblay**¹, Amber Britt², Natasha Batalha³, Edward Schwieterman⁴, Giada Arney⁴, Shawn Domagal-Goldman², Avi Mandell²
Institution(s): ¹ NASA Goddard Center for Astrobiology, ² NASA Goddard Space Flight Center, ³ Pennsylvania State University, ⁴ University of Washington
 Contributing team(s): Planetary Systems Laboratory, Virtual Planetary Laboratory

THURSDAY, 5 JANUARY 2017

- 245.04 Reaching the Diffraction Limit: High-Resolution Imaging for Exoplanet and Stellar Studies**
Author(s): **Steve B. Howell**¹, Nic Scott¹, Elliott Horch²
Institution(s): ¹ NASA ARC, ² SCSU
- 245.05 WIRC-POL: A near-IR spectro-polarimetric imager at Palomar Observatory**
Author(s): **Ricky Nilsson**¹, Samaporn Tinyanont¹, Dimitri Mawet¹, Heather Knutson¹
Institution(s): ¹ California Institute of Technology
Contributing team(s): WIRC-POL team
- 245.06 Hobby-Eberly Telescope Optical Transmission Spectroscopy of the Hot Jupiter WASP-12b**
Author(s): **Adam G. Jensen**¹, Seth Redfield³, Paul W. Cauley³, Michael Endl², William D. Cochran²
Institution(s): ¹ University of Nebraska-Kearney, ² University of Texas-Austin, ³ Wesleyan University
- 245.07 Using Transmission Spectroscopy to Determine the Rotation Rate of HD 189733b**
Author(s): **Erin Elise Flowers**¹, Emily Rauscher⁴, Eliza Kempton², Matteo Brogi³
Institution(s): ¹ Columbia University, ² Grinnell College, ³ University of Colorado Boulder, ⁴ University of Michigan
- 245.08 Determining $V_{\sin(i)}$ of Young Planet-hosting Stars**
Author(s): **Jennifer Vanessa Medina**¹, Andrew W Mann²
Institution(s): ¹ TAURUS Program, University of Texas, ² University of Texas
- 245.09 A search for inversion layers in hot Jupiters with high-resolution spectroscopy**
Author(s): **Callie Hood**², Jayne Birkby¹, Mercedes Lopez-Morales¹
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² University of North Carolina at Chapel Hill
- 245.10 Regular satellite formation and evolution in a dead zone**
Author(s): **Cheng Chen**¹, Rebecca G. Martin¹
Institution(s): ¹ Department of Physics and Astronomy University of Nevada, Las Vegas
- 245.11 Quantifying the Effects of Temperature on Rocky Planets**
Author(s): **Sabrina Berger**¹, Leslie Rogers²
Institution(s): ¹ University of California, Berkeley, ² University of Chicago
- 245.13 Transit Timing Variation analysis with Kepler light curves of KOI 227 and Kepler 93b**
Author(s): **Shannon Dulz**¹, Mike Reed¹
Institution(s): ¹ Missouri State University
- 245.14 Blue Skies through a Blue Sky: an attempt to detect Rayleigh scattering in an exoplanet atmosphere from a ground-based telescope**
Author(s): **Kristen Luchsinger**³, Seth Redfield³, Paul W. Cauley³, Travis S. Barman¹, Adam G. Jensen²
Institution(s): ¹ Lunar and Planetary Laboratory, University of Arizona, Tuscon, ² University of Nebraska, Kearney, ³ Wesleyan University

- 245.15 The HD 202206 Exoplanetary System: Companion Masses and (in)Stability**
 Author(s): **George Fritz Benedict**², Thomas E. Harrison¹, Barbara E. McArthur²
 Institution(s): ¹ *New Mexico State University*, ² *Univ. of Texas, Austin*
- 245.16 Exoplanet Transit Analysis of KIC 8462852**
 Author(s): **Noah Isaac Rivera**¹, Michael H Schmitt²
 Institution(s): ¹ *California State University, San Bernardino*, ² *Northwestern University*
- 245.17 A Search for Host Stars of Free-Floating Planetary Mass Objects**
 Author(s): **Isaiah Tristan**¹, Brendan P. Bowler²
 Institution(s): ¹ *Rice University*, ² *University of Texas at Austin*
- 245.18 Obliquities of Exoplanet Host Stars from Precise Distances and Stellar Angular Diameters**
 Author(s): **Samuel N. Quinn**², Russel J. White¹
 Institution(s): ¹ *Georgia State University*, ² *Harvard-Smithsonian Center for Astrophysics*
- 245.19 The Perfect Map**
 Author(s): **Veenu Suri**², Emily Rauscher², Nicolas B. Cowan¹
 Institution(s): ¹ *McGill University*, ² *University of Michigan, Ann-Arbor*
- 245.20 How obliquity influences the climate of aquaplanets**
 Author(s): **Carly Snell**¹, Illeana Gomez Leal¹, Lisa Kaltenegger¹, Ross Jennings¹
 Institution(s): ¹ *Cornell University*
- 245.21 Small Friends of Hot Jupiters**
 Author(s): **Luis Ernesto Nunez**¹, John A. Johnson²
 Institution(s): ¹ *California State Polytechnic University, Pomona*, ² *Harvard-Smithsonian Center for Astrophysics*
- 245.22 The Occurrence Rate of Hot Jupiters**
 Author(s): **Rayna Rampalli**³, Joseph Catanzarite², Natalie M. Batalha¹
 Institution(s): ¹ *NASA Ames*, ² *SETI Institute*, ³ *Wellesley College*
- 245.23 Constraining hot Jupiter's atmospheric structure and dynamics through Doppler shifted emission spectra**
 Author(s): **Jisheng Zhang**¹, Eliza Kempton¹, Emily Rauscher²
 Institution(s): ¹ *Grinnell College*, ² *University of Michigan*
- 245.24 Let's Grow Old Together: The Simultaneous Evolution of Planet and Host Star**
 Author(s): **Megan Barnett**¹, Leslie Rogers²
 Institution(s): ¹ *University of California Berkeley*, ² *University of Chicago*
- 245.25 The effect of stellar radiation on exoplanet atmospheric heating and mass loss**
 Author(s): **Winonah Ojanen**¹, Brendan P. Miller¹, Elena Gallo⁴, Jason Wright², Katja Poppenhaefer³
 Institution(s): ¹ *College of St. Scholastica*, ² *Pennsylvania State University*, ³ *Queen's University Belfast*, ⁴ *University of Michigan*

THURSDAY, 5 JANUARY 2017

245.26 Atmospheric evaporation in super-Earth exoplanet systems

Author(s): **Spencer Moller**¹, Brendan P. Miller¹, Elena Gallo⁴, Jason Wright², Katja Poppenhaeger³

Institution(s): ¹ College of St. Scholastica, ² Pennsylvania State University, ³ Queen's University Belfast, ⁴ University of Michigan

245.27 Swift X-ray monitoring of M dwarf coronal variability

Author(s): **Brendan P. Miller**¹, Cedric Hagen², Elena Gallo⁴, Jason Wright³

Institution(s): ¹ College of St. Scholastica, ² Macalester College, ³ Pennsylvania State University, ⁴ University of Michigan

245.28 Effects of exomoon's magnetic field on generation of radio emissions

Author(s): **John Griffith**¹, Joaquin Noyola¹, Suman Satyal¹, Zdzislaw E. Musielak¹

Institution(s): ¹ University of Texas at Arlington

245.29 The Influence of Volcanic Aerosols on Planetary Habitability

Author(s): **Howard Chen**¹, Daniel Ethan Horton¹

Institution(s): ¹ Northwestern University

246 Large Scale Structure, Cosmic Distance Scale Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

246.01 A Catalog of Proper Motions to Dynamically Measure the Hubble Expansion and the Evolution of Large-Scale Structure

Author(s): **Alexandra Truebenbach**¹, Jeremiah K. Darling¹

Institution(s): ¹ University of Colorado Boulder

246.02 Using Quasar Pairs to put Constraints on Cosmological Parameters

Author(s): **Louis Johnson**², Isabelle Pâris¹

Institution(s): ¹ Astronomical Observatory of Trieste, ² University of the Pacific

246.03 Detecting the BAO using Discrete Wavelet Packets

Author(s): **Noel Anthony Garcia**¹, Yunyun Wu¹, Kevin Kadowaki¹, Jesus Pando¹

Institution(s): ¹ DePaul University

246.04 Does the HI Mass Function Vary with Environment?

Author(s): **Robert F. Minchin**¹

Institution(s): ¹ NAIC, Arecibo Observatory

246.05 Galaxy Interaction in Overdense Environments

Author(s): **Derek Holman**¹, Chao-Ling Hung²

Institution(s): ¹ University of Tennessee at Chattanooga, ² University of Texas at Austin

247 Black Holes Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 247.01 Super-resolution Polarimetric Imaging of Black Holes using the Event Horizon Telescope**
 Author(s): **Mollie Pleau**², Kazunori Akiyama¹, Vincent L. Fish¹
 Institution(s): ¹ MIT Haystack Observatory, ² Smith College
- 247.02 Optical Observations and Modeling of a Possible Black Hole HMXB and Cygnus X-1 Progenitor**
 Author(s): **Sebastian Gomez**¹, Jonathan E. Grindlay¹
 Institution(s): ¹ Harvard University
- 247.03 Long-term X-ray and Optical Monitoring of RZ2109**
 Author(s): **Kristen C Dage**², Steve E. Zepf², Thomas J. Maccarone³, Mark Peacock², Arunav Kundu¹
 Institution(s): ¹ Eureka Scientific, ² Michigan State University, ³ Texas Tech University
- 247.04 Longterm Multi-wavelength Monitoring of the Relativistic Tidal Disruption Event Swift J164449.3+573451**
 Author(s): **Tarraneh Eftekhari**¹, Edo Berger¹, Ashley Zauderer¹
 Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics
- 247.05 The contribution of SUBARU-HSC faint galaxies to the Spitzer-CIB fluctuations in COSMOS**
 Author(s): **Joyce Guo**¹, Nico Cappelluti¹, Yanxia Li¹, Rachel Ann Cooper¹
 Institution(s): ¹ Yale University
- 247.06 Exploring Sources of Gravitational Waves From Star Cluster Dynamics**
 Author(s): **Joshua Fuhrman**¹, Aaron M. Geller², Carl L. Rodriguez², Frederic A. Rasio²
 Institution(s): ¹ Carnegie Mellon University, ² Northwestern University
- 247.07 Distinguishing Between Formation Channels for Binary Black Holes with LISA**
 Author(s): **Katelyn Breivik**², Carl L. Rodriguez³, Shane L. Larson¹, Vassiliki Kalogera², Frederic A. Rasio²
 Institution(s): ¹ Adler Planetarium, ² Center for Interdisciplinary Exploration and Research in Astrophysics (CIERA) and Dept. of Physics and Astronomy, Northwestern University, ³ MIT-Kavli Institute for Astrophysics and Space Research
- 247.08 Chandra HETGS and VLBI Observations of SS 433**
 Author(s): **Herman L. Marshall**², David H. Roberts¹, Norbert S. Schulz²
 Institution(s): ¹ Brandeis University, ² MIT
- 247.09 Measuring X-ray Binary Accretion State Distributions in Extragalactic Environments using XMM-Newton**
 Author(s): **Lacey West**⁴, Bret Lehmer⁴, Mihoko Yukita², Ann E. Hornschemeier³, Andrew Ptak³, Daniel R. Wik³, Andreas Zezas¹
 Institution(s): ¹ Crete, ² Johns Hopkins University, ³ NASA GSFC, ⁴ University of Arkansas

THURSDAY, 5 JANUARY 2017

- 247.10 Active Galactic Nuclei from He II: a more complete census of AGN in SDSS galaxies yields a new population of low-luminosity AGN in highly star-forming galaxies**
Author(s): **Rudolf E Baer**¹, Anna Weigel¹, Lia F. Sartori¹, Kyuseok Oh¹, Michael Koss¹, Kevin Schawinski¹
Institution(s): ¹ *ETH Zurich*
- 247.11 You're Cut Off: HD and MHD Simulations of Truncated Accretion Disks**
Author(s): **J. Drew Hogg**¹, Christopher S. Reynolds¹
Institution(s): ¹ *The University of Maryland*
- 247.12 On the Supermassive Black Hole-Galaxy Coevolution**
Author(s): **Sahil Hegde**², Shawn Zhang¹, Aldo Rodriguez³, Joel R. Primack³
Institution(s): ¹ *Amador Valley High School*, ² *Prospect High School*, ³ *University of California, Santa Cruz*
- 247.13 Measuring the Stellar Kinematics of the S0 Galaxy NGC 4203**
Author(s): **Zuzana Isabelle Calbo**¹, Jonelle Walsh⁴, Aaron J. Barth⁵, Remco van den Bosch², Joseph C. Shields³, Marc Sarzi⁶
Institution(s): ¹ *Hofstra University*, ² *Max Planck Institute for Astronomy*, ³ *Ohio University*, ⁴ *Texas A&M University*, ⁵ *University of California, Irvine*, ⁶ *University of Hertfordshire*
- 247.14 Efficiency of Dynamical Friction in Presence of Black Hole Radiative Feedback**
Author(s): **Alexander Buser**¹, Tamara Bogdanovic¹, KwangHo Park¹
Institution(s): ¹ *Georgia Institute of Technology*
- 247.15 What is the nature of the high energy X-ray sources in the galaxy?**
Author(s): **Sophie Cuturilo**², John Tomsick³, Maica Clavel³, George B Lansbury¹
Institution(s): ¹ *Durham University*, ² *Seattle Pacific University*, ³ *UC Berkeley/SSL*

248 Dark Matter & Dark Energy Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 248.01 A Blind Search Pipeline for Dark Satellites of the Milky Way in Gamma Rays**
Author(s): **Nathan Ross Sandford**², Eric Charles¹, Mattia Di Mauro¹
Institution(s): ¹ *Kavli Institute for Particle Astrophysics and Cosmology, SLAC National Accelerator Laboratory, Stanford University*, ² *Pomona College*
Contributing team(s): Fermi-LAT Collaboration
- 248.02 Searching for a 3.5-keV line in the spectrum of the deepest Chandra blank fields**
Author(s): **C. Megan Urry**², Nico Cappelluti², Esra Bulbul¹
Institution(s): ¹ *Massachusetts Institute of Technology*, ² *Yale University*
- 248.03 Simulating Xenon Bubble Chambers for Dark Matter Detection**
Author(s): **Joseph Arroyo**¹, Eric Dahl¹
Institution(s): ¹ *Northwestern University*
Contributing team(s): PICO

248.04 Testing Ultra-Light Dark Matter Axions Using Galaxy Surveys

Author(s): **Emery Trott**¹, Tristan L. Smith², Daniel Grin¹

Institution(s): ¹ Haverford College, ² Swarthmore College

248.05 In Theory: Dark Energy as a Power Source

Author(s): **Robert J. Nemiroff**¹, David Russell¹, Matipon Tangmatitham¹

Institution(s): ¹ Michigan Technological Univ.

249 Starburst Galaxies Near & Far Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

249.01 GMRT HI Imaging of the Ly- α Emitting Starburst Galaxy Tololo 1924-416

Author(s): **Cesar I Mendoza Davila**¹, Karen Perez Sarmiento¹, John M. Cannon¹, Matthew Hayes², Jens Melinder², Göran Östlin², Stephen Pardy³

Institution(s): ¹ Macalester College, ² Stockholm University, ³ University of Wisconsin

Contributing team(s): LARS Team

249.02 GMRT HI Imaging of Selected LARS+eLARS Galaxies

Author(s): **Karen Perez Sarmiento**¹, Cesar I Mendoza Davila¹, John M. Cannon¹, Matthew Hayes², Jens Melinder², Göran Östlin², Stephen Pardy³

Institution(s): ¹ Macalester College, ² Stockholm University, ³ University of Wisconsin

Contributing team(s): LARS Team

249.03 VLA HI Imaging of the LARS+eLARS Galaxies: Global HI Properties

Author(s): **Brian Andrew Eisner**¹, Bridget Reilly¹, John M. Cannon¹, Matthew Hayes², Jens Melinder², Göran Östlin², Stephen Pardy³

Institution(s): ¹ Macalester College, ² Stockholm University, ³ University of Wisconsin

Contributing team(s): LARS Team

249.04 VLA HI Imaging of the LARS+eLARS Galaxies: Tidally Interacting Systems

Author(s): **Bridget Reilly**¹, Brian Andrew Eisner¹, John M. Cannon¹, Matthew Hayes², Jens Melinder², Göran Östlin², Stephen Pardy³

Institution(s): ¹ Macalester College, ² Stockholm University, ³ University of Wisconsin

Contributing team(s): LARS Team

249.05 Too Young to Shine? Chandra analysis of X-ray emission in nearby primordial galaxies

Author(s): **Antara Basu-Zych**³, Alaina L. Henry⁵, Mihoko Yukita⁴, Tassos Fragos², Ann E. Hornschemeier³, Bret Lehmer⁶, Andrew Ptak³, Andreas Zezas¹

Institution(s): ¹ CFA, ² Geneva Observatory, ³ Goddard Space Flight Center,

⁴ Johns Hopkins University, ⁵ Space Telescope Science Institute, ⁶ University of Arkansas

THURSDAY, 5 JANUARY 2017

249.06 Initial Results of a Far-Ultraviolet Spectroscopic Survey of Nearby Star-forming Galaxies with the Cosmic Origins Spectrograph

Author(s): **Keith Redwine**², Stephan R. McCandliss², Aida Wofford¹, Claus Leitherer³, Timothy M. Heckman², Kevin France⁴, Brian Fleming⁴

Institution(s): ¹ CNRS, Institut d'Astrophysique de Paris, ² Johns Hopkins University, ³ Space Telescope Science Institute, ⁴ University of Colorado at Boulder

249.07 Toward Gas Chemistry in Low Metallicity Starburst Galaxies

Author(s): **David S. Meier**², Crystal N. Anderson⁵, Jean Turner⁴, Juergen Ott¹, Sara C Beck³

Institution(s): ¹ National Radio Astronomy Observatory, ² New Mexico Institute of Mining and Technology, ³ Tel Aviv University, ⁴ UC, Los Angeles, ⁵ Voss Scientific, LLC

249.08 H α Kinematics of High-z Dusty Star Forming Galaxies

Author(s): **Patrick Drew**⁴, Caitlin Casey⁴, Chao-Ling Hung⁴, Asantha R. Cooray¹, David B. Sanders², Hai Fu³

Institution(s): ¹ UC Irvine, ² University of Hawaii, ³ University of Iowa, ⁴ University of Texas at Austin

249.09 The HDUV Survey: Seven Lyman Continuum Emitter Candidates at $z \sim 2$ Revealed by HST UV Imaging

Author(s): **Rohan Potham Naidu**², Pascal Oesch¹

Institution(s): ¹ Université de Genève, ² Yale-NUS College

Contributing team(s): Hubble Deep UV (HDUV) Legacy Survey Team

249.10 AGN contamination in total infrared determined star formation rates in dusty galaxies at $z \sim 2-3$

Author(s): **Renato Mazzei**², Chelsea E. Sharon¹, Dominik Riechers¹

Institution(s): ¹ Cornell University, ² University of Virginia

249.11 Molecular Gas Content of an Extremely Star-forming Herschel Observed Lensed Dusty Galaxy at $z = 2.685$

Author(s): **Hooshang Nayyeri**¹, Asantha R. Cooray¹

Institution(s): ¹ UC Irvine

Contributing team(s): H-ATLAS

249.12 C IV and He II line emission of Lyman α blobs: powered by shock-heated gas

Author(s): **Samuel Cabot**¹, Renyue Cen¹, Zheng Zheng²

Institution(s): ¹ Princeton University, ² University of Utah

249.13 Serendipitous ALMA detections of faint submm galaxies in SERVS

Author(s): **Pallavi Patil**², Mark Lacy¹, Kristina Nyland¹

Institution(s): ¹ National Radio Astronomy Observatory, ² University of Virginia

250 AGN, QSO, Blazars Poster Session

Thursday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

250.01 New quasar survey with WIRO: Color-selection of quasar candidates behind M33

Author(s): **William Bradford Harvey**³, Neil Bassett⁶, Sophie Deam⁸, Don Dixon¹, Emily Griffith⁵, Daniel Lee¹, Bradley Lyke², Evan Haze Nunez⁴, Ryan Parziale⁹, Catherine Witherspoon⁷, Adam D. Myers⁹, Joseph Findlay⁹, Henry A. Kobulnicky⁹, Daniel A. Dale⁹

Institution(s): ¹ Cal Poly Pomona, ² California State University, Long Beach, ³ Concordia College, ⁴ El Camino College, ⁵ Grinnell College, ⁶ Indiana University Bloomington, ⁷ James Madison University, ⁸ The University of Iowa, ⁹ University of Wyoming

250.02 New quasar surveys with WIRO: UV variability of known quasars behind M33

Author(s): **Sophie Deam**⁸, Neil Bassett⁶, Don Dixon¹, Emily Griffith⁵, William Bradford Harvey³, Daniel Lee¹, Bradley Lyke², Evan Haze Nunez⁴, Ryan Parziale⁹, Catherine Witherspoon⁷, Adam D. Myers⁹, Joseph Findlay⁹, Henry A. Kobulnicky⁹, Daniel A. Dale⁹

Institution(s): ¹ Cal Poly Pomona, ² California State University, Long Beach, ³ Concordia College, ⁴ El Camino College, ⁵ Grinnell College, ⁶ Indiana University, ⁷ James Madison University, ⁸ University of Iowa, ⁹ University of Wyoming

250.03 New quasar survey with WIRO: The light curves of quasars over ~15 year timescales

Author(s): **Emily Griffith**⁵, Neil Bassett⁶, Sophie Deam⁸, Don Dixon¹, William Harvey³, Daniel Lee¹, Bradley Lyke², Evan Haze Nunez⁴, Ryan Parziale⁹, Catherine Witherspoon⁷, Adam D. Myers⁹, Joseph Findlay⁹, Henry A. Kobulnicky⁹, Daniel A. Dale⁹

Institution(s): ¹ Cal Poly Pomona, ² California State Long Beach, ³ Concordia College, ⁴ El Camino College, ⁵ Grinnell College, ⁶ Indiana Univeristy, ⁷ James Madison Univeristy, ⁸ University of Iowa, ⁹ University of Wyoming

250.04 New Quasar Surveys With WIRO: Planning and Depth of Observations

Author(s): **Neil Bassett**⁶, Sophie Deam⁸, Don Dixon¹, Emily Griffith⁵, William Harvey³, Daniel Lee¹, Bradley Lyke², Evan Haze Nunez⁴, Ryan Parziale⁹, Catherine Witherspoon⁷, Adam D. Myers⁹, Joseph Findlay⁹, Henry A. Kobulnicky⁹, Daniel A. Dale⁹

Institution(s): ¹ Cal Poly Pomona, ² California State University, Long Beach, ³ Concordia College, ⁴ El Camino College, ⁵ Grinnell College, ⁶ Indiana University Bloomington, ⁷ James Madison University, ⁸ University of Iowa, ⁹ University of Wyoming

THURSDAY, 5 JANUARY 2017

- 250.05 New Quasar Surveys with WIRO: Data and Calibration for Studies of Variability**
Author(s): **Bradley Lyke**², Neil Bassett⁶, Sophie Deam⁸, Don Dixon¹, Emily Griffith⁵, William Harvey³, Daniel Lee¹, Evan Haze Nunez⁴, Ryan Parziale⁹, Catherine Witherspoon⁷, Adam D. Myers⁹, Joseph Findlay⁹, Henry A. Kobulnicky⁹, Daniel A. Dale⁹
Institution(s): ¹. Cal Poly Pomona, ². California State University, Long Beach, ³. Concordia College, ⁴. El Camino College, ⁵. Grinnell College, ⁶. Indiana University, ⁷. James Madison University, ⁸. University of Iowa, ⁹. University of Wyoming
- 250.06 New Quasar Surveys with WIRO: Colors of ~1000 Quasars at $0 < z < 3$**
Author(s): **Catherine Witherspoon**⁷, Neil Bassett⁶, Sophie Deam⁸, Don Dixon¹, Emily Griffith⁵, William Harvey³, Daniel Lee¹, Bradley Lyke², Evan Haze Nunez⁴, Ryan Parziale⁹, Adam D. Myers⁹, Joseph Findlay⁹, Henry A. Kobulnicky⁹, Daniel A. Dale⁹
Institution(s): ¹. Cal Poly Pomona, ². California State University, Long Beach, ³. Concordia College, ⁴. El Camino College, ⁵. Grinnell College, ⁶. Indiana University, ⁷. James Madison University, ⁸. University of Iowa, ⁹. University of Wyoming
- 250.07 New quasar surveys with WIRO: Searching for high redshift ($z \sim 6$) quasar candidates**
Author(s): **Evan Haze Nunez**⁵, Neil Bassett⁵, Sophie Deam⁷, Don Dixon¹, Emily Griffith⁴, William Bradford Harvey³, Daniel Lee¹, Bradley Lyke², Ryan Parziale⁸, Catherine Witherspoon⁶, Adam D. Myers⁸, Joseph Findlay⁸, Henry A. Kobulnicky⁸, Daniel A. Dale⁸
Institution(s): ¹. Cal Poly Pomona, ². Cal State Long Beach, ³. Concordia College, ⁴. Grinnell College, ⁵. Indiana University, ⁶. James Madison University, ⁷. University of Iowa, ⁸. University of Wyoming
- 250.08 In Search Of Tiny Giants: Finding Supermassive Black Holes In Low Mass Galaxies**
Author(s): **Dillon Tanner Berger**¹
Institution(s): ¹. George Mason University
Contributing team(s): Shobita Satyapal, Nick Abel, Laura Blecha, Richard Mushotzky, Christopher Reynolds
- 250.09 Clustering, Cosmology and a New Era of Black Hole Demographics: The Conditional Luminosity Function of AGNs**
Author(s): **David R. Ballantyne**¹
Institution(s): ¹. Georgia Institute of Technology
- 250.10 Improving LSST Photometric Redshifts using Differential Chromatic Refraction**
Author(s): **Christina M. Peters**², Gordon T. Richards¹
Institution(s): ¹. Drexel University, ². Dunlap Institute, University of Toronto
- 250.11 Identifying Merging Binary Active Galactic Nuclei with Wide-Field High-Resolution Radio Surveys**
Author(s): **Jacob Isbell**², Hai Fu², Kunal P Mooley¹, Gregg Hallinan¹
Institution(s): ¹. California Institute of Technology, ². University of Iowa

- 250.12 The Era of Monster Formation: Peering into the Heart of ULIRGs out to $z \sim 1$**
 Author(s): **Barry Rothberg**¹, Norbert Pirzkal⁴, Jacqueline Fischer², Myriam Rodrigues³
Institution(s): ¹ Large Binocular Telescope Observatory, ² Naval Research Laboratory, ³ Observatoire de Paris, ⁴ Space Telescope Science Institute
- 250.13 Likelihood for detection of sub-parsec supermassive black hole binaries in spectroscopic surveys**
 Author(s): **Bryan James Pflueger**¹, Tamara Bogdanovic¹, Michael Eracleous², Jessie C. Runnoe³, Steinn Sigurdsson²
Institution(s): ¹ Georgia Tech, ² Pennsylvania State University, ³ University of Michigan
- 250.14 EMPCA and Cluster Analysis of Quasar Spectra: Construction and Application to Simulated Spectra**
 Author(s): **Adam Marrs**¹, Karen Leighly¹, Cassidy Wagner¹, Francis Macinnis¹
Institution(s): ¹ University of Oklahoma
- 250.15 EMPCA and Cluster Analysis of Quasar Spectra: Sample Preparation and Validation**
 Author(s): **Cassidy Wagner**², Karen Leighly², Francis Macinnis², Adam Marrs², Gordon T. Richards¹
Institution(s): ¹ Drexel University, ² University of Oklahoma
- 250.16 EMPCA and Cluster Analysis of Quasar Spectra: Application to SDSS Spectra**
 Author(s): **Karen Leighly**¹, Adam Marrs¹, Cassidy Wagner¹, Francis Macinnis¹
Institution(s): ¹ Univ. of Oklahoma
- 250.17 SimBAL: A Spectral Synthesis Approach to Analyzing Broad Absorption Line Quasar Spectra**
 Author(s): **Donald M. Terndrup**², Karen Leighly³, Sarah Gallagher⁴, Gordon T. Richards¹
Institution(s): ¹ Drexel University, ² Ohio State Univ., ³ University of Oklahoma, ⁴ University of Western Ontario
- 250.18 Determining Black Hole Mass of AGN using FWHM of H-beta Emission Line and Luminosity Relations**
 Author(s): **Thomas Jacob Cameron**¹, Debra L. Burris¹
Institution(s): ¹ University of Central Arkansas
- 250.19 Broad and Narrow Intrinsic Absorption in Quasars as it Relates to Outflows, Orientation, and Radio Properties**
 Author(s): **Robert Bernard Stone**¹, Gordon T. Richards¹
Institution(s): ¹ Drexel University
- 250.20 Correlations between different line-forming regions in quasar environments**
 Author(s): **Chen Chen**², Fred Hamann¹, Britt Lundgren³
Institution(s): ¹ University of California, Riverside, ² University of Florida, ³ University of Wisconsin, Madison

THURSDAY, 5 JANUARY 2017

- 250.21 Investigating the Sensitivity of Emission Line Spectra to the Incident SED in Narrow Line Seyferts and LINERs**
Author(s): **Christopher Greene**¹, Chris T. Richardson¹
Institution(s): ¹ *Elon University*
- 250.22 Identifying Evolutionary Patterns of SMBHs Using Characteristic Variables of the Quasar AGNs of eBOSS**
Author(s): **Sarah Katherine Martens**¹, Eric M. Wilcots¹
Institution(s): ¹ *University of Wisconsin Madison*
- 250.23 Statistical Analysis of Quasar Light Curves from Pan-STARRS1**
Author(s): **Betsy Hernandez**¹, Tingting Liu², Suvi Gezari²
Institution(s): ¹ *CUNY Hunter College*, ² *University of Maryland*
- 250.24 Infrared Reverberation Mapping of 17 Quasars from the SDSS Reverberation Mapping Project**
Author(s): **Varoujan Gorjian**², Yue Shen⁷, Aaron J. Barth⁹, W. Niel Brandt⁴, Kyle S. Dawson⁸, Paul J. Green¹, Luis Ho³, Keith D. Horne¹⁰, Linhua Jiang³, Ian D. McGreer⁶, Donald P. Schneider⁴, Charling Tao⁵
Institution(s): ¹ *CfA*, ² *JPL/Caltech*, ³ *Peking University*, ⁴ *Penn State*, ⁵ *Tsinghua University/CPM/IN2P3/CNRS*, ⁶ *U. of Arizona*, ⁷ *U. of Illinois*, ⁸ *U. of Utah*, ⁹ *UCI*, ¹⁰ *Univ. of St. Andrews*
- 250.25 Powerful Quasar Outflows at High Redshifts**
Author(s): **Sara Aljanahi**¹
Institution(s): ¹ *University of Oregon*
Contributing team(s): Robert Scott Barrows
- 250.26 Cross-Correlating the Cosmic Infrared and Cosmic X-Ray Background Fluctuations**
Author(s): **Rachel Ann Cooper**¹, Nico Cappelluti¹, Yanxia Li¹, C. Megan Urry¹, Joyce Guo¹
Institution(s): ¹ *Yale University*
- 250.27 Luminous, High-z, Type-2 Quasars are Still Missing**
Author(s): **Gordon T. Richards**¹, Joseph F Hennawi², Angelica Rivera¹
Institution(s): ¹ *Drexel Univ.*, ² *Max Planck Institute of Astronomy*
- 250.28 Discovery of a New Quasar: SDSS J022155.26-064916.6**
Author(s): **Jacob Robertson**¹, J. Allyn Smith¹, Douglas Lee Tucker², Huan Lin², Deborah Jean Gulledge¹, Mees B. Fix³
Institution(s): ¹ *Austin Peay State University*, ² *Fermi National Accelerator Laboratory*, ³ *Space Telescope Science Institute*
- 250.29 Multiwavelength and Polarimetric Analysis of the Flat Spectrum Radio Quasars 3C 273 and 3C 279**
Author(s): **Sunil Fernandes**³, Victor Patiño-Álvarez¹, Vahram Chavushyan¹, Eric M. Schlegel³, Enrique Lopez-Rodriguez², Jonathan León-Tavares¹, Luis Carrasco¹, José Valdés¹, Alberto Carramiñana¹
Institution(s): ¹ *Instituto Nacional de Astrofísica, Óptica y Electrónica*, ² *SOFIA/USRA, NASA Ames Research Center*, ³ *University of Texas at San Antonio*

- 250.30 Associated TeV Emission from the Double-Synchrotron Model for Large-Scale Quasar Jets**
 Author(s): **Kevin Michael Whitley**¹, Eileen T. Meyer¹, Markos Georganopoulos¹
 Institution(s): ¹ *University of Maryland - Baltimore County*
- 250.31 On the Time Scales of Optical Variability in Radio-Quiet Quasar PDS 456**
 Author(s): **Francesca Childs**¹, Vladimir Strelnitski², Regina Jorgenson², Gary E. Walker²
 Institution(s): ¹ *Harvard College*, ² *Maria Mitchell Observatory*
- 250.32 Periodic Variability of MRK501 in Optical Light**
 Author(s): **L Joseph Rivest**¹, McKay Osborne¹, J. Ward Moody¹, Marcus Holden¹, Eric G. Hintz¹, Elizabeth Jeffery¹, Michael D. Joner¹
 Institution(s): ¹ *Brigham Young University*
- 250.33 The Dramatic June 2016 Optical Outburst and Micro-Variability of the Blazar 3C 454.3**
 Author(s): **Zachary R Weaver**¹, Thomas J. Balonek¹
 Institution(s): ¹ *Colgate University*
- 250.34 The Optical Variability of the Blazar 3C 454.3 over Three Decades from the Colgate University Foggy Bottom Observatory**
 Author(s): **Thomas J. Balonek**², Zachary R Weaver², Nicholas Didio², Leah Jenks², Carolyn Morris², Ryan Stahlin², Jovana Zagorac², Katie Chapman², Brian D'Auteuil², Katherine L. Karnes², Joshua S Reding², Alina Sabyr², Saiyang Zhang², Samantha Boni¹, Caitlin Rose³, Anneliese Rilinger⁴
 Institution(s): ¹ *Bridgewater State Univ.*, ² *Colgate Univ.*, ³ *Vassar Coll.*, ⁴ *Williams Coll.*
- 250.35 Searching for X-Ray Variability in Resolved Jets from Radio-Loud AGN**
 Author(s): **Natalie DeNigris**¹, Eileen T. Meyer¹, Markos Georganopoulos¹
 Institution(s): ¹ *University of Maryland, Baltimore County*
- 250.36 AGN Variability: Probing Black Hole Accretion**
 Author(s): **Jackeline Moreno**¹, Jack O'Brien¹, Michael S. Vogeley¹, Gordon T. Richards¹, Vishal P. Kasliwal²
 Institution(s): ¹ *Drexel University*, ² *Princeton University*
- 250.37 Searching for Short Term Variable Active Galactic Nuclei: A Vital Step Towards Using AGN as Standard Candles**
 Author(s): **Kelly Kilts**², Varoujan Gorjian¹, Thomas Rutherford⁵, Russell Kohrs³, Vincent Urbanowski⁴, Nina Bellusci⁴, Savannah Horton³, Dana Jones³, Kaytlyn Jones⁵, Peter Pawelski⁴, Haley Trantum⁵, Emily Zhang²
 Institution(s): ¹ *JPL/Caltech*, ² *Lexington High School*, ³ *Massanutten Regional Governor's School for Integrated Environmental Science and Technology*, ⁴ *Stamford Academy of Information Technology & Engineering*, ⁵ *Sullivan South High School*

THURSDAY, 5 JANUARY 2017

- 250.38 K2 Observations of Optical Variability in Fermi Gamma Ray Blazars in 2015-2016**
Author(s): **Ann E. Wehrle**¹, Michael T. Carini³, Paul J. Wiita²
Institution(s): ¹ Space Science Institute, ² The College of New Jersey, ³ Western Kentucky University
- 250.39 The bursting behavior of the blazar PKS 1130+009 from K2 and ground based photometry**
Author(s): **Michael T. Carini**¹, Rebecca Brown¹, Henry Yik¹
Institution(s): ¹ Western Kentucky Univ.
- 250.40 A Comparison of Two Methods for Estimating Black Hole Spin in Active Galactic Nuclei**
Author(s): **Daniel M. Capellupo**¹, Daryl Haggard¹, Gaylor Wafflard-Fernandez²
Institution(s): ¹ McGill University, ² Université Paris-Sud
- 250.41 B-FlaP: Classifying Gamma-ray Blazars Using Machine Learning**
Author(s): **David John Thompson**³, Graziano Chiaro⁴, Marcello Giroletti², David Salvetti¹, Giovanni La Mura⁴, Denis Bastieri⁴
Institution(s): ¹ ZINAF -Istituto di Astrofisica Spaziale e Fisica Cosmica, ² INAF-Institute of Radioastronomy, ³ NASA's GSFC, ⁴ Università di Padova
- 250.42 Searching for Hard X-Ray Emission from Radio-Loud Gamma-Ray Quiet Blazars**
Author(s): **Katelyn R Wada**¹, Daryl J. Macomb¹
Institution(s): ¹ Boise State University
- 250.43 Spectral and Temporal Analysis of 1H1934-0617: Observing an "Eclipsed" AGN with XMM-Newton and NuSTAR**
Author(s): **Sara Frederick**¹, Erin Kara¹, Christopher S. Reynolds¹
Institution(s): ¹ University of Maryland
- 250.44 Fermi Observations of Resolved Large-Scale Jets: Testing the IC/CMB Model**
Author(s): **Peter Breiding**¹, Eileen T. Meyer¹, Markos Georganopoulos¹
Institution(s): ¹ University of Maryland, Baltimore County
- 250.45 Testing for Shock-Heated X-Ray Gas around Compact Steep Spectrum Radio Galaxies**
Author(s): **Jacob Noel-Storr**¹, Christopher O'Dea⁵, Diana M Worrall⁴, Tracy E. Clarke², Grant Tremblay⁶, Stefi Baum⁵, Kevin Christiansen³, Christopher Mullarkey³, Rupal Mittal³
Institution(s): ¹ InsightSTEM, ² Naval Research Laboratory, ³ Rochester Institute of Technology, ⁴ University of Bristol, ⁵ University of Manitoba, ⁶ Yale University
- 250.46 Properties of the optical line-emitting gas in the radio galaxy, 4C+29.30**
Author(s): **Olga Kuhn**², Aneta Siemiginowska¹
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² Large Binocular Telescope Observatory (LBTO)

250.47 HST Polarimetry of the 3C 273 Jet

Author(s): **Devon Clautice**², Eric S. Perlman², William B. Sparks⁷, John A. Biretta¹, Christopher P. O'Dea¹⁰, Stefi Alison Baum¹⁰, Chi C. Cheung⁵, Mark Birkinshaw⁸, Diana M Worrall⁸, Andre Martel⁷, C. Megan Urry¹¹, Lukasz Stawarz³, Paolo S. Coppi¹¹, Yasunobu Uchiyama⁶, Mihai Cara⁷, Klaus Meisenheimer⁴, Mitchell C. Begelman⁹

Institution(s): ^{1.} Eureka Scientific, ^{2.} Florida Institute of Technology, ^{3.} Jagiellonian University, ^{4.} Max-Planck-Institut für Astronomie, Heidelberg, ^{5.} Naval Research Laboratory, ^{6.} Rikkyo University, ^{7.} Space Telescope Science Institute, ^{8.} University of Bristol, ^{9.} University of Colorado Boulder, ^{10.} University of Manitoba, ^{11.} Yale University

250.48 A Hubble Space Telescope Survey of Intrinsic Absorption in Nearby AGN

Author(s): **Dzhuliya Dashtamirova**¹, Jay P. Dunn¹, D. Michael Crenshaw¹

Institution(s): ^{1.} Georgia State University

250.49 Exploring the Vertical Structure of Nuclear Starburst Disks: A Possible Source of AGN Obscuration at Redshift ~ 1

Author(s): **Raj Gohil**¹, David R. Ballantyne¹

Institution(s): ^{1.} Georgia Institute of Technology

250.50 Optical to extreme ultraviolet reddening curves for normal AGN dust and for dust associated with high-velocity outflows

Author(s): **Japneet Singh**¹, Martin Gaskell³, Jake Gill²

Institution(s): ^{1.} Archbishop Mitty High School, ^{2.} Santa Cruz High School, ^{3.} University of California at Santa Cruz

250.51 Tracing the Far-Infrared Roles of AGN in Dusty Star-Forming Galaxies

Author(s): **Arianna Brown**¹, Hooshang Nayyeri², Asantha R. Cooray², Ketron Mitchell-Wynne²

Institution(s): ^{1.} CSU - Los Angeles, ^{2.} UC Irvine

250.52 Circumnuclear Star Formation in Seyfert Galaxies

Author(s): **Melissa Marquette**², Erin K. Hicks⁴, Francisco Mueller Sanchez⁵, Matthew Arnold Malkan³, Richard Davies¹

Institution(s): ^{1.} Max Planck Institut für extraterrestrische Physik, ^{2.} UC Berkeley, ^{3.} UCLA, ^{4.} University of Alaska Anchorage, ^{5.} University of Colorado Boulder

250.53 Disentangling the NLR Structure in Mrk 573 with Integral Field Spectroscopy

Author(s): **Travis C. Fischer**⁴, Camilo Machuca³, Marlon Diniz⁶, D. Michael Crenshaw³, Steven Kraemer¹, Rogemar A Riffel⁶, Henrique R. Schmitt⁵, Fabien Baron³, Thaisa Storchi-Bergmann², Amber Straughn⁴, Mitchell Revalski³, Crystal L Pope³

Institution(s): ^{1.} Catholic University of America, ^{2.} Federal University of Rio Grande do Sul, ^{3.} Georgia State University, ^{4.} NASA's Goddard Space Flight Center, ^{5.} Naval Research Laboratory, ^{6.} Universidade Federal de Santa Maria

250.54 An Extended Look at the Narrow-Line Region of the Seyfert 2 Galaxy Mrk 573

Author(s): **Camilo Machuca**¹, Travis C. Fischer², D. Michael Crenshaw¹

Institution(s): ^{1.} Georgia State University, ^{2.} NASA's Goddard Space Flight Center

THURSDAY, 5 JANUARY 2017

250.55 NGC 3393: multi-component AGN feedback as seen by CHEERS

Author(s): **W. Peter Maksym**¹, Giuseppina Fabbiano¹, Martin Elvis¹, Margarita Karovska¹, John C. Raymond¹, Thaisa Storchi-Bergmann³, Alessandro Paggi¹, Junfeng Wang⁴, Guido Risaliti²

Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*, ² *INAF - Arcetri Astrophysical Observatory*, ³ *Universidade Federal do Rio Grande do Sul*, ⁴ *Xiamen University*

250.56 A Search for H₂O Maser Emission from Wide-Angle Outflows in Nearby AGN

Author(s): **Emily Wilson**¹, James A. Braatz², Dom Pesce³

Institution(s): ¹ *Franklin and Marshall College*, ² *National Radio Astronomy Observatory*, ³ *University of Virginia*

Contributing team(s): Megamaser Cosmology Project

250.57 Probing the Physical Properties and Origins of Ultra-fast Outflows in AGN

Author(s): **Steven B. Kraemer**¹, Francesco Tombesi³, Mark Bottorff²

Institution(s): ¹ *Catholic University of America*, ² *Southwestern University*, ³ *University of Maryland, College Park*

250.58 Possible Superluminal Components in the Nearest Tidal Disruption Event

Author(s): **Eric S. Perlman**¹, Eileen T. Meyer⁴, Daniel Wang⁵, Qiang Yuan², Judith Irwin³, Richard N. Henriksen³

Institution(s): ¹ *Florida Institute of Technology*, ² *Purple Mountain Observatory*, ³ *Queens University*, ⁴ *University of Maryland, Baltimore County*, ⁵ *University of Massachusetts*

250.59 AGN-halo Mass Assembly Connection in Galaxy Clusters: Investigation Using the Splashback Radius

Author(s): **Missy McIntosh**¹, Surhud More², John D Silverman²

Institution(s): ¹ *Harvard University*, ² *Kavli IPMU, UTokyo*

Gemini Observatory Open House

Thursday, 6:30 pm - 7:30 pm; Texas 4

Director Markus Kissler-Patig will share the latest news from Gemini Observatory and seek feedback from the user community to better achieve your scientific goals. He will report on progress with Gemini's Strategic Vision that will prepare the observatory for 2020 and beyond. The robust instrumentation program includes two major new facility instruments under development and ongoing opportunities for community involvement to upgrade current capabilities. Novel operations approaches enable regular proposal opportunities every month and targets of opportunity in both hemispheres. Completion of several observatory initiatives has reduced Gemini's carbon footprint and delivered the world's highest solar electricity system connected to the utility grid. We look forward to your input and ideas in an open conversation.

Organizer(s): Markus Kissler-Patig (Gemini Observatory)

251 Proposing for the James Webb Space Telescope

Thursday, 6:30 pm - 8:30 pm; Grapevine C

The James Webb Space Telescope will be the most powerful telescope that astronomers have ever constructed, serving a broad range of high priority science, as identified by the 2010 decadal survey. The October 2018 launch is rapidly approaching, and the Jan 2017 AAS meeting will take place less than one year before JWST's Cycle 1 Call for Proposals, and only a few months before the call for Early Release Science (ERS) Proposals. The ERS represents the first opportunity for the general astronomical community to win JWST observing time. A suite of tools to help proposers propose for JWST time will become available around the time of the 229th AAS. At the Town Hall, STScI will present the flight release of the JWST exposure time calculator, the Astronomer's Proposal Tool and the JWST observer's documentation, as well as the science timeline for JWST as it relates to proposal planning. STScI will also outline specifics for the Nov 2017 Cycle 1 Call for proposals. Finally, the Town Hall will feature a presentation on JWST status: Dr. Eric Smith (JWST Program Director, NASA HQ) will describe the progress of JWST, and its readiness for the planned October 2018 launch (e.g., testing activities at Johnson Space Flight Center and final integration activities). Ample time will be reserved for discussion with the community and to answer questions related to proposing for JWST.

Organizer(s): Klaus Pontoppidan (California Institute of Technology)

252 HEAD Business Meeting

Thursday, 6:30 pm - 7:30 pm; San Antonio 5

The High Energy Astrophysics Division will hold its business meeting on Thursday, 5 January 2017 at 6:30pm-7:30pm. This is a chance for members and potential members to hear the latest status of the HEAD, and to interact with the HEAD Chair and other members of the Executive Committee. Refreshments will be served.

Chair: Christopher Reynolds (Univ. of Maryland)

WFIRST Status and Science Opportunities

Thursday, 7:30 pm - 9:00 pm; Grapevine B

WFIRST is the top ranked large space mission of the Astro2010 Decadal Survey. The mission has recently started its Phase A study for launch in 2025 and science teams have been selected. The predicted performance is impressive with IR surveys covering 1000's of square degrees to 26.5AB magnitude. The wide-field imaging camera has 288 Mpixels, a grism and an IFU spectrograph. The high contrast coronagraph will significantly advance exoplanet direct imaging and spectroscopy, the highest ranked ASTRO2010 mid-scale priority. Observing time will be available to the community through a vigorous Guest Investigator / Guest Observer program. The mission will make large advances in studies of dark energy, exoplanets, galaxy formation and many other areas of extragalactic, galactic and solar system astrophysics. This session will examine the scientific opportunities available with WFIRST.

Organizer(s): Neil Gehrels (NASA's GSFC)

THURSDAY, 5 JANUARY 2017

GMT Open House

Thursday, 7:30 pm - 9:00 pm; Grapevine A

The Giant Magellan Telescope (GMT) Project is a collaboration of US and international research institutions constructing a next-generation extremely large optical/infrared telescope. The GMT will have a seven-segment primary mirror 25 meters in diameter and will be sited at Las Campanas Observatory in Chile. It is designed with integrated adaptive optics and an advanced suite of instruments to support a program of key scientific investigations. Onsite construction began in 2015. GMT partners are: Astronomy Australia Ltd, The Australian National University, Carnegie Institution for Science, Harvard University, Korea Astronomy and Space Science Institute, FAPESP, Smithsonian Institution, University of Texas at Austin, Texas A&M, University of Arizona, and the University of Chicago. Come to this Open House to meet senior project staff and Science Advisory Committee members. There will be a short update on the project and followed by open discussion. Complimentary snacks and refreshments will be provided.
Organizer(s): Amanda Kocz (GMTO Corporation)

AAS Open Mic Night

Thursday, 8:00 pm - 9:30 pm; Texas C

The 4th Annual AAS Open Mic Night is an event you cannot miss! Members and meeting attendees are encouraged to share their talents with their colleagues in a welcoming, accepting environment. Story tellers, poets, musicians, comedians, jugglers (no fire!): everyone is invited to participate. We welcome all styles and genres of music from bluegrass to speed metal...seriously! Performances must be acceptable to a general audience of your peers and the AAS reserves the right to limit performances based on content. Let us know if you want to perform quickly, as we will be on a first-come, first-served basis for this popular event, but we may be able to accept walk-on performances depending on time availability. Come have some fun and strut your stuff. Cocktails, wine, and beer will be available for purchase.

300 Plenary Session: SPD George Ellery Hale Prize: Magnetic Energy Release in Solar Flares, Terry Forbes (University of New Hampshire)

Friday, 8:30 am - 9:20 am; Texas A

Chair: Dana Longcope (Montana State Univ.)



300.01 Magnetic Energy Release in Solar Flares

Author(s): **Terry G. Forbes**¹

*Institution(s):*¹ Univ. of New Hampshire

Citation: For his significant contributions to the theory of magnetic reconnection, for his development of important new models of the physics of solar flares and coronal mass ejections, and for his achievements mentoring students and junior scientists in the solar physics community.

Graduate School and Postdocs as Means to a Job

Friday, 9:30 am - 11:30 am; San Antonio 1

In this workshop, led by academic career counselor and author Dr. Karen Kelsky, we examine the conditions of the current American job market, the most common mistakes made by job-seekers, and the ways you can maximize your chances of success while looking for a tenure-track job. We'll cover: the big-picture conditions of the U.S. tenure track job market; how to build a competitive CV in grad school; the all-important 5-year-plan; how to think like a search committee; the qualities of a successful tenure track job candidate; the ethos of job market documents; the most common mistakes made by job seekers; the three keys to academic interviewing; and the non-academic option. We also examine some of the intangible pitfalls that bedevil job documents and interviewing.

Organizer(s): AAS Employment Committee (AAS)

Thirty Meter Telescope Open House

Friday, 10:00 am - 11:30 am; Yellow Rose Ballroom

The Thirty Meter Telescope (TMT) will make transformational contributions to most areas of astronomy and astrophysics, from the solar system to cosmology. With an order of magnitude more collecting area than today's largest optical/infrared telescopes, and nearly 5 times better angular resolution than the James Webb Space Telescope at similar infrared wavelengths, TMT will open entirely new regimes of observation and research. At this Open House we will report on the status of TMT, and highlight the continued role of the US astronomical community in planning the observatory and its future scientific programs. We will discuss the permitting process in Hawaii, as well as the characterization and prioritization of potential alternate sites for the observatory. There will be updates on the continued development of the telescope and its instrumentation and adaptive optics systems, planning for future-generation instruments, and ongoing activities in education, workforce development, and public outreach. The TMT International Observatory partnership includes Canada, China, India, Japan, Caltech, and

FRIDAY, 6 JANUARY 2017

the University of California. AURA is an Associate Member of TMT, and NOAO executes AURA's TMT-related activities on behalf of the US community. As part of a cooperative agreement with the National Science Foundation, the US TMT Science Working Group (SWG) and the TMT project have developed a plan for US national participation in TMT. This plan describes the scientific, technological, educational, and programmatic benefits of TMT participation for the US community, and considers choices that would maximize those benefits. Members of the US TMT SWG will attend this Open House, and there will be ample time for audience questions and discussion. Complimentary refreshments will be provided.

Organizer(s): Mark Dickinson (NOAO)

Early Science with the Large Millimeter Telescope

Friday, 10:00 am - 11:30 am; Grapevine 4

The Large Millimeter Telescope is the world's largest single-dish millimeter telescope. In the early science phase, the LMT has been taking observations of gas and dust from debris disks around nearby stars to star forming regions within our Galaxy to galaxies and active galactic nuclei over cosmic time. In this session, we will highlight new science results from the LMT, discuss synergies with other facilities such as ALMA, and motivate the next phase including a new suite of instruments on the 50m LMT.

Organizer(s): Alexandra Pope (Univ. of Massachusetts, Amherst)

301 Extrasolar Planets: Characterization & Theory IV

Friday, 10:00 am - 11:30 am; Texas A

Chair: Eric Mamajek (University of Rochester)

301.01D A Model of the H α Transmission Spectrum of HD 189733b

Author(s): **Chenliang Huang**², Phil Arras², Duncan Christie¹, Zhi-Yun Li²
Institution(s): ¹ University of Florida, ² University of Virginia

301.02 Unveiling exoplanetary atmospheres through LBT spectrophotometry

Author(s): **Valerio Nascimbeni**², Giampaolo Piotto², Isabella Pagano¹, Gaetano Scandariato¹, Lorenzo Pino²
Institution(s): ¹ INAF-OACT, ² Università di Padova

301.03 VLT FORS2 comparative transmission spectral survey of clear and cloudy exoplanet atmospheres

Author(s): **Nikolay Nikolov**⁶, David K Sing⁶, Neale Gibson³, Jonathan J Fortney⁵, Tom M. Evans⁶, Joanna Barstow⁴, Tiffany Kataria², Paul Wilson¹
Institution(s): ¹ IAP, ² JPL, ³ Queens University Belfast, ⁴ UCL, ⁵ University of California Santa Cruz, ⁶ University of Exeter

301.04 Exploring an Earth-sized neighbor: ground-based transmission spectroscopy of GJ1132b, a rocky planet transiting a small nearby M-dwarf

Author(s): **Hannah Diamond-Lowe**², Zachory K. Berta-Thompson¹, David Charbonneau², Jonathan Irwin², Elisabeth R. Newton³, Jason Dittmann²
Institution(s): ¹ CU Boulder, ² Harvard University, ³ MIT

301.05 Emission Spectroscopy of the Super-Earth 55 Cnc e

Author(s): **Diana Dragomir**³, Jacob Bean⁵, Laura Kreidberg², Kevin B. Stevenson⁴, Michael R. Line¹

Institution(s): ¹ Arizona State University, ² Harvard, ³ MIT, ⁴ Space Telescope Science Institute, ⁵ University of Chicago

301.06 Challenges to Constraining Exoplanet Masses via Transmission Spectroscopy

Author(s): **Eliza Kempton**¹, Natasha Batalha², Rostom Mbarek³

Institution(s): ¹ Grinnell College, ² Pennsylvania State University, ³ University of Chicago

301.07 The ACCESS Transiting Exoplanets Spectroscopy Survey and the Impact of Heterogeneous Stellar Atmospheres on Transit Spectroscopy

Author(s): **Daniel Apai**⁶, Benjamin V. Rackham⁶, Mercedes Lopez-Morales³, Nestor Espinoza¹, Andres Jordan¹, David Osip⁴, Nikole K. Lewis⁵, Florian Rodler², Jonathan Fraine⁶, Caroline Morley⁷, Jonathan J Fortney⁷, Alex Bixel⁶

Institution(s): ¹ Catholic University Chile, ² European Southern Observatory, ³ Harvard-Smithsonian Center for Astrophysics, ⁴ Observatories of the Carnegie Institution for Science, ⁵ Space Telescope Science Institute, ⁶ University of Arizona, ⁷ University of California Santa Cruz

Contributing team(s): ACCESS Team; Earths in Other Solar Systems Team

301.08 FINESSE: A Dedicated Transiting Exoplanet Spectroscopy Mission

Author(s): **Jacob Bean**¹

Institution(s): ¹ University of Chicago

Contributing team(s): FINESSE Science Team

302 AGN, QSO, Blazars: Jets, Outflows, & Winds

Friday, 10:00 am - 11:30 am; Texas C

Chair: Bradley Peterson (Ohio State Univ.)

302.01 Polarization Signatures distinguish the kinetic- and the magnetic-driven blazar jet models

Author(s): **Haocheng Zhang**², Hui Li¹, Gregory B. Taylor²

Institution(s): ¹ Los Alamos National Lab, ² University of New Mexico

302.02 The remarkable optical jet in 4C +00.58

Author(s): **Eileen T. Meyer**³, William B. Sparks², Markos Georganopoulos³, Marco Chiaberge², Eric S. Perlman¹

Institution(s): ¹ Florida Institute of Technology, ² Space Telescope Science Institute, ³ University of Maryland, Baltimore County

302.03D The link between quasar broad-line region and galaxy-scale outflows and accurate CIV-based black hole masses

Author(s): **Liam Coatman**², Paul C Hewett², Manda Banerji², Gordon T. Richards¹, Joseph F Hennawi³, Jason X. Prochaska⁴

Institution(s): ¹ Department of Physics, Drexel University, ² Institute of Astronomy, University of Cambridge, ³ MPIA, ⁴ UCO/Lick, UCSC

FRIDAY, 6 JANUARY 2017

302.04 Determining the Spatially Resolved Mass Outflow Rate in Markarian 573

Author(s): **Mitchell Revalski**¹, D. Michael Crenshaw¹, Travis C. Fischer², Steven B. Kraemer⁴, Henrique R. Schmitt³

Institution(s): ¹ Georgia State University, ² Goddard Space Flight Center, ³ Naval Research Laboratory, ⁴ The Catholic University of America

302.05 Composite Spectra of Broad Absorption Line Quasars in SDSS-III BOSS

Author(s): **Hanna Herbst**⁴, Fred Hamann³, Isabelle Paris¹, Daniel M. Capellupo²

Institution(s): ¹ Institut de Astrophysics, ² McGill University, ³ UC Riverside, ⁴ University of Florida

302.06 The LBT/WISSH quasar survey: revealing powerful winds in the most luminous AGN

Author(s): **Giustina Vietri**¹

Institution(s): ¹ Astronomical Observatory of Rome - INAF

302.07D Probing Quasar Winds Using Intrinsic Narrow Absorption Lines

Author(s): **Christopher S. Culliton**¹, Jane C. Charlton¹, Michael Eracleous¹, Amber Roberts¹, Rajib Ganguly³, Toru Misawa², Sowgat Muzahid¹

Institution(s): ¹ Pennsylvania State University, ² Shinshu University, ³ University of Michigan - Flint

303 Extrasolar Planets Detection: Imaging

Friday, 10:00 am - 11:30 am; Texas D

Chair: Harley Thronson (NASA GSFC)

303.01D Using direct imaging to investigate the formation and migration histories of gas giant exoplanets

Author(s): **Henry Ngo**¹

Institution(s): ¹ California Institute of Technology

303.03D Imaging Protoplanets: Observing Transition Disks with Non-Redundant Masking

Author(s): **Stephanie Sallum**¹

Institution(s): ¹ University of Arizona

303.04 Directly Imaging Planets with SCExAO: First Results

Author(s): **Thayne M. Currie**², Olivier Guyon², Nemanja Jovanovic², Julien Lozi², Motohide Tamura³, Tomoyuki Kudo², Taichi Uyama³, Eugenio Garcia¹

Institution(s): ¹ Lawrence Livermore National Laboratory, ² NAOJ/Subaru Telescope, ³ University of Tokyo

303.05 Illuminating Free-floating Planet Demographics with Keck AO

Author(s): **Calen B. Henderson**¹

Institution(s): ¹ JPL/Caltech

303.06 Laboratory Demonstration of High Contrast Imaging in Multi-Star Systems

Author(s): **Ruslan Belikov**², Eduardo Bendek², Eugene Pluzhnik², Dan Sirbu², Sandrine Thomas¹

Institution(s): ¹ LSST, ² NASA Ames Research Center

303.07 Technologies Required to Image Earth 2.0 with a Space Coronagraph

Author(s): **Nicholas Siegler**¹

Institution(s): ¹ *Jet Propulsion Laboratory*

304 Properties of Nearby Galaxies

Friday, 10:00 am - 11:30 am; Grapevine A

Chair: **Caitlin Casey (University of Cambridge)**

304.01 The SAMI Galaxy Survey: Publicly Available Spatially Resolved Emission Line Data Products

Author(s): **Anne Medling**³, Andrew W. Green¹, I-Ting Ho⁴, Brent Groves², Scott Croom⁵

Institution(s): ¹ *Australian Astronomical Observatory*, ² *Australian National University*, ³ *California Institute of Technology*, ⁴ *Max Planck Institute for Astronomy*, ⁵ *University of Sydney*

Contributing team(s): the SAMI Galaxy Survey Team

304.02D The Dragonfly Nearby Galaxies Survey: A Census of the Stellar Halos of Nearby Luminous Galaxies

Author(s): **Allison T. Merritt**¹

Institution(s): ¹ *Yale University*

304.03 The Shocked POststarburst Galaxy Survey

Author(s): **Katherine A. Alatalo**¹

Institution(s): ¹ *Carnegie Observatories*

Contributing team(s): The SPOGS Team

304.04D Resolved Ammonia Thermometry, Water and Methanol Masers from the "Survey of Water and Ammonia in Nearby Galaxies (SWAN)"

Author(s): **Mark Gorski**⁴, Juergen Ott², Richard J. Rand⁴, David S. Meier³, Emmanuel Momjian², Fabian Walter¹, Eva Schinnerer¹

Institution(s): ¹ *Max Planck Institut für Astronomie*, ² *National Radio Astronomy Observatory*, ³ *New Mexico Institute of Mining and Technology*, ⁴ *University of New Mexico*

304.05 Analyzing Extragalactic Magnetic Fields Using Faraday Rotation Measure Synthesis

Author(s): **Dylan Pare**¹, Q. Daniel Wang¹, Patrick Kamienieski¹, Kendall Sullivan¹

Institution(s): ¹ *University of Massachusetts, Amherst*

304.06D A New Perspective on Galaxy Evolution from the Low Density Outskirts of Galaxies

Author(s): **Aaron Emery Watkins**¹

Institution(s): ¹ *Case Western Reserve University*

FRIDAY, 6 JANUARY 2017

305 Galactic Archaeology with Kepler and K2

Friday, 10:00 am - 11:30 am; Grapevine B

The exquisite lightcurves of the Kepler and K2 missions have been an unexpected boon to the field of near-field cosmology. Ages and evolutionary states can now be derived for field red giants, by combining asteroseismology with spectroscopic data. Red giants, far more luminous than the main-sequence turnoff stars usually used, allow us to probe the evolution of the whole Galaxy. Originally these investigations were restricted to a single line of sight of the Kepler field. With the failure of two of the reaction wheels and the start of the K2 program to observe many fields along the ecliptic, we now probe distinctly different Galactic populations, including the inner and outer disks, the bulge-halo interface, and far more of the Galactic halo. In K2, the Galactic Archaeology Program has been awarded the second largest number of targets, with over 50,000 stars targeted to understand the formation of the Milky Way. The data from the Kepler field has already been used to calibrate the largest age map yet made of the Galaxy, and we are just beginning to explore this vast dataset. The ongoing release of Kepler/K2 light curves and the public availability of follow-up spectra for thousands of targets over the last year alone indicates that this is an ideal time to discuss the most recent breakthroughs in the rapidly evolving field of Galactic archeology. In this special session, we will discuss the extensive follow-up work underway to make Galactic archaeology possible, discuss how Kepler/K2 data in stellar clusters reveals the history of stellar activity, and present the pioneering results of Galactic archaeology. These include investigations of the age spread in the Galactic halo, examination of the vertical and radial age gradients in the thick and thin disk, measurement of the timescales for chemical evolution, calibration of age indicators for even larger age maps, and discussion of synergies with Gaia.

Chair: Jennifer Johnson (Ohio State Univ.)

305.01 Overview of Galactic Archaeology with Kepler and K2

Author(s): **Jennifer Johnson**¹

Institution(s): ¹ *Ohio State Univ.*

Contributing team(s): APOKASC Team, APO-K2

305.02 Synergies between spectroscopic and time-series photometric surveys – LAMOST observations for the Kepler field and K2 fields

Author(s): **Jianning Fu**¹, Peter De Cat², Martin Smith³

Institution(s): ¹ *Beijing Normal University*, ² *Royal Observatory of Belgium*, ³ *Shanghai Astronomical Observatory*

305.03 K2 red giant asteroseismology using Bayesian Asteroseismology data Modeling (BAM)

Author(s): **Joel Zinn**¹, Dennis Stello², Marc H. Pinsonneault¹

Institution(s): ¹ *Ohio State University*, ² *University of New South Wales*

305.04 Activity and age from Kepler and K2 observations of field and cluster stars

Author(s): **David R. Soderblom**¹

Institution(s): ¹ *STScI*

305.05 APOKASC 2.0: Asteroseismology and Spectroscopy for Cool Stars

Author(s): **Marc H. Pinsonneault**¹, Yvonne P Elsworth²
Institution(s): ¹ *Ohio State Univ.*, ² *University of Birmingham*
 Contributing team(s): APOKASC

305.07 Disentangling the stellar components of the metal-poor Milky Way

Author(s): **Matthew D. Shetrone**³, Jennifer Johnson², Giuseppina Battaglia¹, Dennis Stello⁴, Joel Zinn², Sanjib Sharma²
Institution(s): ¹ *Instituto de Astrofisica De Canarias*, ² *Ohio State University*, ³ *Univ. of Texas*, ⁴ *University of New South Wales*
 Contributing team(s): APOGEE Team

306 Cosmology II

Friday, 10:00 am - 11:30 am; Grapevine C

Chair: Renee Hlozek (Princeton University)

306.01 The SDSS-IV Extended Baryon Oscillation Spectroscopic Survey: The Clustering of Luminous Red Galaxies Using Photometric Redshifts

Author(s): **Abhishek Prakash**¹
Institution(s): ¹ *University of Pittsburgh*
 Contributing team(s): SDSS-IV/eBOSS

306.02 Strong New Evidence for Oscillation of the Cosmological Scale Factor Observed in the Large Scale Structure

Author(s): **Harry I. Ringermacher**¹, Lawrence R Mead¹
Institution(s): ¹ *U. of Southern Mississippi*

306.04 The Properties of Primordial Stars and Galaxies measured from the 21-cm Global Spectrum using the Dark Ages Radio Explorer (DARE)

Author(s): **Jack O. Burns**⁸, Judd D. Bowman¹, Richard F. Bradley⁵, Anastasia Fialkov³, Steven R. Furlanetto⁷, Dayton L. Jones⁶, Justin Kasper⁹, Abraham Loeb², Jordan Mirocha⁷, Raul A. Monsalve⁸, David Rapetti⁸, Keith Tauscher⁸, Edward Wollack⁴
Institution(s): ¹ *Arizona State University*, ² *Harvard University*, ³ *Harvard-Smithsonian Center for Astrophysics*, ⁴ *NASA GSFC*, ⁵ *NRAO*, ⁶ *Space Science Institute*, ⁷ *UCLA*, ⁸ *Univ. of Colorado at Boulder*, ⁹ *University of Michigan*

306.05 Lyman-alpha radiation hydrodynamics of galactic winds before cosmic reionization

Author(s): **Aaron Smith**², Volker Bromm², Abraham Loeb¹
Institution(s): ¹ *Harvard University*, ² *University of Texas at Austin*

306.06 Cosmological consistency tests of gravity theory and cosmic acceleration

Author(s): **Mustapha B. Ishak-Boushaki**¹
Institution(s): ¹ *Univ. Of Texas at Dallas*

306.07 Cosmology with Independently Varying Neutrino Temperature and Number

Author(s): **Richard Galvez**¹
Institution(s): ¹ *Vanderbilt University*

FRIDAY, 6 JANUARY 2017

307 Merging Galaxies & Gravitational Waves: From Mpc to mpc

Friday, 10:00 am - 11:30 am; Grapevine D

This Special Session will highlight advancements in astrophysics in the low frequency gravitational waveband. Galaxy mergers are key to galaxy assembly and dynamics, as large galaxies in the local Universe are thought to undergo multiple mergers during their development. It is also established that most, if not all, large galaxies in the local Universe host a supermassive black hole (SMBH). During a merger SMBHs sink, through dynamical friction, to the center of the merger product; this simple dynamical evolution model can replicate a variety of galaxy and quasar properties, including the M_{BH} -sigma relation, the quasar luminosity function, and the central brightness of galaxies. The two SMBHs will form a bound *binary* when their separation is of order 10 pc. Further interactions with stars in the central region, and possibly gas interactions, may drive the binary to a point at which gravitational wave emission dominates its dynamics. The nanohertz gravitational waves emitted by a binary SMBH should be detectable by precise timing of radio pulsars. The sensitivity of pulsar timing arrays has now breached the strength of gravitational-wave signals expected from the known population of merging galaxies. The upper limits on nanohertz gravitational waves have a number of implications for galaxy dynamics: (i) masses of SMBH binaries could be systematically over-estimated, such that their gravitational waves are too; (ii) SMBH binaries could "stall," remaining at pc-scale separations and never emit gravitational waves; or (iii) Binaries could evolve rapidly through the nanohertz regime because they couple strongly to the galactic environment. This session will review what is known about the SMBH mass function, black hole-host relations, the galaxy merger process, and the influence of these on the expected gravitational wave signals. We will explore potential resolutions of the emerging mismatch between observed galaxy mergers and their not-yet-detected gravitational waves.

Chair: Joseph Lazio (Jet Propulsion Laboratory)

307.01 AGN Triggering in Kpc-scale Separation Merging Galaxies

Author(s): **Julia M. Comerford**¹

Institution(s): ¹ *University of Colorado, Boulder*

307.02 Gravitational waves from binary supermassive black holes in galactic nuclei

Author(s): **David Merritt**¹

Institution(s): ¹ *Rochester Inst. of Technology*

307.03 Implications of gravitational-wave observations observations for supermassive binary black holes

Author(s): **Xavier Siemens**¹

Institution(s): ¹ *University of Wisconsin -- Milwaukee*

Contributing team(s): NANOGrav Physics Frontiers Center

307.04D Evolution of massive black hole binaries in rotating galactic nuclei: implications for gravitational wave detection

Author(s): **Alexander Rasskazov**¹, David Merritt¹

Institution(s): ¹ *Rochester Institute of Technology*

307.05 Gravitational Wave Multi-Messenger Prospects for Pulsar Timing Arrays

Author(s): **Joseph Simon**¹, Sarah Burke-Spolaor²

Institution(s): ¹ University of Wisconsin Milwaukee, ² West Virginia University

307.06 Nanohertz gravitational wave sources in the local universe

Author(s): **Chiara M. F. Mingarelli**¹, Steve Croft⁵, Justin Ellis², Jenny E. Greene⁴, Joseph Lazio², Chung-Pei Ma⁵, Alberto Sesana⁶, Sarah Burke-Spolaor³, Stephen R Taylor²

Institution(s): ¹ Max Planck Institute for Radio Astronomy, ² NASA Jet Propulsion Laboratory, ³ National Radio Astronomy Observatory, ⁴ Princeton University, ⁵ UC Berkeley, ⁶ University of Birmingham

308 Supernovae

Friday, 10:00 am - 11:30 am; Texas 1

Chair: Peter Garnavich (Univ. of Notre Dame)

308.01 On Variations Of Pre-Supernova Model Properties

Author(s): **Robert Farmer**¹, Carl Fields³, Ilka Petermann¹, Luc Dessart⁴, Matteo Cantiello², Bill Paxton², Francis Timmes¹

Institution(s): ¹ Arizona State University, ² KITP, UC Santa Barbra, ³ Michigan State University, ⁴ Universite C\^ote d'Azur

308.02 The Fate of Exploding Carbon-Oxygen Chandrasekhar-Mass White Dwarfs: The Production of Stable Iron-Peak Elements in the Type Ia Supernova Remnant 3C 397

Author(s): **Robert Fisher**³, Pranav Dave³, Rahul Kashyap³, Francis Timmes¹, Dean Townsley²

Institution(s): ¹ Arizona State University, ² University of Alabama, ³ University of Massachusetts Dartmouth

308.03 The Type Ia Supernova Color-Magnitude Relation and Host Galaxy Dust: A Simple Hierarchical Bayesian Model

Author(s): **Kaisey Mandel**¹, Daniel Scolnic⁴, Hikmatali Shariff², Ryan Foley³, Robert Kirshner¹

Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² Imperial College London, ³ UCSC, ⁴ University of Chicago

308.04 Progressive Red Shifts in the Late-Time Spectra of Type Ia Supernovae

Author(s): **Christine Black**¹, Robert Fesen¹, Jerod Parrent²

Institution(s): ¹ Dartmouth College, ² Harvard CFA

308.05D Simulation of compact circumstellar shells around Type Ia supernovae and the resulting high-velocity features

Author(s): **Brian W. Mulligan**¹, J. Craig Wheeler¹

Institution(s): ¹ University of Texas at Austin

FRIDAY, 6 JANUARY 2017

308.06 Short-Lived Circumstellar Interaction in a Low-Luminosity Type IIP Supernova

Author(s): **Griffin Hosseinzadeh**¹, Stefano Valenti², Iair Arcavi³, Curtis McCully¹, Dale Andrew Howell¹

Institution(s): ¹ Las Cumbres Observatory, ² University of California, Davis, ³ University of California, Santa Barbara

308.07D Time Lapse Spectropolarimetry: Constraining the Nature and Progenitors of Interacting CCSNe

Author(s): **Leah N. Huk**¹

Institution(s): ¹ University of Denver
Contributing team(s): SNSPOL

309 Space Missions: X-ray Instruments

Friday, 10:00 am - 11:30 am; Texas 3

Chair: Philip Kaaret (Univ. of Iowa)

309.01 Status of the Micro-X Sounding Rocket Telescope

Author(s): **David Goldfinger**⁴, Joseph D Adams², Bob Baker², Simon Bandler², Meredith E. Danowski³, Randy Doriese⁵, Megan Eckart², Enectali Figueroa-Feliciano⁶, Sarah N. Heine⁴, Gene Hilton⁵, Antonia Hubbard⁶, Richard L. Kelley², Caroline Kilbourne², Renée Manzagol⁶, Dan McCammon⁷, Takashi Okajima², Frederick Scott Porter², Carl Reintsema⁵, Peter J. Serlemitsos², Stephen J Smith², Patrick Wikus¹

Institution(s): ¹ Bruker BioSpin AG, ² Goddard Space Flight Center, ³ L-3, ⁴ Massachusetts Institute of Technology, ⁵ NIST, ⁶ Northwestern University, ⁷ University of Wisconsin

Contributing team(s): Micro-X Collaboration

309.02 Prospects for Sterile Neutrino Observations with the Micro-X Sounding Rocket

Author(s): **Antonia Hubbard**⁶, Joseph D Adams⁴, Bob Baker⁴, Simon Bandler⁴, Meredith E. Danowski², Randy Doriese⁵, Megan Eckart⁴, Enectali Figueroa-Feliciano⁶, Sarah N. Heine³, Gene Hilton⁵, David Goldfinger³, Richard L. Kelley⁴, Caroline Kilbourne⁴, Renée Manzagol⁶, Dan McCammon⁷, Takashi Okajima⁴, Frederick Scott Porter⁴, Carl Reintsema⁵, Peter J. Serlemitsos⁴, Stephen J Smith⁴, Patrick Wikus¹

Institution(s): ¹ Bruker BioSpin AG, ² L-3, ³ Massachusetts Institute of Technology, ⁴ NASA Goddard Space Flight Center, ⁵ NIST, ⁶ Northwestern University, ⁷ University of Wisconsin

Contributing team(s): Micro-X Collaboration

309.03 NICER ground verification: as-built timing, spectroscopy, and throughout performance of NASA's next X-ray timing astrophysics mission

Author(s): **Keith Gendreau**¹, Zaven Arzumianian¹

Institution(s): ¹ NASA/GSFC

Contributing team(s): NICER Team

309.04 STROBE-X: X-ray Timing & Spectroscopy on Dynamical Timescales from Microseconds to Years

Author(s): **Colleen A. Wilson-Hodge**⁵, Paul S. Ray⁷, Keith Gendreau⁴, Deepto Chakrabarty³, Marco Feroci², Tom Maccarone⁹, Zaven Arzoumanian¹, Ronald A. Remillard³, Kent Wood⁸, Christopher Griffith⁶

Institution(s): ¹. CRESST/GSFC, ². INAF-IASF/INFN, ³. MIT, ⁴. NASA's GSFC, ⁵. NASA's MSFC, ⁶. NRC/NRL, ⁷. NRL, ⁸. Praxis/NRL, ⁹. Texas Tech

Contributing team(s): STROBE-X Collaboration

309.05 Diffraction efficiency of a replicated, flight-like off-plane reflection grating baselined for future X-ray missions

Author(s): **Drew Miles**², Randall McEntaffer², Jake McCoy², James Tutt², Casey DeRoo¹

Institution(s): ¹. Harvard-Smithsonian Center for Astrophysics, ². Penn State University

310 Planets & Planetesimals in Circumstellar Disks

Friday, 10:00 am - 11:30 am; Texas 4

Chair: **Ilaria Pascucci (LPL/University of Arizona)**

310.01 Using Disk Eclipsing Systems to Understand Planet Formation and Evolution

Author(s): **Joseph E. Rodriguez**², Hugh P. Osborn³, Benjamin John Shappee¹

Institution(s): ¹. Carnegie Observatories, ². Harvard-Smithsonian Center for Astrophysics, ³. Warwick University

Contributing team(s): KELT Collaboration

310.02D Studying the inner regions of young stars and their disks with aperture masking interferometry

Author(s): **Alexandra Greenbaum**², Anand Sivaramakrishnan¹

Institution(s): ¹. Space Telescope Science Institute, ². University of Michigan

Contributing team(s): GPI Instrument Team, NIRISS Instrument Team

310.03 The First 40 Million Years of Circumstellar Disk Evolution: The Signature of Terrestrial Planet Formation

Author(s): **Huan Meng**¹, George Rieke¹, Kate Y.L. Su¹, Andras Gaspar¹

Institution(s): ¹. University of Arizona

310.04D Illuminating the Role of Spiral Waves in Circumstellar Disks

Author(s): **Jaehan Bae**¹, Lee W. Hartmann¹

Institution(s): ¹. University of Michigan

310.06 The highly varying circumstellar debris disk of HD 183324

Author(s): **Barry Welsh**², Sharon Lynn Montgomery¹

Institution(s): ¹. Clarion University, ². UC, Berkeley

310.07 Spectroscopic Evolution of Disintegrating Planetesimals: Minutes to Months Variability in the Circumstellar Gas Associated with WD 1145+017

Author(s): **Seth Redfield**⁴, Jay Farihi¹, Paul W. Cauley⁴, Steven Parsons², Boris T. Gaensicke³, Girish Manideep Duvvuri⁴

Institution(s): ¹. University College London, ². University of Sheffield, ³. University of Warwick, ⁴. Wesleyan University

FRIDAY, 6 JANUARY 2017

311 Molecular Clouds, HII Regions, PDRs

Friday, 10:00 am - 11:30 am; Grapevine 1

Chair: Laura Fissel (National Radio Astronomy Observatory)

311.01 Measurements of Molecular Cloud Ages using the HI/ H₂ Ratio

Author(s): Marko Krco¹, Di Li¹

Institution(s): ¹ National Astronomical Observatories of China

311.02D Physical properties of CO-dark molecular gas with C+ and OH observations

Author(s): Ningyu Tang², Di Li², Carl E. Heiles¹

Institution(s): ¹ Department of Astronomy, University of California, Berkeley,

² National Astronomical Observatories, Chinese Academy of Sciences

Contributing team(s): ISM group in National Astronomical Observatories, CAS

311.03 Spectral Classification of Heavily Reddened Stars by CO Absorption Strength

Author(s): Christopher Garling², Jeffrey S. Bary¹, Tracy L. Huard³

Institution(s): ¹ Colgate University, ² Haverford College, ³ University of Maryland

311.04D Quantifying the Multiphase Galactic Outflows Driven by Supernovae

Author(s): Miao Li¹, Greg Bryan¹, Jeremiah P. Ostriker¹

Institution(s): ¹ Columbia University

311.05 Striae and MHD Waves in Molecular Clouds

Author(s): Paul Goldsmith², Mark H. Heyer³, Umut Yildiz², Ronald L. Snell³, Edith Falgarone¹, Jorge L. Pineda²

Institution(s): ¹ ENS, ² JPL, ³ University of Massachusetts

311.06D Probing the conditions within Photo-dissociation Regions with high resolution near-infrared spectroscopy of UV-excited molecular hydrogen

Author(s): Kyle Kaplan¹, Harriet L. Dinerstein¹, Daniel Thomas Jaffe¹

Institution(s): ¹ The University of Texas at Austin

312 Perspectives in Research Software: Education, Funding, Reproducibility, Citation, & Impact

Friday, 10:00 am - 11:30 am; Grapevine 2

Software is of vital importance to scientific research. Indeed, a recent informal survey found that all astronomers use software in their research(1). All disciplines, including astronomy, struggle with funding for developing and maintaining software, and with methods for sustaining, sharing, discovering, and citing software. Further, scientists are often not taught how to program well, efficiently, and in a sustainable manner, and software-related activities are frequently not rewarded in academic and research institutions. Given the importance of software to research, improving all aspects of research codes will result in even better science. This session, organized by the Astrophysics Source Code Library (ASCL) and the Moore-Sloan Data Science Environment (DSE) at NYU, builds on previous AAS special sessions and brings together experts from other fields and within astronomy. They will present information on activities and

projects that are addressing some of the challenges the astronomy community and the scientists who write software face and will share lessons learned in other disciplines that have direct applicability to astronomy. After the presentations, the floor will be open for discussion and questions. (1)<https://www.authorea.com/users/10533/articles/18046>

Chair: G. Berriman (Caltech)

312.01 Software not as a service

Author(s): **Tracy Teal**¹

Institution(s): ¹ *Data Carpentry*

312.02 Funding Research Software Development

Author(s): **Ivelina G. Momcheva**¹

Institution(s): ¹ *Space Telescope Science Institute*

312.03 Reproducibility and reusability of scientific software

Author(s): **Lior Shamir**¹

Institution(s): ¹ *Lawrence Technological University*

312.04 Finding the right wheel when you don't want to reinvent it

Author(s): **Michael Hucka**¹

Institution(s): ¹ *California Institute of Technology*

312.05 Update on research software citation efforts

Author(s): **Alice Allen**¹

Institution(s): ¹ *Astrophysics Source Code Library*

312.06 Capturing the impact of software

Author(s): **Heather Piwowar**¹

Institution(s): ¹ *Impactstory*

312.07 The relationships between software publications and software systems

Author(s): **David W. Hogg**¹

Institution(s): ¹ *New York University*

313 Exploring the Optical Time Domain with the Intermediate Palomar Transient Factory

Friday, 10:00 am - 11:30 am; Fort Worth 6

The Intermediate Palomar Transient Factory (iPTF) has conducted a range of time-domain surveys since 2013, including high-cadence searches for fast transients, targeted followup of Fermi gamma-ray bursts and Advanced LIGO triggers, and an extensive variability survey of the Northern Galactic Plane. As the survey concludes, we review the scientific returns from these surveys as well as implications for next-generation surveys such as the Zwicky Transient Facility and LSST. Finally, we provide an overview of the public data products being released.

Chair: Stephen Cenko (University of California, Berkeley)

313.01 An Overview of the The Intermediate Palomar Transient Factory Surveys

Author(s): **Eric Christopher Bellm**¹, Shrinivas R. Kulkarni¹

Institution(s): ¹ *Caltech*

Contributing team(s): The Intermediate Palomar Transient Factory Collaboration

FRIDAY, 6 JANUARY 2017

313.02 Early rise of Type Ia supernovae in the iPTF sample

Author(s): Yi Cao³, Shrinivas R. Kulkarni¹, Peter E. Nugent²

Institution(s): ¹ Caltech, ² Lawrence Berkeley National Lab, ³ University of Washington

Contributing team(s): the intermediate Palomar Transient Factory collaboration

313.03 Exploding massive stars in real time: highlights from iPTF studies of core-collapse supernovae

Author(s): Avishay Gal-Yam¹

Institution(s): ¹ Weizmann Institute of Science

313.04 Superluminous Supernovae and Other Transients from iPTF

Author(s): Ragnhild Lunnan¹, Robert Quimby⁴, Lin Yan¹, Annalisa De Cia³, Avishay Gal-Yam⁵, Paul Vreeswijk⁵, Giorgos Leloudas⁵, Daniel A. Perley²

Institution(s): ¹ California Institute of Technology, ² Dark Cosmology Center, ³ ESO, ⁴ SDSU, ⁵ Weizmann Institute of Science

Contributing team(s): Intermediate Palomar Transient Factory

313.05 Leo Singer

313.06 The iPTF variability data and the iPTF Galactic Plane survey

Author(s): Thomas Kupfer¹, Eric Christopher Bellm¹, Thomas A Prince¹, Shrinivas R. Kulkarni¹, Frank J. Masci², Russ Laher², David L. Shupe²

Institution(s): ¹ Caltech, ² IPAC/Caltech

Contributing team(s): intermediate Palomar Transient Factory Collaboration

313.07 Exploring Near to Home: Solar System Science with the Palomar Transient Factory

Author(s): Thomas Allen Prince¹

Institution(s): ¹ Caltech/JPL

Contributing team(s): Palomar Transient Factory, Intermediate Palomar Transient Factory

314 Graduate, Majors, & Gen. Ed. Astronomy Education: Research, Practice, & Funding Opportunities!

Friday, 10:00 am - 11:30 am; Dallas 6

Chair: Kristine Larsen (Central Connecticut State University)

314.01 The AstroPAL Starter Pack: How to Create a Grad Mentoring Program That Fosters Equity and Inclusion in Your Department

Author(s): Nicole Cabrera¹

Institution(s): ¹ Georgia State University

314.02 ZTF Undergraduate Astronomy Institute at Caltech and Pomona College

Author(s): Bryan Edward Penprase², Eric Christopher Bellm¹

Institution(s): ¹ California Institute of Technology, ² Yale-NUS College

314.03 Harvard Observing Project (HOP): Involving Undergraduates in Research Projects

Author(s): **Allyson Bieryla**¹

Institution(s): ¹ *Harvard Univ.*

314.04 A Bridge to the Stars: A Model High School-to-College Pipeline to Improve Diversity in STEM

Author(s): **Daniel H. McIntosh**¹, Derrick H Jennings¹

Institution(s): ¹ *University of Missouri-Kansas City*

314.05 Unpacking Exoplanet Detection Using Pedagogical Discipline Representations (PDRs)

Author(s): **Edward E. Prather**², Timothy G. Chambers³, Colin Scott Wallace¹, Gina Brissenden²

Institution(s): ¹ *UNC Chapel Hill*, ² *University of Arizona*, ³ *University of Michigan*

314.06 Mobile Learning of Astronomy Through Apple's iTunes U

Author(s): **Robert M. Wagner**¹

Institution(s): ¹ *Harrisburg Area Community College*

314.07 Analysis of the NSF IUSE Physics & Astronomy Education Portfolio

Author(s): **Kevin M. Lee**¹

Institution(s): ¹ *National Science Foundation*

315 Plenary Session: Newton Lacy Pierce Prize: The Chemistry of Planet Formation, Karen Öberg (Harvard-Smithsonian, CfA)

Friday, 11:40 am - 12:30 pm; Texas A

Chair: Christine Jones (Harvard-Smithsonian, CfA)



315.01 The Chemistry of Planet Formation

Author(s): **Karin I. Öberg**¹

Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*

Citation: For her research on the astrochemistry and astrophysics of ices and molecules in star-forming regions and protoplanetary disks.

Öberg's scientific leadership and her comparison of observations and simulations have led to new understanding of the chemical processes taking place in planet-forming circumstellar disks and fundamental advances in the field of star and planet formation.

NASA COPAG-Far-Infrared SIG Meeting

Friday, 12:30 pm - 3:30 pm; San Antonio 1

Science Interest Group for Far-Infrared Science and Technology

Organizer(s): **Susan Neff (NASA's GSFC)**

FRIDAY, 6 JANUARY 2017

316 Astro2020: The Next Decadal Survey of Astronomy and Astrophysics

Friday, 12:45 pm - 1:45 pm; Grapevine C

The decadal survey is the process through which the broad astronomy and astrophysics community forms recommendations to the agencies supporting its research for the next decade. The most recent survey and the resulting report, “New Worlds, New Horizons in Astronomy and Astrophysics,” completed in August 2010, recommended a suite of new activities that NASA, NSF, and DOE are working to implement. In addition, the 2015 report, “The Space Science Decadal Surveys: Lessons Learned and Best Practices”, and the 2016 mid-decadal survey report, both provide important input as the National Academy of Sciences, Engineering, and Medicine (the Academies) and its Committee on Astronomy and Astrophysics (CAA) begin to plan for the next decadal survey, Astro2020. Community involvement throughout the process is essential to the success of a survey. We therefore seek the community’s engagement in a Town Hall during the 229th Meeting of the American Astronomical Society. At this Town Hall, the co-chairs of the CAA will briefly describe the planning process and expected schedule for Astro2020. They will then facilitate a community discussion on key matters facing the next survey, including technical and programmatic scope and boundaries, inputs (including white papers), timing and structure, the cost and technical evaluation (CATE) process, the international context, and the state of the profession. Marcia Rieke, University of Arizona, and Steven Ritz, University of California, Santa Cruz, CAA Co-Chairs, will chair the session. Other CAA members will be present.

Organizer(s): Michael Moloney (National Research Council)

317 NOAO Town Hall: NOAO Forward

Friday, 12:45 pm - 1:45 pm; Texas C

The National Optical Astronomy Observatory (NOAO) is deploying a new suite of research capabilities for the community-at-large in partnership with NSF, DOE, NASA, and various major science collaborations. Instrumentation capabilities available now include the ultra-wide field optical imager DECam as well as new optical and infrared medium-resolution spectrometers. Coming in the near future are DESI ultra-wide-field, 5000-fiber optical spectrometer and the Extreme Precision Doppler Spectrometer (EPDS). Wide-field optical surveys are delivering major new data products to the Science Archive for community use now. In support of those new data products, NOAO is developing catalog exploration, exploitation, and visualization tools within the Data Lab project. NOAO remains active as the US gateway to Gemini and its recently improved instrument suite. Meanwhile, NOAO is laying the groundwork for supporting LSST-related research in the 2020s, especially in the time-domain. Join us for a presentation by the NOAO Director as well as ample opportunity for discussion.

Chair: David Silva (National Optical Astronomy Observatory)

NOAO Mini-Workshop: Mining Observatory Archives

Friday, 2:00 pm - 3:30 pm; San Antonio 4

Publication statistics from major public observatories show that less than half of all programs scheduled on telescopes result in a publication. Statistics collected at Gemini show this to be independent of instrument, mode of observation, and whether or not raw or pipeline reduced data were delivered. Even the percentage completed does not have a strong impact for programs that are over 50 percent complete. The average time between observation and publication is two years with the number publications after two years declining roughly exponentially. With astronomy transitioning from largely PI driven observations to increasing dependence on survey data, the discovery and use of archival data is becoming important. We will discuss both observatory metrics and tools for mining archived data. Staff from NOAO, Gemini, and the two largest public archives, MAST and IPAC, will give presentations. The NOAO Data Lab, which includes tools well suited to mining both survey and archival data, will be discussed.

Organizer(s): Kenneth Hinkle (NOAO)

Starshade Development for Direct Imaging of Exoplanets

Friday, 2:00 pm - 3:30 pm; Appaloosa 1

Flying between a space telescope and its target star, a starshade can suppress starlight to levels needed for direct imaging of habitable exoplanets. If developed in time to rendezvous with WFIRST, a starshade would enable the habitable zones of ~30 nearby stars to be searched for Earth-like planets. To prepare a starshade rendezvous option for the 2020 Decadal Survey's consideration, the NASA Exoplanet Exploration Program (ExEP) has organized two community working groups. This splinter session will present the technology development and validation strategy for 2017-2019 that was recommended by the 50-member StarShade readiness Working Group (SSWG), and plans for ExEP's new Starshade Technology Project (STP) which is charged to carry out those recommendations in collaboration with the national community.

- 2:00 PM Introduction to NASA Starshade Development Activities
(Gary Blackwood, JPL)
- 2:10 PM Starshade-enabled Exoplanet Science for the 20s and 30s
(Margaret Turnbull, SETI Institute)
- 2:30 PM The Engineering Strategy to Demonstrate Technical Readiness
(Charley Noecker and Gary Blackwood, JPL)
- 3:00 PM Next Steps in Starshade Technology Development
(John Ziemer, JPL)
- 3:20 PM Accommodation of Starshade Readiness on WFIRST
(Dominic Benford, NASA HQ)
- 3:30 PM end

Organizer(s): Karl Stapelfeldt (NASA Goddard Space Flight Center)

FRIDAY, 6 JANUARY 2017

318 Extrasolar Planets: Characterization & Theory V

Friday, 2:00 pm - 3:30 pm; Texas A

Chair: Sarah Ballard (University of Washington)

318.01D Observational constraints on planet formation and migration timescales

Author(s): Trevor J. David¹

Institution(s): ¹ California Institute of Technology

318.02 Forming Gaps in Debris Disks with Migrating Planets

Author(s): Sarah J. Morrison¹, Kaitlin M. Kratter¹

Institution(s): ¹ Univ. of Arizona

318.03D Messages from the Reversing Layer: Clues to Planet Formation in Spectral Abundances

Author(s): John Michael Brewer¹, Debra Fischer¹, Sarbani Basu¹

Institution(s): ¹ Yale University

318.04 The Formation of Close-in Exoplanets

Author(s): Jacob B. Simon¹

Institution(s): ¹ University of Colorado

318.05 Is Collisional Fragmentation a Barrier to the Formation of Short-Period Planets?

Author(s): Joshua Wallace³, Scott D. Tremaine², John E. Chambers¹

Institution(s): ¹ Carnegie Inst. of Washington, ² Institute for Advanced Study, ³ Princeton University

318.07 The World is Spinning: Constraining the Origin of Supermassive Gas Giant Planets at Wide Separations Using Planetary Spin

Author(s): Marta Bryan¹, Heather Knutson¹, Konstantin Batygin¹, Björn

Benneke¹, Brendan Bowler²

Institution(s): ¹ Caltech, ² UT Austin

319 AGN, QSO, Blazars: Hosts & Interactions

Friday, 2:00 pm - 3:30 pm; Texas C

Chair: Herman Marshall (MIT)

319.01 Improving Calibration of the MBH- σ^* Relation for AGN with the BRAVE Program

Author(s): Merida Batiste², Misty C. Bentz², Emily Manne-Nicholas², Sandra I. Raimundo³, Christopher A. Onken¹, Marianne Vestergaard³, Matthew A. Bershady⁴

Institution(s): ¹ Australian National University, ² Georgia State University, ³ Niels Bohr Institute, ⁴ University of Wisconsin

319.02D AGN multi-wavelength identification and host galaxy properties

Author(s): Mojegan Azadi¹, Alison L. Coil¹

Institution(s): ¹ University of California, San Diego

Contributing team(s): The MOSDEF team, The PRIMUS team

319.03D Investigating the host galaxies of luminous AGN in the local universe with integral field spectroscopy

Author(s): **Rebecca McElroy**², Scott Croom², Bernd Husemann¹

Institution(s): ¹ Max Planck Institute for Astronomy, ² University of Sydney

Contributing team(s): The Close AGN Reference Survey, The SAMI Galaxy Survey

319.04D Characterizing the population of active galactic nuclei in dwarf galaxies

Author(s): **Vivienne F Baldassare**³, Amy E. Reines¹, Elena Gallo³, Jenny E. Greene²

Institution(s): ¹ NOAO, ² Princeton University, ³ University of Michigan

319.05 Galaxy Interactions and AGN-triggering to $z \sim 1$: an unprecedented new view from the Hyper Suprime-Cam Survey

Author(s): **Andy D. Goulding**¹, Jenny E. Greene¹, Rachel Bezanson¹, Johnny Greco¹, Sean Johnson¹, Elinor Medezinski¹, Michael A. Strauss¹

Institution(s): ¹ Princeton University

Contributing team(s): The HSC Collaboration

319.06 Serendipitous Discovery of a Radio Transient in the Luminous Radio Galaxy Cygnus A

Author(s): **Richard A. Perley**², Daniel A. Perley¹, Chris Luke Carilli², Vivek Dhawan²

Institution(s): ¹ Dark Cosmology Centre, ² NRAO

320 Extrasolar Planets Detection: Radial Velocity I

Friday, 2:00 pm - 3:30 pm; Texas D

Chair: **Debra Fischer** (Yale University)

320.01 Upgrades to MINERVA control software

Author(s): **Maurice Wilson**¹, Jason D Eastman¹

Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics

320.02 Spectroscopic commissioning results from MINERVA

Author(s): **Jason D Eastman**², Samson Johnson⁵, Sharon Wang¹, David Sliski⁸, Maurice Wilson², John A. Johnson², Nate McCrady⁶, Robert A. Wittenmyer⁷, Jason Wright⁴, Peter Plavchan³, Cullen Blake⁸, Thomas G. Beatty⁴

Institution(s): ¹ Department of Terrestrial Magnetism Carnegie Institution of Washington, ² Harvard-Smithsonian Center for Astrophysics, ³ Missouri State University, ⁴ Pennsylvania State University, ⁵ The Ohio State University, ⁶ University of Montana, ⁷ University of New South Wales, ⁸ University of Pennsylvania

320.03D The Promise of Many Worlds: Detection and Characterization of Exoplanets with Extreme Precision Spectroscopy

Author(s): **Arpita Roy**¹

Institution(s): ¹ The Pennsylvania State University

FRIDAY, 6 JANUARY 2017

320.04 Discovery of Two Jovian Planet Candidates Around AU Mic

Author(s): **Peter Plavchan**⁹, Peter Gao¹⁰, Jonathan Gagne¹, Angelle M. Tanner⁸, Elise Furlan⁵, Carolyn Brinkworth¹², Kaspar von Braun⁷, David R. Ciardi⁵, Stephen R. Kane¹¹, Russel White³, John A. Johnson⁴, Ryan Hall⁹, Frank Giddens⁹, Perri Zilberman⁶, Joe Huber⁹, America Nishimoto⁹, Andrew Cancino⁹, Denise Weigand², Christopher Klenke⁹

Institution(s): ^{1.} Carnegie DTM, ^{2.} Central Methodist U, ^{3.} Georgia State University, ^{4.} Harvard, ^{5.} IPAC, Caltech, ^{6.} JFK High School, ^{7.} Lowell Observatory, ^{8.} Mississippi State University, ^{9.} Missouri State University, ^{10.} NASA Ames, ^{11.} San Francisco State University, ^{12.} UCAR

320.05 Update from the ongoing precision radial velocity campaign to characterize the HD 3167 system

Author(s): **Jessie Christiansen**¹

Institution(s): ^{1.} NASA Exoplanet Science Institute/Caltech

Contributing team(s): team members from the CHAI collaboration, Harvard-Smithsonian Center for Astrophysics, Carnegie Institute of Washington, and University of California Santa Cruz

320.06D Hide and Seek: Radial-velocity searches for planets around active stars

Author(s): **Raphaelle Haywood**¹

Institution(s): ^{1.} Harvard College Observatory

320.07 The Anglo-Australian Planet Search Legacy

Author(s): **Robert A. Wittenmyer**³, Christopher G. Tinney⁴, Paul Butler¹, Jonathan Horner³, Brad Carter³, Duncan Wright⁴, H.R.A. Jones²

Institution(s): ^{1.} Carnegie Institution of Washington, ^{2.} University of Hertfordshire, ^{3.} University of Southern Queensland, ^{4.} UNSW Australia

321 Galaxy Formation & Evolution

Friday, 2:00 pm - 3:30 pm; Grapevine A

Chair: Ivelina Momcheva (Carnegie Observatories)

321.01 Quantifying the Effects of Gas-Rich Flyby Encounters on Galaxy Evolution

Author(s): **Julie Dumas**², Kelly Holley-Bockelmann², Meagan Lang¹

Institution(s): ^{1.} University of Illinois at Urbana-Champaign, ^{2.} Vanderbilt University

321.02D Evolving Galaxies in a Hierarchical Universe

Author(s): **Changhoon Hahn**¹

Institution(s): ^{1.} New York University

321.03 The Spatial Distribution and Kinematics of the Circumgalactic Medium

Author(s): **Christopher W. Churchill**¹, Nikole M. Nielsen³, Glenn Kacprzak³, Jane C. Charlton², Sowgat Muzahid²

Institution(s): ^{1.} New Mexico State Univ., ^{2.} Penn State, ^{3.} Swinburne University of Technology

321.04D First Detection of a Cluster-scale Gradient in the ISM metallicity of the Star-forming Galaxies

Author(s): **Anshu Gupta**¹, Tiantian Yuan¹, Kim-Vy Tran², Davide Martizzi³, Philip Taylor¹, Lisa J. Kewley¹

Institution(s): ¹ Australian National University, ² Texas A&M University, ³ University of California

321.05D Observations and Models of Galaxy Assembly Bias

Author(s): **Duncan A. Campbell**¹

Institution(s): ¹ Yale University

322 Beyond the Academy: Panel Discussion on Entering Non-Academic Careers

Friday, 2:00 pm - 3:30 pm; Grapevine B

More of our astronomy colleagues are choosing meaningful careers in industry, and yet very little information trickles back into academia about what those careers are like, what skills transferred from astronomy training, or even how to make the career transition. The lack of solid information and mentoring can make any career path beyond the academy seem daunting. We propose to fill this information gap in a continuation of the Employment Committee's professional development workshops and seminars at the annual winter meeting of the American Astronomical Society (AAS). In partnership with the American Institute of Physics (AIP), the 2017 meeting will feature a panel discussion on careers beyond academia. Invited speakers from the professional, entrepreneurial, and government sectors will be joined by recruiters and other astronomers from a wide spectrum of fields for an engaging panel discussion on how to start a career outside academia. Topics will cover advice on: marketing your existing skills for a position outside academia, what highly-sought skills will increase your competitiveness, how the job-hunting process works, what to expect in the interview process, and what the initial transition is really like. We will have the panel introduce themselves for 30 minutes, followed by questions from the audience for 30 minutes. The final 30 minutes will allow the audience to network with individual panelists in small groups.

Chair: Kelly Holley-Bockelmann (Vanderbilt University)

323 Cosmic Microwave Background

Friday, 2:00 pm - 3:30 pm; Grapevine C

Chair: Brian Nord (University of Michigan)

323.01 The Atacama Cosmology Telescope: Two-season spectrum and parameters

Author(s): **Renée Hlozek**¹, Thibaut Louis², Emily Grace⁵, Matthew Hasselfield⁴, Marius Lungu⁶, Loic Maurin³

Institution(s): ¹ Dunlap Institute for Astronomy and Astrophysics, ² Institut d'Astrophysique de Paris, ³ Instituto de Astrofísica P. Universidad Católica de Chile, ⁴ Penn State, ⁵ Princeton University, ⁶ University of Pennsylvania
Contributing team(s): Atacama Cosmology Telescope

FRIDAY, 6 JANUARY 2017

323.02D Multifrequency Beam Characterization and Systematics for the Keck Array, BICEP3, and Future CMB Polarization Experiments

Author(s): **Kirit Karkare**¹

Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*

Contributing team(s): BICEP/Keck Array Collaboration

323.03D The Cosmology Large Angular Scale Surveyor

Author(s): **Aamir Ali**², John W Appel², Charles L. Bennett², Fletcher Boone⁸, Michael Brewer², Manwei Chan², David T. Chuss⁹, Felipe Colazo³, Sumit Dahal², Kevin Denis³, Rolando Dünner⁵, Joseph Eimer², Thomas Essinger-Hileman², Pedro Fluxa⁵, Mark Halpern⁷, Gene Hilton⁴, Gary F. Hinshaw⁷, Johannes Hubmayr⁴, Jeffrey Iuliano², John Karakla², Tobias Marriage², Jeff McMahon⁸, Nathan Miller³, Samuel H Moseley³, Gonzalo Palma⁶, Lucas Parker², Matthew Petroff², Bastián Pradenas⁶, Karwan Rostem³, Marco Sglioocca⁹, Deniz Valle², Duncan Watts², Edward Wollack³, Zhilei Xu², Lingzhen Zeng¹

Institution(s): ¹ *Harvard Smithsonian Center for Astrophysics*, ² *Johns Hopkins University*, ³ *NASA Goddard Space Flight Center*, ⁴ *National Institutes of Science and Technology*, ⁵ *Pontificia Universidad Católica de Chile*, ⁶ *Universidad de Chile*, ⁷ *University of British Columbia*, ⁸ *University of Michigan*, ⁹ *Villanova University*

323.04 Testing the ultra-light axion hypothesis with CMB-SIV

Author(s): **Daniel Grin**¹, Renee Hlozek³, David Marsh²

Institution(s): ¹ *Haverford College*, ² *Kings College London*, ³ *University of Toronto*

323.05 Cosmic Microwave Background Small-Scale Structure: I. Observations of the Foreground Emission

Author(s): **Joan T. Schmelz**¹, Gerrit L. Verschuur¹

Institution(s): ¹ *Arecibo Observatory*

323.06 Cosmic Microwave Background Small-Scale Structure: II. Model of the Foreground Emission

Author(s): **Gerrit L. Verschuur**¹, Joan T. Schmelz¹

Institution(s): ¹ *Arecibo Observatory*

324 Surveys & Data - Radio and High Energy

Friday, 2:00 pm - 3:30 pm; Grapevine D

Chair: **Mansi Kasliwal (Caltech)**

324.01 MALATANG: MApping the dense molecular gAs in the sTrongest stAr-formiNg Galaxies

Author(s): **Yu Gao**¹

Institution(s): ¹ *Purple Mountain Observatory*

Contributing team(s): Zhiyu Zhang, Thomas Greve, and MALATANG team

324.02 First imaging results from Apertif, a phased-array feed for WSRT

Author(s): **Elizabeth A. Adams**¹, Björn Adebahr¹, Willem J.G. de Blok¹, Kelley M Hess³, Boudewijn Hut¹, Danielle M. Lucero³, Filippo Maccagni³, Raffaella Morganti¹, Tom Oosterloo¹, Lister Staveley-Smith², Thijs van der Hulst³, Marc Verheijen³, Joris Verstappen³

Institution(s): ¹ *ASTRON*, ² *ICRAR*, ³ *Kapteyn Astronomical Institute*

324.03 The VLA Sky Survey - science goals and some early results from the pilot survey

Author(s): **Mark Lacy**¹, Claire J. Chandler¹, Amy E. Kimball¹, Steven T. Myers¹, Frank Schinzel¹

Institution(s): ¹ *NRAO*

Contributing team(s): VLASS Survey Science Group

324.04 The VLA Sky Survey (VLASS): Technical Implementation and Pilot Survey Results

Author(s): **Steven T. Myers**³, Stefi Baum⁵, Claire J. Chandler³, Shami Chatterjee¹, Amy E. Kimball³, Mark Lacy², Casey J. Law⁴, Frank Schinzel³, Demian Arancibia³, R. Hiriart³, Drew Medlin³

Institution(s): ¹ *Cornell University*, ² *NRAO*, ³ *NRAO*, ⁴ *University of California*, ⁵ *University of Manitoba*

Contributing team(s): for the VLA Sky Survey Team, and the Survey Science Group

324.05 An Enhanced Multiwavelength Photometric Catalog for the Spitzer Extragalactic Representative Volume Survey

Author(s): **Kristina Nyland**¹

Institution(s): ¹ *NRAO*

324.06 The SAGE-Spec Spitzer Legacy program: Identification of Spitzer-IRS staring mode targets in the Large Magellanic Cloud

Author(s): **Olivia Jones**¹

Institution(s): ¹ *STScI*

Contributing team(s): Sage-Spec team

325 The Sun

Friday, 2:00 pm - 3:30 pm; Texas 3

Chair: **Alicia Aarnio (University of Michigan)**

325.01 Why Theory Fails to Reproduce the Observed Variation of Acoustic Cutoff in the Solar Atmosphere?

Author(s): **Zdzislaw E. Musielak**², Krzysztof Murawski¹

Institution(s): ¹ *Uni. Maria Curie-Skłodowska*, ² *Univ. of Texas, Arlington*

325.02 The solar corona through the sunspot cycle: preparing for the August 21, 2017, total solar eclipse

Author(s): **Jay M. Pasachoff**³, Daniel Seaton², Vojtech Rusin¹

Institution(s): ¹ *Astronomical Inst., Slovak Academy of Sciences*, ² *CIRES, U. Colorado*, ³ *Williams College*

FRIDAY, 6 JANUARY 2017

325.03 A Hierarchical Relationship between CME Properties and the Fluence Spectral Index of Large Solar Energetic Particle Events

Author(s): **N. Gopalswamy**¹, Seiji Yashiro², Neeharika Thakur², Pertti Makela², Hong Xie², Sachiko Akiyama²

Institution(s): ¹ NASA GSFC, ² The Catholic University of America

325.04D White-Light and Radioastronomical Remote-Sensing of Coronal Mass Ejections

Author(s): **Jason E. Kooi**¹, Steven R. Spangler²

Institution(s): ¹ U.S. Naval Research Laboratory, ² University of Iowa

326 Binary & X-ray Stellar Systems

Friday, 2:00 pm - 3:30 pm; Texas 4

Chair: Lynn Cominsky (Sonoma State Univ.)

326.01 Flow Patterns in Simulated Contact Binaries

Author(s): **Patrick M. Motl**¹, Kundan Kadam², Juhan Frank², Geoffrey C. Clayton²

Institution(s): ¹ Indiana University Kokomo, ² Louisiana State University

326.02D A Chandra X-ray census of the interacting binaries in old open clusters - NGC 188

Author(s): **Smriti Vats**¹, Maureen Van Den Berg¹

Institution(s): ¹ Anton Pannekoek Institute for Astronomy, University of Amsterdam

326.03 Low-mass X-ray binaries in the outer halo of NGC 4472: a consequence of natal kicks?

Author(s): **Lennart M Van Haften**⁴, Thomas J. Maccarone⁴, Paul Sell⁵, Chris Mihos¹, David J. Sand⁴, Arunav Kundu², Stephen Zepf³

Institution(s): ¹ Case Western Reserve University, ² Eureka Scientific, ³ Michigan State University, ⁴ Texas Tech University, ⁵ University of Crete

326.04 Tracing X-ray Binary Population Evolution By Galaxy Dissection: First Results from M51

Author(s): **Bret Lehmer**⁶, Rafael T. Eufrazio⁶, Larissa Markwardt⁶, Andreas Zezas¹, Antara Basu-Zych⁴, Tassos Fragos², Ann E. Hornschemeier⁴, Vassiliki Kalogera⁵, Andrew Ptak⁴, Panayiotis Tzanavaris⁴, Mihoko Yukita³

Institution(s): ¹ Crete, ² Geneva Observatory, ³ Johns Hopkins University, ⁴ NASA GSFC, ⁵ Northwestern, ⁶ Univ of Arkansas

326.05 The evolution of triple-star systems

Author(s): **Silvia Toonen**¹, Adrian Hamers², Simon Portegies Zwart³

Institution(s): ¹ Anton Pannekoek Institute, ² Institute for Advanced Study, ³ Leiden University

326.06 Close encounters of Proxima and alpha Centauri as a consequence of the galactic environment

Author(s): **Russell Deitrick**², Thomas R. Quinn², Rory Barnes², Nathan A. Kaib¹

Institution(s): ¹ University of Oklahoma, ² University of Washington

326.07 N-body Simulation of Binary Star Mass Transfer

Author(s): **Taylor Hutyra**¹, William Sumpter¹
 Institution(s): ¹ *Tarleton State University*

326.08 Hunting the Huntsmen: Compact Pulsar Binaries with Giant Companions

Author(s): **Samuel Swihart**², Jay Strader², Laura Chomiuk², David J. Sand⁴, Chi C. Cheung³, Tyrel J. Johnson¹
 Institution(s): ¹ *George Mason University*, ² *Michigan State University*, ³ *NRL*,
⁴ *Texas Tech University*

327 ALMA Observations of Circumstellar Disks

Friday, 2:00 pm - 3:30 pm; Grapevine 1

Chair: **Gaspard Duchene** (University of California Berkeley)

327.01 The End of Protoplanetary Disk Evolution: An ALMA Survey of Upper Scorpius

Author(s): **Scott A. Barenfeld**¹, John M. Carpenter³, Anneila I. Sargent¹, Luca Ricci², Andrea Isella⁴
 Institution(s): ¹ *California Institute of Technology*, ² *Harvard-Smithsonian Center for Astrophysics*, ³ *Joint ALMA Observatory*, ⁴ *Rice University*

327.02 A Steeper than Linear Disk Mass-Stellar Mass Scaling Relation

Author(s): **Ilaria Pascucci**¹
 Institution(s): ¹ *LPL/University of Arizona*
 Contributing team(s): SLICK, EOS

327.03D Millimeter Studies of Nearby Debris Disks

Author(s): **Meredith A. MacGregor**¹
 Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*

327.04 ALMA 1.3 mm Observation of the Fomalhaut Debris Disk

Author(s): **Jacob White**⁴, Aaron C. Boley⁴, Eric B. Ford³, Matthew J. Payne², William Dent¹, Stuartt Corder¹
 Institution(s): ¹ *ALMA*, ² *Harvard CfA*, ³ *Pennsylvania State University*,
⁴ *University of British Columbia*

327.05D Searching for the Youngest Protostellar Disks and Earliest Signs of Planet Formation

Author(s): **Dominique Segura-Cox**¹
 Institution(s): ¹ *University of Illinois*

327.06 ALMA Measurements of Circumstellar Material in the GQ Lup System

Author(s): **David J. Wilner**³, Meredith A. MacGregor³, Ian Czekala³, Sean M. Andrews³, Yu Sophia Dai¹, Gregory Herczeg⁴, Kaitlin M. Kratter⁵, Adam L. Kraus⁶, Luca Ricci³, Leonardo Testi²
 Institution(s): ¹ *Caltech*, ² *ESO*, ³ *Harvard-Smithsonian, CfA*, ⁴ *KIAA*, ⁵ *University of Arizona*, ⁶ *University of Texas*

FRIDAY, 6 JANUARY 2017

327.07 A Three-Dimensional View of Turbulence Amid Complex Structure in the HD 163296 Protoplanetary Disk

Author(s): **Kevin M. Flaherty**⁵, A. Meredith Hughes⁵, Sanaea Rose⁴, Sean M. Andrews¹, David J. Wilner¹, Eugene Chiang³, Jacob B. Simon²

Institution(s): ¹ Harvard Smithsonian Center for Astrophysics, ² Southwest Research Institute, ³ UC, Berkeley, ⁴ Wellesley College, ⁵ Wesleyan University

328 CubeSats in Astronomy & Astrophysics

Friday, 2:00 pm - 3:30 pm; Grapevine 2

CubeSats, small satellites built in increments of 10 cm cubes (1 cube is called 1U or "unit," two 10 cm cubes together are known as 2U, and so on) are being used more and more to carry out science observations and collect data while providing low-cost access to space, platforms for technology development, and training ground for students and other early-career researchers. While most CubeSats launched to date are studying the earth and other objects within the solar system, interest in using CubeSats in astronomy and astrophysics is growing. An ad hoc committee of the The National Academy has recently concluded a study reviewing the current state of the scientific potential and technological promise of CubeSats. This study, chaired by Thomas Zurbuchen (Univ. Michigan), focused on the potential of using CubeSats as platforms for obtaining high priority science, such as that recommended in recent Decadal Surveys and the 2014 NASA Science Plan. Their report, to be released this month (May 2016) includes an overview of science goals that can be accomplished with current CubeSat technological capabilities and those anticipated in the near future. This Special Session will provide a broad look at CubeSats in astronomy and astrophysics, including an overview of their scientific potential, as well as the current state and future promise of CubeSat technology. Application of CubeSats to study decadal priorities will be highlighted, and experiences with carrying out CubeSat development in university settings will be shared.

Chair: Joan Centrella (NASA's GSFC)

328.01 Achieving Science with CubeSats: Thinking Inside the Box

Author(s): **Thomas H. Zurbuchen**², Bhavya Lal¹

Institution(s): ¹ IDA Science and Technology Policy Institute, ² Univ. of Michigan

328.02 How CubeSats contribute to Science and Technology in Astronomy and Astrophysics

Author(s): **Kerri Lynn Cahoy**¹, Ewan Douglas¹, Ashley Carlton¹, James Clark¹, Christian Haughwout¹

Institution(s): ¹ MIT

328.04 CUTIE: Cubesat Ultraviolet Transient Imaging Experiment

Author(s): **Stephen B. Cenko**⁴, Eric Christopher Bellm¹, Avishay Gal-Yam⁶, Suvi Gezari⁵, Varujan Gorjian³, April Jewell³, Jeffrey W. Kruk⁴, Shrinivas R. Kulkarni¹, Richard Mushotzky⁵, Shouleh Nikzad³, Anthony Piro², Eli Waxman⁶, Eran Oded Ofek⁶

Institution(s): ¹ Caltech, ² Carnegie Observatories, ³ JPL, ⁴ NASA Goddard Space Flight Center, ⁵ University of Maryland, ⁶ Weizmann Institute of Science

328.03 HaloSat – A CubeSat to Study the Hot Galactic Halo

Author(s): Philip Kaaret¹

Institution(s): ¹ Univ. of Iowa

329 Results from the New Half-Degree Imager on the WIYN-0.9m Telescope

Friday, 2:00 pm - 3:30 pm; Fort Worth 6

We will discuss early results from the new HDI imager in operation on the WIYN-0.9m telescope at Kitt Peak National Observatory. While part of the session will deal with the technical aspects of the imager and early science results: we will also discuss opportunities for the community to become involved and use of the telescope in education and outreach activities. The partner institutions of the WIYN-0.9m consortium represent a range of universities from small to large; undergraduate-only to Tier-1 research schools; and public and private educational institutions. The associated poster session will present early science results developed using HDI, including many student-led projects.

Chair: J. Allyn Smith (Austin Peay State Univ.)

329.01 Technical Summary of the Half-Degree Imager (HDI)

Author(s): Michael W. Richmond¹

Institution(s): ¹ Rochester Inst. of Tech.

329.02 Undergraduate Education with the WIYN 0.9-m Telescope

Author(s): Catherine A. Pilachowski¹

Institution(s): ¹ Indiana University

329.03 Using the HDI camera with Tohono O'odham Tribal Community College Students

Author(s): Catharine D. Garmany¹

Institution(s): ¹ NOAO

329.04 Making and Using Aesthetically Pleasing Images With HDI

Author(s): Spencer L. Buckner¹

Institution(s): ¹ Austin Peay State Univ.

330 Neutron Stars (Pulsars, Magnetars, Pulsar Wind Nebulae) II

Friday, 2:00 pm - 3:30 pm; Dallas 6

Chair: Elizabeth Ferrara (NASA/GSFC)

FRIDAY, 6 JANUARY 2017

330.01 Localizing the Fast Radio Burst 121102

Author(s): **Shami Chatterjee**³, Robert Wharton³, Casey J. Law¹⁰, Jason Hessels², Sarah Burke-Spolaor¹¹, Geoffrey C. Bower¹, Matthew W Abruzzo⁵, Cees Bassa², Bryan J. Butler⁹, James M. Cordes³, Demorest Paul⁹, Victoria M. Kaspi⁷, Maura McLaughlin¹¹, Scott M. Ransom⁹, Paul Scholz⁴, Andrew Seymour⁸, Laura Spitler⁶, Shriharsh P. Tendulkar⁷

Institution(s): ^{1.} ASIAA, ^{2.} ASTRON, ^{3.} Cornell University, ^{4.} DRAO, ^{5.} Haverford College, ^{6.} Max-Planck-Institut für Radioastronomie, ^{7.} McGill University, ^{8.} NAIC, ^{9.} NRAO, ^{10.} University of California, ^{11.} West Virginia University

Contributing team(s): PALFA Survey Team, VLA+AO FRB121102 Simultaneous Campaign Team, EVN FRB121102 Campaign Team

330.02 Finding and Localizing FRBs in Realtime with realfast

Author(s): **Casey J. Law**⁵, Geoffrey C. Bower¹, Sarah Burke-Spolaor⁴, Bryan J. Butler⁴, Demorest Paul⁴, Joseph Lazio³, Michael P. Rupen²

Institution(s): ^{1.} ASIAA, ^{2.} DRAO, ^{3.} JPL/NASA, ^{4.} National Radio Astronomy Observatory, ^{5.} UC Berkeley

330.03 Properties of Radio Sources in the FRB 121102 Field

Author(s): **Geoffrey C. Bower**¹, Shami Chatterjee³, Robert Wharton³, Casey J. Law⁹, Jason Hessels², Sarah Spolaor⁸, Matthew W. Abruzzo⁴, Cees Bassa², Bryan J. Butler⁸, James M. Cordes³, Paul Demorest⁸, Victoria M. Kaspi⁵, Maura McLaughlin¹⁰, Scott M. Ransom⁸, Paul Scholz⁵, Andrew Seymour⁷, Laura Spitler⁶, Shriharsh P. Tendulkar⁵

Institution(s): ^{1.} ASIAA, ^{2.} ASTRON, ^{3.} Cornell University, ^{4.} Haverford College, ^{5.} McGill, ^{6.} MPIfR, ^{7.} NAIC, ^{8.} NRAO, ^{9.} UC Berkeley, ^{10.} WVU

Contributing team(s): PALFA Survey, VLA+AO FRB121102 Simultaneous Campaign Team, EVN FRB121102 Campaign Team, realfast team

330.05 A polarised fast radio burst at low Galactic latitude

Author(s): **Emily Petroff**¹

Institution(s): ^{1.} ASTRON

Contributing team(s): SUPERB collaboration, HESS collaboration, ANTARES collaboration

330.06D Algorithms for searching Fast radio bursts and pulsars in tight binary systems.

Author(s): **Barak Zackay**¹

Institution(s): ^{1.} Weizmann Institute of Science

330.07 Interstellar Medium Effects on Radio Pulsars PSR B1937+21 and PSR B2224+65, and Implications for Gravitational Wave Detection

Author(s): **Timothy Dolch**³, Shami Chatterjee², James M. Cordes², Demorest Paul⁴, Daniel Halmrast³, Cody Jessup³, Glenn Jones¹, Michael T. Lam⁸, Andrew Lyne⁶, Maura McLaughlin⁸, Joshua Rameste³, Dan Stinebring⁵, Benjamin Stappers⁶, Kevin Stovall⁷

Institution(s): ^{1.} Columbia University, ^{2.} Cornell University, ^{3.} Hillsdale College, ^{4.} NRAO, ^{5.} Oberlin College, ^{6.} University of Manchester, ^{7.} University of New Mexico, ^{8.} West Virginia University

330.08 An Update on the Timing of the Millisecond Pulsar in a Triple System

Author(s): **Scott M. Ransom**¹, Anne Archibald², Ingrid H. Stairs³, Jason Hessels², Duncan Lorimer⁴, Ryan S Lynch¹

Institution(s): ¹ NRAO, ² University of Amsterdam, ³ University of British Columbia, ⁴ West Virginia University

331 Plenary Session: Helen B. Warner Prize: Feedback: Now with Physics, Philip Hopkins (Caltech)

Friday, 3:40 pm - 4:30 pm; Texas A

Chair: Christine Jones (Harvard-Smithsonian, CfA)



331.01 Feedback: Now with Physics

Author(s): **Philip F. Hopkins**³, Eliot Quataert³, Claude-Andre Faucher-Giguere², Dusan Keres⁵, Andrew R. Wetzel⁴, Norman W. Murray¹

Institution(s): ¹ Canadian Institute for Theoretical Astrophysics, ² Northwestern University, ³ UC Berkeley, ⁴ UC Davis, ⁵ UC San Diego

Citation: For his research on galaxy formation and evolution and the growth of supermassive black holes. Hopkins builds both numerical and analytic models with strong connections to observational data. His work has provided great insight into the role of galaxy mergers on galaxy properties as well as quasar activation.

332 Plenary Talk: Astronomy from the Upper Stratosphere: Key Discoveries and New Opportunities from High Altitude Scientific Balloons, Laura Fissel (Northwestern University)

Friday, 4:30 pm - 5:20 pm; Texas A

Chair: Charles Woodward (Univ. of Minnesota)



332.01 Astronomy from the Upper Stratosphere: Key Discoveries and New Opportunities from High Altitude Scientific Balloons

Author(s): **Laura M. Fissel**¹

Institution(s): ¹ National Radio Astronomy Observatory

FRIDAY, 6 JANUARY 2017

POSTER SESSIONS

333 Astronomy Majors & Graduate Students: Curriculum & the GRE Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

333.01 Effectiveness of Online Module for Graduate Astronomy Course

Author(s): **Lauren E. P. Campbell**¹, Kelly Holley-Bockelmann¹, Cynthia Brame¹
Institution(s): ¹ *Vanderbilt University*

333.02 Physics GRE Scores of Prize Postdoctoral Fellows in Astronomy

Author(s): **Emily M. Levesque**², Rachel Bezanson¹, Grant Tremblay³
Institution(s): ¹ *Princeton*, ² *University of Washington*, ³ *Yale*

333.03 The Benefits of Adding SETI to the University Curriculum and What We Have Learned from a SETI Course Recently Offered at UCLA

Author(s): **Larry Lesyna**⁶, Jean-Luc Margot², Adam Greenberg⁵, Akshay Shinde¹, Yashaswi Alladi¹, Srinivas Prasad MN³, Oliver Bowman², Callum Fisher⁵, Szilard Gyalay⁵, William McKibbin⁵, Brittany E. Miles⁵, Donald Nguyen⁵, Conor Power³, Namrata Ramani⁴, Rashmi Raviprasad⁵, Jesse Santana⁵
Institution(s): ¹ *Department of Computer Science, University of California, Los Angeles*, ² *Department of Earth, Planetary, and Space Sciences, University of California, Los Angeles*, ³ *Department of Electrical Engineering, University of California, Los Angeles*, ⁴ *Department of Materials Science and Engineering, University of California, Los Angeles*, ⁵ *Department of Physics and Astronomy, University of California, Los Angeles*, ⁶ *LXL Technology*

333.04 "Pretty Pictures" with the HDI

Author(s): **Spencer L. Buckner**¹
Institution(s): ¹ *Austin Peay State Univ.*

333.05 Demonstrating Supernova Remnant Evolution

Author(s): **Denis A. Leahy**¹, Jacqueline Williams¹
Institution(s): ¹ *Univ. of Calgary*

334 K12 & Citizen Science Research Collaborations: Involving Scientists, Teachers, & Students Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

334.01 Effective Models for Scientists Engaging in Meaningful Education and Outreach

Author(s): **Jacob Noel-Storr**¹, Isaiah Gurule¹
Institution(s): ¹ *InsightSTEM*
Contributing team(s): *InsightSTEM Teacher-Scientist-Communicator-Learner Team*

334.02 The NASA/IPAC Teacher Archive Research Program (NITARP): Lessons Learned

Author(s): **Luisa M. Rebull**¹, Varoujan Gorjian¹, Gordon K. Squires¹
Institution(s): ¹ *Caltech*

- 334.03 NITARP: Changing Perceptions of Science Among Secondary Students and Teachers**
 Author(s): **Russell Kohrs**³, Kelly Kilts², Vincent Urbanowski⁵, Thomas Rutherford⁴, Varoujan Gorjian¹
 Institution(s): ¹ JPL, ² Lexington High School, ³ Massanutten Regional Governor's School for Environmental Science and Technology, ⁴ Sullivan South High School, ⁵ The Academy of Information Technology and Engineering
- 334.04 STEM Education is Missing This.....**
 Author(s): **Laura Orr**⁴, Milton Johnson¹, Alexandra Miller³, Luisa M. Rebull²
 Institution(s): ¹ Bioscience High School, ² Caltech, ³ Milken Community Schools, ⁴ Ukiah High School
- 334.05 Hawaii Student / Teacher Astronomy Research program (HI STAR): 10 years of high school students exploring the universe**
 Author(s): **Geoffrey Mathews**², James Armstrong¹, Michael A. Nassir², Carolyn Kaichi¹
 Institution(s): ¹ Institute for Astronomy, ² University of Hawaii at Manoa
- 334.06 Are We Alone? GAVRT Search for Extra Terrestrial Intelligence (SETI) Project**
 Author(s): **Holly Bensel**¹, Ian Cool¹
 Institution(s): ¹ St. Mary's School
 Contributing team(s): St. Mary's High School Astronomy Club , St. Mary's Middle School Astronomy Club
- 334.07 Highschool astronomy research workshop in Thailand and how it transforms Thai astronomy education**
 Author(s): **Matipon Tangmatitham**¹
 Institution(s): ¹ Michigan Technical University
- 334.08 Confirming and Improving Ross Variable Star RV Del**
 Author(s): **Tyler R. Linder**¹, Rick Sanchez², Sage Palser², Kendra Schultze², Jessica Kenney², Briana Thompson³, Richard DeCoster³, Frank Mills³, Wayne Osborn³, Vivian L. Hoette³
 Institution(s): ¹ Astronomical Research Institute, ² Johnson County School District, ³ Yerkes Observatory
 Contributing team(s): Skynet Junior Scholars , Stone Edge Observatory
- 334.09 Visual Double Stars - St. Mary's High School Astronomy Club**
 Author(s): **Holly Bensel**¹, Thanh Tran¹, Sean Hicks¹, Yifan He¹, Mitchell Moczygemba¹, Yuqi Shi¹, Leah Sternenber¹, Kaycia Watson¹, kieran rooney¹, Paige Birmingham¹, Ruiyang You¹
 Institution(s): ¹ St. Mary's School
- 334.10 South African Student Constructed Indlebe Radio Telescope**
 Author(s): **Charles H. McGruder**², Stuart MacPherson¹, Gary Peter Janse Van Vuuren¹
 Institution(s): ¹ Durban University of Technology, ² Western Kentucky Univ.

FRIDAY, 6 JANUARY 2017

334.11 Results of Needs Assessments Related to Citizen Science Projects

Author(s): **Sanlyn Buxner**¹, Georgia Bracey², Anna Glushko², Maya Bakerman¹, Pamela L. Gay²

Institution(s): ¹ Planetary Science Institute, ² Southern Illinois University Edwardsville

Contributing team(s): CosmoQuest Team

334.12 Recording A Sunrise: A Citizen Science Project to Enhance Sunrise/set Prediction Times

Author(s): **Teresa Wilson**¹, Malynda Chizek Frouard², Jennifer L. Bartlett²

Institution(s): ¹ Michigan Technological University, ² United States Naval Observatory

335 Education Resources & Projects Spanning Broad Audiences Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

335.01 Multimedia Astronomy Communication: Effectively Communicate Astronomy to the Desired Audience

Author(s): **Kimberly Michelle Star Cartier**¹, Jason Wright¹

Institution(s): ¹ Pennsylvania State University

335.02 Astrobites: Engaging Undergraduate Science Majors with Current Astrophysical Research

Author(s): **Michael Zevin**¹

Institution(s): ¹ Northwestern

Contributing team(s): Astrobites

335.03 APOD Data Release of Social Network Footprint for 2015

Author(s): **Robert J. Nemiroff**³, David Russell³, Alice Allen², Paul Connelly¹, Stuart R. Lowe¹, Sydney Petz¹, Ralf Haring¹, Jerry T. Bonnell¹

Institution(s): ¹ APOD, ² Astrophysics Source Code Library, ³ Michigan Technological Univ.

Contributing team(s): APOD Team

335.04 Active Galactic Videos: A YouTube Channel for Astronomy Education and Outreach

Author(s): **Carmen Austin**¹, Jenny Calahan¹, Alexandria Resi Baucoco¹, Christopher William Bullivant¹, Ross Eckley¹, W. Haydon Ekstrom¹, M. Ryleigh Fitzpatrick¹, Taylor Fay Genovese¹, Chris David Impey¹, Kaitlin Libby¹, Galen McCaw¹, Alexander N Olmedo¹, Joshua Ritter¹, Matthew Wenger¹, Stephanie Williams¹

Institution(s): ¹ University of Arizona

- 335.05 When Will It Be ...?: U.S. Naval Observatory Religious Calendar Computers Expanded**
 Author(s): **Jennifer L. Bartlett**², Malynda Chizek Frouard², Cross Ziegler¹, Michael V. Lesniak²
 Institution(s): ¹ Science and Engineering Apprenticeship Program, ² US Naval Observatory
- 335.06 Planning for the Future: Revealing Underrepresented Stories in the History of Physics and Astronomy**
 Author(s): **Victoria DiTomasso**², Samantha Spytek⁴, Stephen Neal³, Lance Burch¹, Gregory Good¹
 Institution(s): ¹ American Institute of Physics, ² CUNY Macaulay Honors College at Hunter College, ³ University of Wisconsin-Madison, ⁴ Virginia Polytechnic Institute and State University
- 335.07 Astronomers Who Write Science Fiction: Using SF as a Form of Astronomy Outreach**
 Author(s): **Andrew Fraknoi**¹
 Institution(s): ¹ Foothill College
- 335.08 Conceptualizing Astronomical Distances for Urban Populations**
 Author(s): **Mark Popinchalk**¹, Kristen Olson¹, Jenny Ingber¹, Mariel O'Brien¹
 Institution(s): ¹ American Museum of Natural History
- 335.09 Dark Skies, Bright Kids Year 8**
 Author(s): **Lauren E. Bittle**², Trey Wenger², Kelsey E. Johnson², Dylan Angell², Andrew Burkhardt², Blair Davis¹, Ariel Firebaugh², Danielle Hancock², Whitney Richardson², Christian Rochford Hayes², Sean Linden², Sandra Liss², Allison Matthews², Shunlante McNair², Brian Prager², Matthew Pryal², Nicholas William Troup²
 Institution(s): ¹ Albemarle County Virginia Public Schools, ² University of Virginia
- 335.10 If You Planet, They Will Come: Reviving the CCNY Planetarium**
 Author(s): **Ellianna Schwab**², Victoria DiTomasso¹, James Hedberg²
 Institution(s): ¹ CUNY - Hunter College, ² CUNY - The City College of New York
- 335.11 The Expanding Universe of Astronomy on Tap**
 Author(s): **Rachael C. Livermore**¹¹, Brett Morris¹², Gautham Narayan⁶, Sarah J. Morrison⁹, Evan Schneider⁹, Brandon Bozek¹¹, Emily L. Rice², Cameron B. Hummels¹, Kristen Garofali¹², Raquel Martinez¹¹, Yuan Li¹⁰, Joel D. Green⁷, Stephanie M. LaMassa⁵, Devin W. Silvia⁴, Megan E. Schwamb³, Iair Arcavi⁸, Jeffrey M. Silverman¹¹
 Institution(s): ¹ California Institute of Technology, ² CUNY College of Staten Island, ³ Gemini Observatory, ⁴ Michigan State University, ⁵ NASA Goddard Space Flight Center, ⁶ National Optical Astronomy Observatory, ⁷ Space Telescope Science Institute, ⁸ UC Santa Barbara, ⁹ University of Arizona, ¹⁰ University of Michigan, ¹¹ University of Texas at Austin, ¹² University of Washington

FRIDAY, 6 JANUARY 2017

336 Promoting Research, Mentorship, & Diversity for Astronomy Majors Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 336.01 CAMPARE and Cal-Bridge: Two Institutional Networks Increasing Diversity in Astronomy**
Author(s): **Alexander L. Rudolph**¹, Tammy A. Smecker-Hane²
Institution(s): ¹ California State Polytechnic Univ., ² University of California
- 336.02 AstroCom NYC: Equity, Inclusion, and the Next Generation of Astrophysicists**
Author(s): **Timothy Paglione**⁵, Saavik Ford³, Dennis Robbins⁴, Marcel A. Agueros², Mordecai-Mark Mac Low¹
Institution(s): ¹ AMNH, ² Columbia Univ., ³ CUNY BMCC & AMNH, ⁴ CUNY Hunter College, ⁵ CUNY York College & AMNH
- 336.03 The National Astronomy Consortium (NAC)**
Author(s): **Lyndele Von Schill**¹, Joyce Ivory¹
Institution(s): ¹ National Radio Astronomy Observatory
- 336.04 Results from a Pilot REU Program: Exploring the Cosmos Using Sloan Digital Sky Survey Data**
Author(s): **Nancy J. Chanover**¹, Kelly Holley-Bockelmann², Jon A. Holtzman¹
Institution(s): ¹ New Mexico State Univ., ² Vanderbilt University
- 336.05 The FAST Initiative: Fostering a More Inclusive SDSS Collaboration**
Author(s): **Kelly Holley-Bockelmann**¹⁵, Nancy J. Chanover⁹, Adam J. Burgasser¹³, Kelle L. Cruz⁵, Charles Liu³, Paul A. Mason⁹, Jesus Pando⁴, Emily L. Rice³, Sarah J. Schmidt¹, Jose Ramon Sanchez-Gallego¹⁴, Sara Lucatello⁶, Alfonso Aragon-Salamanca¹⁰, Francesco Belfiore², Brian Cherinka⁷, Diane Feuillet⁹, Amy Jones⁸, Karen Masters¹², Audrey Simmons⁹, Ashley Ross¹¹, Keivan G. Stassun¹⁵, Jamie Tayar¹¹
Institution(s): ¹ AIP, ² Cambridge, ³ CUNY, Staten Island, ⁴ DePaul, ⁵ Hunter College, ⁶ INAF, ⁷ JHU, ⁸ MPA, ⁹ NMSU, ¹⁰ Nottingham, ¹¹ OSU, ¹² Portsmouth, ¹³ UCSD, ¹⁴ UKy, ¹⁵ Vanderbilt University
- 336.06 The NRAO Observing for University Classes Program**
Author(s): **John M. Cannon**¹, Gustaaf A. Van Moorsel²
Institution(s): ¹ Macalester College, ² Nation Radio Astronomy Observatory
- 336.07 Introducing Research Methods to Undergraduate Majors Through an On-Campus Observatory with The University of Toledo's Ritter Observatory**
Author(s): **Noel Richardson**¹, Kevin Hardegree-Ullman¹, Jon Eric Bjorkman¹, Karen S. Bjorkman¹
Institution(s): ¹ University of Toledo
Contributing team(s): Ritter Observing Team
- 336.08 Spectroscopic Instrumentation in Undergraduate Astronomy Laboratories**
Author(s): **Dominic Ludovici**¹, Robert Lucien Mutel¹, Cornelia C. Lang¹
Institution(s): ¹ University of Iowa

336.09 Variable Stars as an Introduction to Computational Research

Author(s): **Jennifer Cash**¹, Donald K. Walter¹

Institution(s): ¹ *South Carolina State Univ.*

337 Gen. Ed. Astronomy (Astro 101): Courses, Classroom, Design, & Student Research Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

337.01 A General Education Course in Cultural Astronomy: Exploring the Universe Through Human Eyes

Author(s): **Kristine Larsen**¹

Institution(s): ¹ *Central Connecticut State University*

337.02 The Art of Astronomy: A New General Education Course for Non-Science Majors

Author(s): **Catherine A. Pilachowski**¹, Liese van Zee¹

Institution(s): ¹ *Indiana University*

337.03 Teaching Astronomy Classes and Labs in a Smart Classroom

Author(s): **Nicole E. Gugliucci**¹

Institution(s): ¹ *Saint Anselm College*

337.04 Update on the NSF PAARE Program at SC State

Author(s): **Donald K. Walter**⁴, Marco Ajello², Sean D. Brittain², Jennifer Cash⁴, Dieter Hartmann², Shirley Ho¹, Steve B. Howell³, Jeremy R. King², Mark D. Leising², Daniel M. Smith⁴

Institution(s): ¹ *Carnegie Mellon University*, ² *Clemson University*, ³ *NASA ARC*, ⁴ *South Carolina State Univ.*

338 Internships, Fellowships, & Observatory Management Training for High School Students, Majors, & Graduates Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

338.01 Summer Internships for Students through the Air Force Research Laboratory's Scholars Program

Author(s): **David A. Barnaby**¹, Eunsook Hwang¹, Julie A. McCullough¹

Institution(s): ¹ *Air Force Research Lab*

338.02 Shrinking the Gap Between Science Policy and Scientists

Author(s): **Demitri Call**¹

Institution(s): ¹ *University of Nevada, Reno*

338.03 The LSSTC Data Science Fellowship Program

Author(s): **Adam Miller**², Lucianne Walkowicz¹

Institution(s): ¹ *Adler Planetarium*, ² *CIERA*

Contributing team(s): The LSSTC DSFP Leadership Council

FRIDAY, 6 JANUARY 2017

338.04 The Lowell Observatory Predoctoral Scholar Program

Author(s): **Lisa A. Prato**¹

*Institution(s):*¹ *Lowell Observatory*

338.05 Educational Programs for Graduate Level Learners and Professionals - National Radio Astronomy Observatory National and International Non-Traditional Exchange Program

Author(s): **Lory Mitchell Wingate**¹

*Institution(s):*¹ *National Radio Astronomy Observatory*

339 The Sun Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

339.01 The Evershed Effect from the Photosphere to the Chromosphere

Author(s): **Brian Healy**¹, Alexandra Tritschler²

*Institution(s):*¹ *Boston University*, ² *National Solar Observatory*

339.02 A Chromospheric Flare Model Consisting of Two Dynamical Layers: Critical Tests from IRIS Data of Solar Flares

Author(s): **Adam Kowalski**⁶, Joel C. Allred³, Adrian N. Daw³, Gianna Cauzzi², Mats Carlsson⁷, Andrew Inglis¹, Aaron O'Neill⁵, Mihalis Mathioudakis⁵, Han Uitenbroek⁴

*Institution(s):*¹ *Catholic University of America/NASA-GSFC*, ² *INAF/NSO*, ³ *NASA GSFC*, ⁴ *National Solar Observatory*, ⁵ *Queen's University Belfast*, ⁶ *University of Colorado*, ⁷ *University of Oslo*

339.03 Non-Equilibrium Ionization Modeling of Coronal Mass Ejections

Author(s): **Remington Rimple**¹, Nicholas Arnold Murphy², Chengcai Shen²

*Institution(s):*¹ *California State University San Marcos*, ² *Harvard-Smithsonian Center for Astrophysics*

339.04 Three-Dimensional Potential-Field Source-Surface Modeling of the Evolution of Coronal Structures

Author(s): **Rosa Wallace**², Mausumi Dikpati¹, Giuliana de Toma¹, Joan Burkepile¹

*Institution(s):*¹ *High Altitude Observatory, NCAR*, ² *University of Colorado Denver*

339.05 Evolving Flare Ribbon Small-Scale Substructure: A Second Candidate

Author(s): **Alissa Roegge**², Sean Brannon¹

*Institution(s):*¹ *Montana State University*, ² *University of Massachusetts, Amherst*

339.06 Data Mining Solar X-Ray Flares Triggered by Emerging Magnetic Flux

Author(s): **Kaitlyn Loftus**¹, Steven H. Saar², Nicole Schanche²

*Institution(s):*¹ *Columbia University*, ² *Harvard-Smithsonian, CfA*

339.07 Citizen CATE Experiment and Polar Plume Dynamics

Author(s): **Adriana Mitchell**⁴, Matt Penn⁴, Robert Baer⁶, Robert Bosh⁹, David Garrison³, Richard Gelderman⁹, Honor Hare⁹, Fred Isberner⁶, Logan Jensen⁸, Sarah Kovac⁶, Myles McKay⁷, Michael Pierce⁸, Patricia Thompson⁹, Andrei Ursache³, John R. Varsik², Donald Walter⁵, Zachary Watson⁴, David Young¹
Institution(s): ^{1.} *Astronomical Society of Kansas City*, ^{2.} *Big Bear Solar Observatory*, ^{3.} *Mathworks Inc*, ^{4.} *National Solar Observatory*, ^{5.} *SCSU*, ^{6.} *Southern Illinois University Carbondale*, ^{7.} *Space Telescope Science Institute*, ^{8.} *University of Wyoming*, ^{9.} *Western Kentucky University*
 Contributing team(s): Citizen CATE Team

339.08 Methods on Efficiently Relating Data from the Sun to In-situ Data at L1: An Application to the Slow Solar Wind

Author(s): **Maria McQuillan**², Nicholeen Viall¹
Institution(s): ^{1.} *NASA Goddard Space Flight Center*, ^{2.} *University of St. Thomas*

339.09 Periodic Alpha Signatures and the Origins of the Slow Solar Wind

Author(s): **Catherine Blume**², Larry Kepko¹
Institution(s): ^{1.} *NASA Goddard Space Flight Center*, ^{2.} *Princeton University*

340 Molecular Clouds, HII Regions, Interstellar Medium & Dust Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

340.01 Mapping of the Local Interstellar Medium using Absorption Line Spectroscopy

Author(s): **Bryan Edward Penprase**¹
Institution(s): ^{1.} *Yale-NUS College*

340.02 A Narrowband Emission-Line Survey of the Large Magellanic Cloud

Author(s): **Alex Jonah Robert Gordon**², Sean Points¹, Chris Smith¹
Institution(s): ^{1.} *Cerro Tololo Inter-American Observatory*, ^{2.} *Macalester College*
 Contributing team(s): MCELS Team

340.03 Far-ultraviolet florescent molecular hydrogen emission map of the Milky Way Galaxy

Author(s): **Young-soo Jo**², Kwang-il Seon², Kyoung-wook Min¹, Jerry Edelstein³, Wonyong Han²
Institution(s): ^{1.} *Korea Advanced Institute of Science and Technology*, ^{2.} *Korea Astronomy & Space Science Institute*, ^{3.} *University of California*

340.04 HST/STIS Observations of the Local Interstellar Medium toward Very Nearby Stars: A Detailed Analysis of the a Centuari Sight Line

Author(s): **Julian Dann**¹, Seth Redfield¹, Thomas R. Ayres²
Institution(s): ^{1.} *Department of Astronomy, Wesleyan University*, ^{2.} *University of Colorado*

FRIDAY, 6 JANUARY 2017

340.05 The Fan Region at 1.5 GHz with GMIMS: Polarized synchrotron emission tracing Galactic structure

Author(s): **Alex S. Hill**⁴, Tom Landecker², Ettore Carretti⁵, Kevin A. Douglas⁷, Xiaohui Sun¹¹, Bryan M. Gaensler³, Sui Ann Mao⁶, Naomi McClure-Griffiths¹, Wolfgang Reich⁶, Maik Wolleben⁹, John Miller Dickey¹², Andrew Gray², Marijke Haverkorn⁸, John Patrick Leahy¹⁰, Dominic Schnitzeler⁶

Institution(s): ^{1.} Australian National University, ^{2.} Dominion Radio Astrophysical Observatory, ^{3.} Dunlap Institute, University of Toronto, ^{4.} Haverford College, ^{5.} INAF/Osservatorio Astronomico di Cagliari, ^{6.} Max-Planck-Institut für Radioastronomie, ^{7.} Okanagan College, ^{8.} Radboud University Nijmegen, ^{9.} Skaha Remote Sensing, ^{10.} University of Manchester, ^{11.} University of Sydney, ^{12.} University of Tasmania

340.06 The ALMA View of Dense Molecular Gas in 30 Doradus

Author(s): **Lauren E. Bittle**³, Remy Indebetouw³, Crystal L. Brogan¹, Todd R. Hunter¹, Adam Leroy²

Institution(s): ^{1.} NRAO, ^{2.} Ohio State University, ^{3.} University of Virginia

340.07 Metallicity Structure in the Milky Way Disk

Author(s): **Trey Wenger**³, Dana S. Balser², Loren D. Anderson⁴, Thomas M. Bania¹

Institution(s): ^{1.} Boston University, ^{2.} NRAO, ^{3.} University of Virginia, ^{4.} West Virginia University

340.08 The Milky Way Project: Mapping star formation in our home Galaxy, one click at a time

Author(s): **Tharindu K Jayasinghe**¹, Matthew S. Povich¹, Don Dixon¹, Jose Velasco²

Institution(s): ^{1.} Cal Poly Pomona, ^{2.} Citrus College

Contributing team(s): Milky Way Project Team

340.09 The Milky Way Project: A Citizen Science Catalog of Infrared Bow Shock Nebulae

Author(s): **Don Dixon**¹, Tharindu Jayasinghe¹, Matthew S. Povich¹

Institution(s): ^{1.} Cal Poly Pomona

340.10 The properties of the hot gaseous halo around the Milky Way

Author(s): **Yunyang Li**¹, Joel N. Bregman², Edmund J. Hodges-Kluck²

Institution(s): ^{1.} Peking University, ^{2.} University of Michigan

340.11 A Multi-Wavelength View of the Environments of Extreme Clustered Star Formation

Author(s): **James M. De Buizer**¹

Institution(s): ^{1.} SOFIA/USRA

340.12 A Deuteration Survey of the Clump Population in the Gemini OB1 Molecular Cloud

Author(s): **Andrew Scott Henrici**¹, Yancy L. Shirley¹, Brian E. Svoboda¹

Institution(s): ^{1.} University of Arizona

- 340.13 WHAM Observations of the Gum Nebula and Energetic Neighbors**
 Author(s): **L. Matthew Haffner**¹, Robert A. Benjamin³, Martin Gostisha², Alexander Orchard¹
 Institution(s): ¹ University of Wisconsin—Madison, ² University of Wisconsin—Milwaukee, ³ University of Wisconsin—Whitewater
- 340.14 The impact of galactic environment on star formation**
 Author(s): **Kathryn Kreckel**³, Guillermo A. Blanc⁵, Eva Schinnerer³, Brent Groves¹, Angela Adamo⁴, Annie Hughes², Sharon Meidt³
 Institution(s): ¹ Australian National University, ² IRAP, ³ MPIA, ⁴ Stockholm University, ⁵ Universidad de Chile
 Contributing team(s): SFNG Collaboration
- 340.15 Properties of Low Metallicity Molecular Clouds: A 0.3 Parsec Resolution Map of SMC B1 #1**
 Author(s): **Uriel Rodea**¹
 Institution(s): ¹ California State University, San Marcos
- 340.16 Examining Gaseous Behavior of Galaxies and their Environments**
 Author(s): **KeShawn Ivory**¹, Kathleen Barger²
 Institution(s): ¹ Rice University, ² Texas Christian University
- 340.17 Discovering the Lowest Metallicity $z < 1$ Galaxies**
 Author(s): **Keith Tirimba**¹, Jason X. Prochaska¹
 Institution(s): ¹ University of California, Santa Cruz
- 340.18 Spectroscopic Study of Low Mass Members of NGC 2244**
 Author(s): **Michelle Alty**¹, Jason E. Ybarra¹, Carlos G. Román-Zúñiga², Elizabeth A. Lada³
 Institution(s): ¹ Bridgewater College, ² Instituto de Astronomía, UNAM, ³ University of Florida
- 340.20 Herschel Far Infrared Spectra of Dusty Star-Forming Galaxies**
 Author(s): **Derek Wilson**¹, Asantha R. Cooray¹, Hooshang Nayyeri¹
 Institution(s): ¹ University of California, Irvine
- 340.21 The Vertical Structure of Diffuse Ionized Gas in Galactic Spiral Arms**
 Author(s): **Dhanesh Krishnarao**¹, L. Matthew Haffner¹, Robert A. Benjamin²
 Institution(s): ¹ University of Wisconsin-Madison, ² University of Wisconsin-Whitewater
- 340.22 Aggregate growth in a protoplanetary disk**
 Author(s): **Chuchu Xiang**¹, Augusto Carballido¹, Lorin Matthews¹, Truell Hyde¹
 Institution(s): ¹ Baylor University
- 340.23 Properties of compact HII regions and their host clumps in the inner vs outer Galaxy - early results from SASSy**
 Author(s): **Julie Djordjevic**¹, Mark Thompson¹, James S Urquhart²
 Institution(s): ¹ University of Hertfordshire, ² University of Kent

FRIDAY, 6 JANUARY 2017

- 340.24 Determining properties of halo dust for the Herschel EDGE-on galaxy Survey (HEDGES)**
Author(s): **Jacklyn M Pezzato**², Eric J. Murphy¹
Institution(s): ¹ National Radio Astronomy Observatory, ² Swarthmore College
- 340.25 Realistic Models for Filling Factors in HII Regions**
Author(s): **Steven R. Spangler**², Allison H. Costa², Brandon M Bergerud², Kara M. Beauchamp¹
Institution(s): ¹ Cornell College, ² Univ. of Iowa
- 340.26 The Southern HII Region Discovery Survey: Preliminary Results**
Author(s): **Jeanine Shea**³, Trey Wenger⁶, Dana S. Balser⁴, Loren D. Anderson⁷, William P. Armentrout⁷, Thomas M. Bania², Joanne Dawson¹, John Miller Dickey⁵, Christopher Jordan⁵, Naomi M. McClure-Griffiths¹
Institution(s): ¹ Australia Telescope National Facility, ² Boston University, ³ Bucknell University, ⁴ NRAO, ⁵ University of Tasmania, ⁶ University of Virginia, ⁷ West Virginia University
- 340.27 HST STIS Observations of Interstellar Chlorine**
Author(s): **Valerie Rose Becker**³, Cody Dirks², David M. Meyer², Stefan I.B. Cartledge¹
Institution(s): ¹ MacEwan University, ² Northwestern University, ³ Southern Illinois University Edwardsville
- 340.28 Formation of Interstellar OH and CH**
Author(s): **Kyujin Kwak**¹, Jeongkwan Yoon¹, Seungyeong Hong¹
Institution(s): ¹ Ulsan National Institute of Science and Technology
- 340.29 Galaxy bachelors, couples, spouses: Star formation in interacting galaxies**
Author(s): **Jing Sun**¹, Kathleen Barger¹, Hannah Richstein¹
Institution(s): ¹ Texas Christian University
Contributing team(s): SDSS-IV/MaNGA
- 340.30 Mapping the Heiles Supershell GSH 90-28-17**
Author(s): **Sharon Lynn Montgomery**¹, Jacob Lucas Beckey¹, Barry Welsh², John W Kuehne³
Institution(s): ¹ Clarion University, ² Space Sciences Laboratory, UC Berkeley, ³ University of Texas
- 340.31 Continuing the Search for Flickering Ultracompact HII Regions: EVLA Observations of W49A**
Author(s): **Christopher G. De Pree**¹, Theresa Melo¹, Mordecai-Mark Mac Low², David J. Wilner⁴, Miller Goss⁵, Roberto Galvan-Madrid³
Institution(s): ¹ Agnes Scott College, ² American Museum of Natural History, ³ ESO, ⁴ Harvard-Smithsonian, CfA, ⁵ NRAO
- 340.32 Probing Planck Cold Clump Sightlines through HST STIS UV Spectroscopy**
Author(s): **Cody Dirks**¹, David M. Meyer¹
Institution(s): ¹ Northwestern University

340.33 Hydrodynamical Modeling of the Local Interstellar Medium

Author(s): **Jonathan David Slavin**¹
Institution(s): ¹ *Harvard-Smithsonian, CfA*

340.34 Measuring the local ISM along the sight lines of the two Voyager spacecraft with HST/STIS

Author(s): **Julia Zachary**², Seth Redfield², Jeffrey Linsky¹
Institution(s): ¹ *Joint Institute for Laboratory Astrophysics - University of Colorado*, ² *Wesleyan University*

340.35 VLA Observations of the Magnetic Field of the Smith High Velocity Cloud

Author(s): **Sarah Betti**², Alex S. Hill², Sui Ann Mao⁵, Naomi M. McClure-Griffiths¹, Felix J. Lockman³, Robert A. Benjamin⁶, Bryan M. Gaensler⁴
Institution(s): ¹ *CSIRO Astronomy and Space Science*, ² *Haverford College*, ³ *National Radio Astronomy Observatory*, ⁴ *University of Toronto*, ⁵ *University of Wisconsin-Madison*, ⁶ *University of Wisconsin-Whitewater*

340.36 Properties of Cold HI Emission Clouds in the Inner-Galaxy ALFA Survey

Author(s): **James Marcus Hughes**⁸, Steven J. Gibson⁷, Alberto Noriega-Crespo⁵, Jonathan Newton⁷, Bon-Chul Koo⁴, Kevin A. Douglas³, Joshua Eli Goldston Peek⁵, Geumsook Park⁴, Ji-hyun Kang⁹, Eric J. Korpela¹, Carl E. Heiles⁶, Thomas M. Dame²
Institution(s): ¹ *Berkeley Space Science Laboratory*, ² *Harvard-Smithsonian Center for Astrophysics*, ³ *Okanagan College*, ⁴ *Seoul National University*, ⁵ *Space Telescope Science Institute*, ⁶ *University of California-Berkeley*, ⁷ *Western Kentucky University*, ⁸ *Williams College*, ⁹ *Yonsei University*

341 Supernovae Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

341.01 SALT Spectroscopy of ASASSN-15lh: The Most Luminous Supernova?

Author(s): **Travis Court**¹, Yssavo Camacho², Kyle Dettman², Saurabh W Jha²
Institution(s): ¹ *Allegheny College*, ² *Rutgers, The State University of New Jersey*

341.02 SOUSA Supernova Surprises

Author(s): **Peter J. Brown**¹
Institution(s): ¹ *Texas A&M*

341.03 Fast and Furious: Analysis of the Luminous and Rapidly-Evolving Type Ic-BL Supernova iPTF16asu

Author(s): **Lindsey Whitesides**¹, Ragnhild Lunnan¹, Mansi M. Kasliwal¹, Alessandra Corsi³, Stephen B. Cenko²
Institution(s): ¹ *California Institute of Technology*, ² *NASA Goddard*, ³ *Texas Tech*

341.04 SN 2013fs & SN 2013fr: Filling the gaps between Type IIn and Type IIP supernovae

Author(s): **Christopher William Bullivant**¹, Nathan Smith¹, Peter Milne¹
Institution(s): ¹ *University of Arizona*
 Contributing team(s): LOSS, PESSTO, LCOGT

341.05 The Extinction properties of and distance to the highly reddened Type~Ia supernova SN 2012cu

Author(s): **Xiaosheng Huang**¹⁴, Zachary Raha¹⁴, Greg Scott Aldering⁵, Pierre Antilogus⁴, Stephen J. Bailey⁵, Baltay Charles¹⁵, Kyle H. Barbary¹², Derek Baugh⁹, Kyle Boone⁵, Sebastien Bongard⁴, Clement Buton¹⁰, Juncheng Chen⁹, Nicolas Chotard¹⁰, Yannick Copin¹⁰, Parker Fagrelus⁵, Hannah Fakhouri⁵, Ulrich Feindt⁸, Dominique Fouchez¹, Emmanuel Gangler², Brian Hayden⁵, Wolfgang Hillebrandt⁶, Alex G. Kim⁵, Marek Kowalski³, Pierre-Francois Leget², Simona Lombardo³, Jakob Nordin³, Reynald Pain⁴, Emmanuel Pecontal¹¹, Rui Pereira¹⁰, Saul Perlmutter⁵, David L. Rabinowitz¹⁵, Mickael Rigault³, David Rubin⁷, Karl Runge⁵, Clare Saunders⁵, Gerard Smadja¹⁰, Caroline Sofiatti⁵, Andrew Stocker¹³, Nao Suzuki⁵, Stefan Taubenberger⁶, Charling Tao⁹, Rollin Thomas⁵
Institution(s): ^{1.} Aix-Marseille Universite, ^{2.} Clermont Universite, ^{3.} Humboldt-Universitat, ^{4.} Laboratoire de Physique Nucleaire et des Hautes Energies, Universite Pierre et Marie Curie Paris 6, ^{5.} Universite Paris Diderot Paris 7, CNRS-IN2P3, ^{6.} Lawrence Berkeley Nat'l Lab, ^{7.} Max-Planck-Institut fur Astrophysik, ^{8.} Space Telescope Science Institute, ^{9.} Stockholm University, ^{10.} Tsinghua Center for Astrophysics, Tsinghua University, ^{11.} Universite de Lyon, ^{12.} University of California, Berkeley, ^{13.} University of Colorado, ^{14.} University of San Francisco, ^{15.} Yale University

341.06 Two New Calcium-Rich Gap Transients in Group and Cluster Environments

Author(s): **Ragnhild Lunnan**¹, Mansi M. Kasliwal¹, Yi Cao⁵, Laura Hangard⁴, Ofer Yaron⁶, Jerod Parrent², Yagi Masafumi³
Institution(s): ^{1.} California Institute of Technology, ^{2.} Harvard University, ^{3.} NOAJ, ^{4.} Oskar Klein Center, ^{5.} UW, ^{6.} Weizmann Institute of Science
 Contributing team(s): Intermediate Palomar Transient Factory

341.07 Supernova Classification Using Swift UVOT Photometry

Author(s): **Madison Smith**¹, Peter J Brown²
Institution(s): ^{1.} New College of Florida, ^{2.} Texas A&M University

341.08 See Change: the Supernova Sample from the Supernova Cosmology Project High Redshift Cluster Supernova Survey

Author(s): **Brian Hayden**²⁰, Saul Perlmutter²⁰, Kyle Boone²⁰, Jakob Nordin⁴, David Rubin¹⁵, Chris Lidman², Susana E. Deustua¹⁵, Andrew S. Fruchter¹⁵, Greg Scott Aldering⁹, Mark Brodwin³⁰, Carlos E. Cunha¹⁶, Peter R. Eisenhardt⁷, Anthony H. Gonzalez²⁷, James Jee³², Hendrik Hildebrandt²³, Henk Hoekstra¹⁰, Joana Santos¹, S. Adam Stanford¹⁹, Daniel Stern¹⁹, Rene Fassbender⁵, Johan Richard³, Piero Rosati²⁶, Risa H. Wechsler¹⁶, Adam Muzzin²⁴, Jon Willis³¹, Hans Boehringer¹², Michael Gladders²⁵, Ariel Goobar¹⁷, Rahman Amanullah¹⁷, Isobel Hook⁸, Dragan Huterer²⁹, Xiaosheng Huang⁹, Alex G. Kim⁹, Marek Kowalski⁴, Eric Linder⁹, Reynald Pain¹¹, Clare Saunders²⁰, Nao Suzuki⁶, Kyle H. Barbary²⁰, Eli S. Rykoff¹⁴, Joshua Meyers¹⁶, Anthony L. Spadafora⁹, Caroline Sofiatti²⁰, Gillian Wilson¹⁸, Eduardo Rozo²¹, Matt Hilton²⁸, Pilar Ruiz-Lapuente²², Kyle Luther¹³, Mike Yen²⁰, Parker Fagrelus²⁰, Samantha Dixon²⁰, Steven Williams⁸

Institution(s): ^{1.} Arcetri Observatory, ^{2.} Australian Astronomical Observatory, ^{3.} CRAL, ^{4.} Humboldt University of Berlin, ^{5.} INAF OA Roma, ^{6.} IPMU, ^{7.} Jet Propulsion Laboratory, ^{8.} Lancaster University, ^{9.} Lawrence Berkeley National Lab, ^{10.} Leiden University, ^{11.} LPNHE, ^{12.} Max Planck Institute for Astrophysics, ^{13.} Princeton University, ^{14.} SLAC, ^{15.} Space Telescope Science Institute, ^{16.} Stanford University, ^{17.} Stockholm University, ^{18.} UC Riverside, ^{19.} UC, Davis, ^{20.} UC-Berkeley, ^{21.} University of Arizona, ^{22.} University of Barcelona, ^{23.} University of Bonn, ^{24.} University of Cambridge, ^{25.} University of Chicago, ^{26.} University of Ferrara, ^{27.} University of Florida, ^{28.} University of KwaZulu-Natal, ^{29.} University of Michigan, ^{30.} University of Missouri - Kansas City, ^{31.} University of Victoria, ^{32.} Yonsei University

341.09 New Cosmology Results from The Pan-STARRS Type Ia Supernova Sample

Author(s): Daniel Scolnic³, David Jones¹, Armin Rest²

Institution(s): ^{1.} Johns Hopkins University, ^{2.} STScI, ^{3.} University of Chicago

Contributing team(s): Pan-STARRS Transients Team

341.10 The Supernova Key Project

Author(s): Dale Andrew Howell¹

Institution(s): ^{1.} Las Cumbres Global Telescope Network, Inc.

341.11 Studies of Machine Learning Photometric Classification of Supernovae

Author(s): Joseph Nicholas Macaluso², John Cunningham², Stephen Kuhlmann¹, Ravi Gupta¹, Eve Kovacs¹

Institution(s): ^{1.} Argonne National Laboratory, ^{2.} Loyola University Chicago

341.12 Calibration and Simulation of the Foundation Supernova Survey

Author(s): Michael Foley⁸, Ryan Foley⁶, Daniel Scolnic⁷, Armin Rest⁵, Adam G. Riess², Saurabh W Jha⁴, Robert Kirshner¹, Ori Dosovitz Fox⁵, Yen-Chen Pan⁶, Steven Smartt³

Institution(s): ^{1.} Harvard-Smithsonian Center for Astrophysics, ^{2.} Johns Hopkins University, ^{3.} Queen's University Belfast, ^{4.} Rutgers University, ^{5.} Space Telescope Science Institute, ^{6.} University of California Santa Cruz, ^{7.} University of Chicago, ^{8.} University of Notre Dame

341.13 Understanding how Supernova Light Curves are Affected by the Density Profiles of Extended Material

Author(s): Marc Mühleisen¹, Anthony Piro¹

Institution(s): ^{1.} Carnegie Observatories

341.14 On the Nebular-Phase Spectra of Type Ia Supernovae

Author(s): Sahana Kumar¹, Melissa Graham², Alexei V. Filippenko¹

Institution(s): ^{1.} University of California, Berkeley, ^{2.} University of Washington

FRIDAY, 6 JANUARY 2017

341.15 A Systematic Study of Mid-Infrared Emission from Core-Collapse Supernovae with SPIRITS

Author(s): **Samaporn Tinyanont**², Mansi M. Kasliwal², Ori Dosovitz Fox⁷, Ryan M. Lau², Nathan Smith⁸, Robert E. Williams⁷, Jacob Jencson², Daniel A. Perley³, Devin Dykhoff⁵, Robert D. Gehrz⁵, Joel Johansson¹, Schuyler D. Van Dyk⁴, Frank J. Masci⁴, Ann Marie Cody⁶, Thomas Allen Prince²

Institution(s): ^{1.} Benozzi Center for Astrophysics, Weizmann Institute of Science, ^{2.} California Institute of Technology, ^{3.} Dark Cosmology Centre, Niels Bohr Institute, University of Copenhagen, ^{4.} Infrared Processing and Analysis Center, California Institute of Technology, ^{5.} Minnesota Institute for Astrophysics, School of Physics and Astronomy, University of Minnesota, ^{6.} NASA Ames Research Center, ^{7.} Space Telescope Science Institute, ^{8.} Steward Observatory, University of Arizona

Contributing team(s): SPIRITS

341.16 Bolometric Lightcurves of Peculiar Type II-P Supernovae

Author(s): **Jeremy A Lusk**¹, Edward A. Baron¹

Institution(s): ^{1.} University of Oklahoma

341.17 Studying white dwarf merger remnants with FLASH

Author(s): **Malia Jenks**¹

Institution(s): ^{1.} University of Oklahoma

341.18 Estimating Type Ia Supernova Metallicities Using Neural Networks

Author(s): **V. Ashley Villar**¹

Institution(s): ^{1.} Harvard University

341.19 Type Ia Supernova Modeling with Spectrophotometric Data from the Nearby Supernova Factory

Author(s): **Clare Saunders**¹

Institution(s): ^{1.} Laboratoire de Physique Nucléaire et de Hautes Énergies

Contributing team(s): The Nearby Supernova Factory

341.20 Identifying Type Ia Supernova Mechanisms in Dwarf Spheroidal Galaxies through Analysis of Iron-peak Elemental Abundances

Author(s): **Rachel Guo**², Justin Long Xie³, Evan N Kirby¹

Institution(s): ^{1.} California Institute of Technology, ^{2.} Irvington High School, ^{3.} The Harker School

341.21 Uncertainty in Explosive Yields of Core-Collapse Supernovae

Author(s): **Sydney Andrews**², Chris Fryer², Wesley P. Even², Samuel Jones¹, Marco Pignatari³

Institution(s): ^{1.} Heidelberg Institute for Theoretical Studies, ^{2.} Los Alamos National Laboratory, ^{3.} Milne Centre for Astrophysics, University of Hull

Contributing team(s): NuGrid Collaboration

341.22 r-Process Nucleosynthesis in Jet-driven Core-Collapse Supernovae

Author(s): **Goni Halevi**¹, Philipp Moesta¹

Institution(s): ^{1.} University of California, Berkeley

342 Cosmology & CMB Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

342.01 The HST Frontier Fields: Complete High-Level Science Data Products for All 6 Clusters

Author(s): **Anton M. Koekemoer**¹, Jennifer Mack¹, Jennifer M. Lotz¹, David Borncamp¹, Harish G. Khandrika¹, Ray A. Lucas¹, Catherine Martlin¹, Blair Porterfield¹, Ben Sunnquist¹, Jay Anderson¹, Roberto J. Avila¹, Elizabeth A. Barker¹, Norman A. Grogin¹, Heather C. Gunning¹, Bryan Hilbert¹, Sara Ogaz¹, Massimo Robberto¹, Kenneth Sembach¹, Kathryn Flanagan¹, Matt Mountain¹
Institution(s): ¹ STScI

Contributing team(s): HST Frontier Fields Team

342.02 Detecting Massive, High-Redshift Galaxy Clusters Using the Thermal Sunyaev-Zel'dovich Effect

Author(s): **Carson Adams**¹, Charles L. Steinhardt⁶, Abraham Loeb², Alexander Karim⁵, Johannes Staguhn⁴, Jens Eler⁵, Peter L. Capak³
Institution(s): ¹ California Institute of Technology, ² Harvard University, ³ Infrared Processing and Analysis Center, ⁴ Johns Hopkins University, ⁵ The University of Bonn, ⁶ University of Copenhagen

342.03 The Suppression of Star Formation in Low-Mass Galaxies Caused by the Reionization of their Local Patch

Author(s): **Taha Dawoodbhoy**⁶, Paul R. Shapiro⁶, Jun-Hwan Choi⁶, Pierre Ocvirk¹, Nicolas Gillet¹, Dominique Aubert¹, Ilian T. Iliev⁵, Romain Teyssier⁷, Gustavo Yepes⁴, David Sullivan⁵, Alexander Knebe⁴, Stefan Gottloeber³, Anson D'Aloisio⁶, Hyunbae Park⁶, Yehuda Hoffman², Timothy Stranex⁷
Institution(s): ¹ Observatoire Astronomique de Strasbourg, ² Hebrew University, ³ Leibniz-Institute für Astrophysik Potsdam (AIP), ⁴ Universidad Autónoma de Madrid, ⁵ University of Sussex, ⁶ University of Texas at Austin, ⁷ University of Zurich

342.04 Time delay in the variability of multiply lensed QSOs HS0810+2554 and Q2237+030

Author(s): **Alex Storrs**¹, Sergio Lainez¹
Institution(s): ¹ Towson Univ.

342.05 Deep Generative Models of Galaxy Images for the Calibration of the Next Generation of Weak Lensing Surveys

Author(s): **Francois Lanusse**¹, Siamak Ravanbakhsh¹, Rachel Mandelbaum¹, Jeff Schneider¹, Barnabas Poczos¹
Institution(s): ¹ Carnegie Mellon University

342.06 Simulating Type 1a Supernova Populations Using Host Mass Information

Author(s): **Jared Hand**¹, Daniel Scolnic²
Institution(s): ¹ Boise State University, ² University of Chicago

FRIDAY, 6 JANUARY 2017

342.07 Analyses in Support of the WFIRST Supernova Survey

Author(s): **David Rubin**³, Greg Scott Aldering², Baltay Charles⁵, Kyle H. Barbary², Miles Currie¹, Susana E. Deustua³, Parker Fagrelis², Ori Dosovitz Fox³, Andrew S. Fruchter³, David R. Law³, Saul Perlmutter², Klaus Pontoppidan³, David L. Rabinowitz⁵, Masao Sako⁴

Institution(s): ^{1.} Florida state university, ^{2.} lawrence Berkeley National Laboratory, ^{3.} Space Telescope Science Institute, ^{4.} U Penn, ^{5.} Yale

342.09 The tethered galaxy problem: a possible window to explore cosmological models

Author(s): **Matipon Tangmatitham**¹, Robert J. Nemiroff¹

Institution(s): ^{1.} Michigan Technical University

342.10 On the Shape of Dark Matter Halos in Milky Way-like Galaxies

Author(s): **Biwei Dai**¹, Brant E. Robertson², Piero Madau²

Institution(s): ^{1.} Peking University, ^{2.} University of California, Santa Cruz

342.11 Improved linear kinetic Sunyaev-Zel'dovich effect constraints on the observed Local Void

Author(s): **Benjamin L Hoscheit**², Amy J. Barger¹

Institution(s): ^{1.} Department of Astronomy, University of Wisconsin-Madison, ^{2.} Department of Physics, University of Wisconsin-Madison

342.12 The rarity of Dark Matter Halos in medium-sized walls of the cosmic web

Author(s): **Tze Goh**¹, Joel R. Primack⁴, Christoph Lee⁴, Miguel A Aragon-Calvo², Peter Behroozi³

Institution(s): ^{1.} Columbia Univeristy, ^{2.} Universidad Nacional Autonoma de Mexico, ^{3.} University of California, Berkeley, ^{4.} University of California, Santa Cruz

342.13 Superconducting microstripline diplexer for CMB studies in the 200-300 GHz atmospheric window

Author(s): **Elizabeth Dabrowski**¹, Peter T. Timbie²

Institution(s): ^{1.} University of Puget Sound, ^{2.} University of Wisconsin - Madison

342.14 Variable-delay Polarization Modulators for the CLASS Telescopes

Author(s): **Kathleen Harrington**¹

Institution(s): ^{1.} Johns Hopkins University

Contributing team(s): CLASS Collaboration

343 Star Associations, Star Clusters - Galactic & Extragalactic Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

343.01 The Open Cluster Chemical Abundances and Mapping (OCCAM) Survey: Overview and Membership Methods

Author(s): **John Donor**⁶, Peter M. Frinchaboy⁶, Julia O'Connell⁶, Katia M. L. Cunha³, Benjamin A. Thompson⁶, Matthew Melendez⁶, Matthew D. Shetrone⁹, Steven R. Majewski⁸, Gail Zasowski⁵, Carlos Allende-Prieto¹, Marc H. Pinsonneault⁴, Alexandre Roman-Lopes⁷, Mathias Schultheis², Keivan G. Stassun¹⁰

Institution(s): ¹. IAC, ². Observatoire de la Cote d'Azur, ³. Observatorio Nacional, ⁴. Ohio State Univ., ⁵. STSci, ⁶. Texas Christian University, ⁷. U. La Serena, ⁸. Univ. of Virginia, ⁹. University of Texas, ¹⁰. Vanderbilt
 Contributing team(s): Apogee Team

343.02 The Open Cluster Chemical Abundances and Mapping (OCCAM) Survey: Galactic Gradients using SDSS-IV/DR13 and Gaia

Author(s): **Peter M. Frinchaboy**¹¹, John Donor¹¹, Julia O'Connell¹¹, Katia M. L. Cunha⁷, Benjamin A. Thompson¹¹, Matthew Melendez¹¹, Matthew D. Shetrone¹⁴, Steven R. Majewski¹⁶, Gail Zasowski¹⁰, Carlos Allende-Prieto², Ricardo Carrera², Ana García Pérez², Michael R. Hayden⁶, Fred R. Hearty⁹, Jon A. Holtzman⁴, Jennifer Johnson⁸, Szabolcs Meszaros⁴, David L. Nidever¹², Marc H. Pinsonneault⁸, Alexandre Roman-Lopes¹³, Ricardo P. Schiavon³, Mathias Schultheis⁶, Verne V. Smith⁵, Jennifer Sobeck¹⁵, Keivan G. Stassun¹⁷

Institution(s): ¹. ELTE Gothard Astrophysical Obs., ². IAC, ³. Liverpool John Moores, ⁴. New Mexico State U., ⁵. NOAO, ⁶. Observatoire de la Cote d'Azur, ⁷. Observatorio Nacional, ⁸. Ohio State U., ⁹. Penn State U., ¹⁰. STSci, ¹¹. Texas Christian Univ. (TCU), ¹². U. Arizona, ¹³. U. La Serena, ¹⁴. U. Texas, ¹⁵. U. Washington, ¹⁶. Univ. of Virginia, ¹⁷. Vanderbilt U.

Contributing team(s): APOGEE Team

343.03 The Open Cluster Chemical Abundances and Mapping (OCCAM) Survey: Optical Extension for Neutron Capture Elements

Author(s): **Matthew Melendez**⁴, Julia O'Connell⁴, Peter M. Frinchaboy⁴, John Donor⁴, Katia M. L. Cunha¹, Matthew D. Shetrone⁶, Steven R. Majewski⁷, Gail Zasowski³, Marc H. Pinsonneault², Alexandre Roman-Lopes⁵, Keivan G. Stassun⁸

Institution(s): ¹. Observatorio Nacional, ². Ohio State, ³. STSci, ⁴. Texas Christian University, ⁵. U. La Serena, ⁶. University of Texas, ⁷. University of Virginia, ⁸. Vanderbilt

Contributing team(s): APOGEE Team

343.04 Barium Abundances in Omega Centauri Candidate Stars

Author(s): **Joy Nicole Skipper**³, Jennifer Sobeck³, Steven R. Majewski³, Christian Rochford Hayes³, Katia M. L. Cunha², Verne V. Smith¹, Guillermo Damke³, Ana García Pérez³, David L. Nidever¹

Institution(s): ¹. NOAO, ². Observatorio Nacional, ³. University of Virginia

343.05 Searching for the Progenitor Galaxy of Omega Centauri Using RR Lyrae Spectra

Author(s): **Natalia Carignano**⁴, Anna Katherina Vivas², Marcio Catelan³, Gabriel Torrealba⁵, Jose Gregorio Fernandez Trincado¹

Institution(s): ¹. Besancon Astronomical Observatory, ². Cerro Tololo Inter-American Observatory, ³. Pontificia Universidad Católica de Chile, ⁴. Smith College, ⁵. University of Cambridge

343.06 Low-Resolution Spectroscopic Study of the Intriguing Globular Cluster NGC 2808: Chemical Abundance Patterns among Subpopulations

Author(s): **Seungsoo Hong**², Dongwook Lim², Sang-Il Han¹, Young-Wook Lee²

Institution(s): ¹. Korea Astronomy and Space Science Institute, ². Yonsei University

FRIDAY, 6 JANUARY 2017

- 343.07 The Trigonometric Parallax of the Globular Cluster M4**
Author(s): **Richard F. Rees**¹, Kyle M. Cudworth²
Institution(s): ¹ Westfield State University, ² Yerkes Observatory
- 343.08 Interstellar Extinction toward the Young Open Cluster NGC 1502**
Author(s): **Gregory A. Topasna**², Nadia Kaltcheva¹
Institution(s): ¹ University of Wisconsin Oshkosh, ² Virginia Military Institute
- 343.09 H-alpha and H-beta Standard Stars in M 67 and NGC 752**
Author(s): **Michael D. Joner**¹, Clint A. Saylor¹, Maureen Hintz¹, Eric G. Hintz¹
Institution(s): ¹ Brigham Young Univ.
- 343.10 H-alpha Monitoring of the Star Field around Cygnus OB2**
Author(s): **Seth Clarke**¹, Eric G. Hintz¹, Michael D. Joner¹
Institution(s): ¹ Brigham Young University
- 343.11 Variable Stars in M92 and M15**
Author(s): **Riley Jordan**¹, Nathaniel Paust¹
Institution(s): ¹ Whitman College
- 343.12 Stellar Variability in the Intermediate Age Cluster NGC 1846**
Author(s): **Michael A Pajkos**¹, Ricardo Salinas³, Anna Katherina Vivas², Jay Strader⁴, Rodrigo Contreras⁵
Institution(s): ¹ Butler University, ² Cerro Tololo Inter-American Observatory, ³ Gemini South Observatory, ⁴ Michigan State University, ⁵ Pontificia Universidad Catolica de Chile
- 343.13 From the Ultraviolet to the Infrared: The Stellar Population of the Globular Cluster M70**
Author(s): **Sabrina Appel**², David Zurek¹, Nathan Leigh¹
Institution(s): ¹ American Museum of Natural History, ² Reed College
- 343.14 Deep WIYN Imaging of the Globular Cluster System of the Lenticular Galaxy NGC 3607**
Author(s): **Derrick Carr**¹, Katherine L. Rhode², Regina Jorgenson³
Institution(s): ¹ Haverford College, ² Indiana University, ³ Maria Mitchell Association
- 343.16 Photometric Calibrations of Gemini Images of NGC 6253**
Author(s): **Sean Pearce**¹, Elizabeth Jeffery¹
Institution(s): ¹ Brigham Young University
- 343.17 The Role of Dynamics in the Formation of Cataclysmic Variables in Globular Clusters**
Author(s): **Enrico Vesperini**¹, Jongsuk Hong¹, Diogo Belloni², Mirek Giersz²
Institution(s): ¹ Indiana University, Bloomington, ² Nicolaus Copernicus Astronomical Center
- 343.18 Stellar Parameters of A- and B-type Members of the Scorpius-Centaurus OB Association**
Author(s): **Grant Eckelkamp**¹, Skylar Smith¹, Mark Pecaut¹, Eric E. Mamajek²
Institution(s): ¹ Rockhurst University, ² University of Rochester

343.19 Star Cluster Mass Functions and Hierarchical Clustering: Learning from Kaposov 1 and 2

Author(s): Nathaniel Paust², Danielle Wilson², Gerard van Belle¹
 Institution(s): ¹ Lowell Observatory, ² Whitman College

343.20 New insight on the chemical evolution in proto-globular clusters

Author(s): Jaeyeon Kim¹, Young-Wook Lee¹
 Institution(s): ¹ Yonsei University

343.21 Spectroscopy of globular clusters in the outer halo of M81

Author(s): Chutipong Suwannajak¹, Ata Sarajedini¹
 Institution(s): ¹ University of Florida

343.22 The Extended Globular Cluster System of NGC3923

Author(s): Tomás Ahumada³, Bryan Miller², Graeme Candlish⁴, Stacy S. McGaugh¹, Chris Mihos¹, Rory Smith⁵, Thomas H. Puzia³, Matthew Taylor³
 Institution(s): ¹ Case Western Reserve University, ² Gemini Observatory, ³ Pontificia Universidad Católica de Chile, ⁴ Universidad de Valparaíso, ⁵ Yonsei University

343.23 Star Clusters within FIRE

Author(s): Adrianna Perez³, Jorge Moreno², Jill Naiman⁴, Enrico Ramirez-Ruiz⁵, Philip F. Hopkins¹
 Institution(s): ¹ California Institute of Technology, ² California State Polytechnic University, Pomona, ³ CSU Dominguez Hills, ⁴ Harvard, ⁵ UC Santa Cruz

343.24 Tidal Tales II: Molecular Gas and Star Formation in the Tidal Tails of Minor Mergers

Author(s): Karen A. Knierman¹, Paul A. Scowen¹, Christopher E. Groppi¹
 Institution(s): ¹ School of Earth and Space Exploration - Arizona State University

344 X-Ray & Eclipsing Binaries, Multiple Star Systems Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

344.01 The Spectrum of SS 433 in the H and K Bands

Author(s): Edward L. Robinson², Cynthia S. Froning², Daniel Thomas Jaffe², Kyle Kaplan², Hwiyun Kim², Gregory N. Mace², Kimberly R. Sokal², Jae-Joon Lee¹
 Institution(s): ¹ KASSI, ² Univ. of Texas

344.02 The Distorted Winds of V444 Cygni: New Insights from Spectropolarimetry

Author(s): Jennifer L. Hoffman¹, Sierra F. Ashley¹, Jose L. Ornelas¹, Andrew Fullard¹, Jamie R Lomax⁴, Manisha Shrestha¹, Brian L Babler⁵, Jon Eric Bjorkman², Karen S. Bjorkman², James W. Davidson³, Marilyn Meade⁵, Kenneth H. Nordsieck⁵, Noel Richardson²
 Institution(s): ¹ University of Denver, ² University of Toledo, ³ University of Virginia, ⁴ University of Washington, ⁵ University of Wisconsin-Madison

FRIDAY, 6 JANUARY 2017

- 344.03 The Structures of X-ray Binary Systems V801 Ara and Cyg X-3 from Doppler Tomography**
Author(s): **Kaley Brauer**¹, Saeqa Dil Vrtilek³, Charith Peris³, Karri Koljonen², Michael L. McCollough³
Institution(s): ¹ Brown University, ² Finnish Center for Astronomy, ³ Harvard-Smithsonian, CfA
- 344.04 X-Ray Analysis of a Pulsating Source in the 3XMM Catalogue with a Period of 6.8 Minutes**
Author(s): **Hao Qiu**¹, Ping Zhou¹, Wenfei Yu², Xiangdong Li¹, Xiaojie Xu¹
Institution(s): ¹ School of Astronomy and Space Science, Nanjing University, ² Shanghai Astronomical Observatory
- 344.05 Selection effects on the orbital period distribution of Low Mass X-ray Binaries**
Author(s): **Kavitha Arur**¹, Tom Maccarone¹
Institution(s): ¹ Texas Tech University
- 344.06 X-ray Luminosity Functions of Subgalactic Regions in the Whirlpool Galaxy (M51)**
Author(s): **Larissa Markwardt**⁴, Bret Lehmer⁴, Rafael Eufrazio⁴, Antara Basu-Zych², Tassos Fragos¹, Ann E. Hornschemeier², Vassiliki Kalogera³, Andrew Ptak², Panayiotis Tzanavaris², Andreas Zezas⁵
Institution(s): ¹ Geneva Observatory, ² NASA Goddard Space Flight Center, ³ Northwestern University, ⁴ University of Arkansas, ⁵ University of Crete
- 344.07 Multi-color Photometric Study of the Contact Eclipsing Binary V1062 Her**
Author(s): **Amanda Hashimoto**¹, Xianming L. Han¹, Liyun Zhang², Daimei Wang², Hongpeng Lu²
Institution(s): ¹ Butler University, ² Guizhou University
- 344.08 Artificial Neural Network Solutions to Eclipsing Binary Lightcurves from the Kepler Space Telescope Database**
Author(s): **Connor Hause**², Andrej Prsa², Gal Matijevic¹, Edward F. Guinan²
Institution(s): ¹ Leibniz Institute for Astrophysics Potsdam, ² Villanova University
- 344.09 Using Gaussian Processes to Model Noise in Eclipsing Binary Light Curves**
Author(s): **Andrej Prsa**¹, Kelly M Hambleton¹
Institution(s): ¹ Villanova University
- 344.10 The Galactic Distribution of Contact Eclipsing Binaries**
Author(s): **Michael W. Castelaz**¹, Leah Dorn², Abby Breitfeld³, Regan Mies⁴, Tess Avery⁵
Institution(s): ¹ Brevard College, ² North Carolina State University, ³ Princeton University, ⁴ St John's Preparatory School, ⁵ St. Paul's High School
- 344.11 COS Spectroscopy of White Dwarf Companions to Blue Stragglers**
Author(s): **Natalie M. Gosnell**², Aaron M. Geller⁴, Christian Knigge⁵, Robert D. Mathieu⁶, Alison Sills³, Emily Leiner⁶, Nathan Leigh¹
Institution(s): ¹ American Museum of Natural History, ² Colorado College, ³ McMaster University, ⁴ Northwestern University, ⁵ University of Southampton, ⁶ University of Wisconsin-Madison

- 344.12 K-KIDS: Companions to K Dwarfs Within 50 Parsecs**
 Author(s): Daniel Anthony Nusdeo¹, Jennifer Winters², Leonardo Paredes-Alvarez¹, Elliott Horch⁴, Wei-Chun Jao¹, Todd J. Henry³
 Institution(s): ¹ Georgia State University, ² Harvard-Smithsonian CfA, ³ RECONS Institute, ⁴ Southern Connecticut State University
 Contributing team(s): The RECONS Institute
- 344.13 The K-KIDS Sample: K Dwarfs within 50 Parsecs and the Search for their Closest Companions with CHIRON**
 Author(s): Leonardo Paredes-Alvarez¹, Daniel Anthony Nusdeo¹, Todd J. Henry², Wei-Chun Jao¹, Douglas R. Gies¹, Russel White¹
 Institution(s): ¹ Georgia State University, ² RECONS
 Contributing team(s): RECONS Team
- 344.14 New Low-Mass Wide Companions to Members of the Sco-Cen OB Association**
 Author(s): Molly Finn³, Eric E. Mamajek³, Kevin Luhman¹, Simon Murphy²
 Institution(s): ¹ Pennsylvania State University, ² University of New South Wales, ³ University of Rochester
- 344.15 An All-Sky Search for Wide Binaries in the SUPERBLINK Proper Motion Catalog**
 Author(s): Zachary Hartman¹, Sebastien Lepine¹
 Institution(s): ¹ Georgia State University
- 344.16 Assessing the fundamental limits of multiple star formation: An imaging search for the lowest mass stellar companions to intermediate-mass stars**
 Author(s): Gaspard Duchene⁵, Jner Tzern Oon⁵, Patrick Kantorski⁵, Robert J De Rosa⁵, Sandrine Thomas², Jennifer Patience¹, Laurent Pueyo⁴, Eric L. Nielsen³, Quinn M. Konopacky⁶
 Institution(s): ¹ Arizona State University, ² Large Synoptic Survey Telescope, ³ SETI Institute, ⁴ Space Telescope Science Institute, ⁵ University of California Berkeley, ⁶ University of California, San Diego
- 344.17 Analyzing Age-Rotation-Activity Relationships in Wide Binary Systems**
 Author(s): Riley Walton Clarke¹, James R. A. Davenport¹
 Institution(s): ¹ Western Washington University
- 344.18 Searching for Long-Period Companions and False Positives within the APOGEE Catalog of Companion Candidates**
 Author(s): Duy Nguyen¹, Nicholas William Troup¹, Steven R. Majewski¹
 Institution(s): ¹ University of Virginia
- 344.19 The APOGEE DR13 Catalog of Stellar and Substellar Companion Candidates**
 Author(s): Nicholas William Troup¹
 Institution(s): ¹ University of Virginia
 Contributing team(s): APOGEE RV Variability Working Group
- 344.20 APOGEE/Kepler Overlap Yields Orbital Solutions for a Variety of Eclipsing Binaries**
 Author(s): Joni Marie Clark Cunningham¹, Diana Windemuth², Aleezah Ali², Meredith L. Rawls², Jason Jackiewicz¹
 Institution(s): ¹ New Mexico State University, ² University of Washington

FRIDAY, 6 JANUARY 2017

344.21 The Complex Circumstellar and Circumbinary Environment of V356 Sgr

Author(s): **Andrew Fullard**², Jamie R Lomax⁶, Michael A. Malatesta³, Brian L Babler⁷, Daniel Bednarski¹, Jodi Berdis³, Karen S. Bjorkman⁴, Jon Eric Bjorkman⁴, Alex C. Carciofi¹, James W. Davidson⁵, Marcus Keil³, Marilyn Meade⁷, Kenneth H. Nordsieck⁷, Matt Scheffler³, Jennifer L. Hoffman², John P. Wisniewski³
Institution(s): ¹ Universidade de Sao Paulo, ² University of Denver, ³ University of Oklahoma, ⁴ University of Toledo, ⁵ University of Virginia, ⁶ University of Washington, ⁷ University of Wisconsin-Madison

344.22 Robust Modeling of Stellar Triples in PHOEBE

Author(s): **Kyle E. Conroy**¹, Andrej Prsa², Martin Horvat², Keivan G. Stassun¹
Institution(s): ¹ Vanderbilt University, ² Villanova University

344.23 Heat Redistribution and Misaligned Orbit Models in PHOEBE

Author(s): **Martin Horvat**¹, Andrej Prsa¹, Kyle E. Conroy¹
Institution(s): ¹ Villanova University

344.24 Determination of the Fundamental Properties of the Eclipsing Binary V541 Cygni

Author(s): **Chima McGruder**⁴, Guillermo Torres¹, Robert Siverd², Joshua Pepper³, Joseph Rodriguez¹
Institution(s): ¹ Harvard-Smithsonian CfA, ² Las Cumbres Observatory Global Telescope Network, ³ Lehigh University, ⁴ University of Tennessee Knoxville
Contributing team(s): the KELT collaboration

345 Circumstellar & Debris Disks Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

345.01 A New All-Sky Catalogue of Candidate Protoplanetary Disks from Aggregated Optical and Infrared Surveys

Author(s): **Daniel Horenstein**¹, Sebastien Lepine¹
Institution(s): ¹ Georgia State University

345.03 An ALMA Survey of Planet Forming Disks in Rho Ophiuchus

Author(s): **Erin Guilfoil Cox**⁸, Leslie Looney⁸, Robert J. Harris⁸, Jiayin Dong⁸, Dominique Segura-Cox⁸, John J. Tobin⁹, Sarah Sadavoy², Zhi-Yun Li¹⁰, Michael Dunham⁵, Laura M. Perez¹, Claire J. Chandler⁴, Kaitlin M. Kratter⁶, Carl Melis⁷, Hsin-Fang Chiang³
Institution(s): ¹ Max Planck Institut für Radioastronomie, ² Max Planck Institute for Astronomy, ³ National Center for Supercomputing Applications, ⁴ National Radio Astronomy Observatory, ⁵ SUNY Fredonia, ⁶ University of Arizona, ⁷ University of California--San Diego, ⁸ University of Illinois at Urbana-Champaign, ⁹ University of Oklahoma, ¹⁰ University of Virginia

345.04 Protoplanetary disks in Taurus: Probing the role of multiplicity with ALMA observations

Author(s): **Stefan Laos**², Rachel L. Akeson¹, Eric L. N. Jensen²
Institution(s): ¹ NASA Exoplanet Science Institute, Caltech, ² Swarthmore College

- 345.05 Disk Sizes and Grain Growth across the Brown Dwarf Boundary from the Taurus Boundary of Stellar/Substellar (TBOSS) Survey**
 Author(s): **Jenny Patience**¹, Kimberly Ward-Duong¹, Joanna Bulger⁵, Gerrit van der Plas⁶, Francois Menard², Christophe Pinte², Geoffrey Bryden³, Neal J. Turner³, Alan Patrick Jackson¹, Paul M. Harvey⁷, Antonio Hales⁴
 Institution(s): ¹. Arizona State University, ². IPAG, ³. JPL, ⁴. NRAO, ⁵. Subaru Observatory, ⁶. University of Chile, ⁷. UT Austin
- 345.06 Carbon Monoxide Emissions in Middle Aged Debris Disks**
 Author(s): **Morgan Henderson**³, Uma Gorti², Antonio Hales¹, John M. Carpenter¹, A. Meredith Hughes⁴
 Institution(s): ¹. Joint ALMA Observatory, ². NASA Ames Research Center, ³. University of Montana, ⁴. Wesleyan University
- 345.07 Differential polarization direct imaging of FU Ori type YSO**
 Author(s): **Guangwei Fu**², Michihiro Takami¹, Peter Scicluna¹, Jennifer Karr¹
 Institution(s): ¹. ASIAA, ². University of Wisconsin - Madison
- 345.08 The correlation between HCN/H₂O flux ratios and disk mass: evidence for protoplanet formation**
 Author(s): **Caitlin Rose**¹, Colette Salyk¹
 Institution(s): ¹. Vassar College
- 345.09 A CO Spectral Analysis of Protoplanetary Disks**
 Author(s): **Sara Vannah**², Colette Salyk¹
 Institution(s): ¹. Vassar College, ². Wellesley College
- 345.10 Variability of Disk Emission in Pre-main Sequence and Related Stars. IV. Occultation Events from the Innermost Disk Region of the Herbig AE Star HD 163296 = MWC 275**
 Author(s): **Monika Pikhartova**², Zachary Long², Rachel B Fernandes², Michael L Sitko², Carol A Grady¹, Evan Rich³, John P. Wisniewski³
 Institution(s): ¹. Eureka Scientific, ². University of Cincinnati, ³. University of Oklahoma
- 345.11 Variability of Disk Emission in Pre-main Sequence and Related Stars. V. Changes in the Innermost Disk Structure of the Herbig AE Star HD 31648 = MWC 480**
 Author(s): **Rachel Fernandes**³, Zachary Long³, Michael L. Sitko³, C. A. Grady¹, Nobuhiko Kusakabe²
 Institution(s): ¹. Goddard Space Flight Center, ². National Astronomical Observatory of Japan, ³. University of Cincinnati
- 345.12 The Transiting Exocomets in the HD 172555 System**
 Author(s): **C. A. Grady**¹, Alexander Brown⁵, Inga Kamp³, Aki Roberge⁴, Pablo Riviere-Marichalar², Barry Welsh¹
 Institution(s): ¹. Eureka Scientific, ². European Space Agency, ³. Kapteyn Institute, ⁴. NASA's GSFC, ⁵. University of Colorado

FRIDAY, 6 JANUARY 2017

- 345.13 Placing Limits on the Mass of the DH Tau b Circumplanetary Disk**
Author(s): **Schuyler G Wolff**⁴, Francois Menard², Claudio Caceres¹, Charlene Lefevre³
Institution(s): ¹ Instituto de Física y Astronomía, ² IPAG, ³ IRAM, ⁴ Johns Hopkins University
- 345.14 The Shadow Knows: Using Shadows to Investigate the Structure of the Pretransitional Disk of HD 00453**
Author(s): **Zachary Long**⁴, Rachel B Fernandes⁴, Michael L. Sitko⁴, Carol A Grady¹, Takayuki Muto², Jun Hashimoto³, John P. Wisniewski⁵
Institution(s): ¹ Eureka Scientific, ² Kogakuin University, ³ National Astronomical Observatory of Japan, ⁴ University of Cincinnati, ⁵ University of Oklahoma
Contributing team(s): the SEEDS Consortium
- 345.15 Investigating FP Tau's protoplanetary disk structure through modeling**
Author(s): **Marah Brinjikji**², Catherine Espaillat¹
Institution(s): ¹ Boston University Institute for Astrophysical Research, ² University of Michigan Astronomy Department
- 345.16 Migration of Gas Giant Planets in a Gravitationally Unstable Disk**
Author(s): **Karna Mahadev Desai**¹, Thomas Y. Steiman-Cameron¹, Scott Michael¹, Richard H. Durisen¹
Institution(s): ¹ Indiana University Bloomington
- 345.17 Effect of External Photoevaporation on the Radial Transport of Volatiles and the Water Snowline in the Solar Nebula**
Author(s): **Anusha Kalyaan**¹, Steven Desch¹
Institution(s): ¹ Arizona State University
- 345.18 Understanding Gas-Phase Ammonia Chemistry in Protoplanetary Disks**
Author(s): **Lauren Chambers**², Karin I. Oberg¹, Lauren Ilsedore Cleeves¹
Institution(s): ¹ Harvard-Smithsonian CfA, ² Yale University
- 345.19 Chemistry of protostellar envelopes and disks: computational testing of 2D abundances**
Author(s): **Lizxandra Flores Rivera**¹, Karen Willacy², Susan Terebey¹
Institution(s): ¹ California State University Los Angeles, ² Jet Propulsion Laboratory
- 345.20 Dust coagulation and magnetic field strength in a planet-induced gap subject to MRI turbulence**
Author(s): **Augusto Carballido**¹, Lorin Matthews¹, Truell Hyde¹
Institution(s): ¹ Baylor University

346 Galaxy Clusters Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

346.01 The Nature of Red-Sequence Cluster Spiral Galaxies

Author(s): Lane Kashur³, Wayne Barkhouse³, Madina Sultanova³, Sandanuwa Kalawila Vithanage³, Haylee Archer³, Gregory Foote³, Elijah Mathew³, Cody Rude², Omar Lopez-Cruz¹

Institution(s): ¹ INAOE, ² MIT Haystack Observatory, ³ University of North Dakota

346.02 Galaxy Groups within 3500 km s⁻¹

Author(s): Ehsan Kourkchi¹, R. Brent Tully¹

Institution(s): ¹ Institute for Astronomy

346.03 Constraining the Mass of A Galaxy Cluster

Author(s): Nicholas Cemenenkoff³, Kenneth J. Rines³, Margaret J. Geller¹, Antonaldo Diaferio²

Institution(s): ¹ Smithsonian Astrophysical Institute, ² University of Torino, ³ Western Washington University

346.04 The mass of high-z massive galaxy cluster, SPT-CL J2106-5844 using weak-lensing analysis with HST observations

Author(s): Jinhyub Kim², James Jee², Jongwan Ko¹

Institution(s): ¹ Korea Astronomy and Space Science Institute, ² Yonsei University

346.05 Discovery and Characterization of Gravitationally Lensed X-ray Sources in the CLASH Sample

Author(s): Imad Pasha², Reinout J. Van Weeren¹, Felipe A Santos¹

Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² University of California, Berkeley

346.06 Chandra Observation of the WAT Radio Source/ICM Interaction in Abell 623

Author(s): Gagandeep Anand¹, Elizabeth L. Blanton¹, Scott W. Randall², Rachel Paterno-Mahler⁴, Edmund Douglass³

Institution(s): ¹ Boston University, ² Harvard-Smithsonian Center for Astrophysics, ³ SUNY - Farmingdale State College, ⁴ University of Michigan

346.07 Algorithms for Finding Substructure in Galaxy Clusters

Author(s): Natalie Delworth¹, Eric M. Wilcots²

Institution(s): ¹ Brown University, ² Univ. of Wisconsin

346.08 The Impact of Large Scale Environments on Cluster Entropy Profiles

Author(s): Isabella Trierweiler², Yuanyuan Su¹

Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² Yale University

346.09 Undergraduate ALFALFA Team: Analysis of Spatially-Resolved Star-Formation in Nearby Galaxy Groups and Clusters

Author(s): Rose Finn², Natasha Collova², Sandy Spicer², Kelly Whalen², Rebecca A. Koopmann³, Adriana Durbala⁴, Martha P. Haynes¹

Institution(s): ¹ Cornell University, ² Siena College, ³ Union College, ⁴ University of Wisconsin - Stevens Point

Contributing team(s): Undergraduate ALFALFA Team

FRIDAY, 6 JANUARY 2017

- 346.10 Star Formation in Undergraduate ALFALFA Team Galaxy Groups and Clusters**
Author(s): **Rebecca A. Koopmann**⁹, Adriana Durbala¹⁰, Rose Finn⁶, Martha P. Haynes², Kimberly A. Coble⁵, David W Craig¹¹, G. Lyle Hoffman⁴, Brendan P. Miller¹, Mary Crone-Odekon⁷, Aileen A. O'Donoghue⁸, Parker Troischt³
*Institution(s):*¹ College of Saint Scholastica, ² Cornell University, ³ Hartwick College, ⁴ Lafayette College, ⁵ San Francisco State University, ⁶ Siena College, ⁷ Skidmore College, ⁸ St. Lawrence University, ⁹ Union College, ¹⁰ University of Wisconsin Stevens Point, ¹¹ West Texas A&M
Contributing team(s): Undergraduate ALFALFA Team, ALFALFA Team
- 346.11 The Gas in Virgo's "Red and Dead" Dwarf Elliptical Galaxies**
Author(s): **Gregory L Hallenbeck**¹, Rebecca A. Koopmann¹
*Institution(s):*¹ Union College
- 346.12 Extending ALFALFA in the Direction of the Pisces-Perseus Supercluster with the Arecibo L-Band Wide Receiver**
Author(s): **Aileen A. O'Donoghue**⁴, Martha P. Haynes¹, Rebecca A. Koopmann⁵, Michael G. Jones², Gregory L Hallenbeck⁵, Riccardo Giovanelli¹, Lyle Hoffman³, David W Craig⁶
*Institution(s):*¹ Cornell University, ² Instituto de Astrofísica de Andalucía (IAA-CSIC), ³ Lafayette College, ⁴ St. Lawrence Univ., ⁵ Union College, ⁶ West Texas A&M University
Contributing team(s): Undergraduate ALFALFA Team
- 346.13 Evolution of the BCG in Disturbed Galaxy Clusters**
Author(s): **Felipe Ardila**², Michael A. Strauss², Tod R. Lauer¹, Marc Postman³
*Institution(s):*¹ NOAO, ² Princeton University, ³ STScI
- 346.14 Accretion and Feedback from Supermassive Black Holes in Galaxy Clusters**
Author(s): **Yu Qiu**¹, Tamara Bogdanovic¹, KwangHo Park¹
*Institution(s):*¹ Georgia Institute of Technology
- 346.15 Star formation quenching and stellar mass in the cluster Abell 85**
Author(s): **Dario Fadda**³, Rebecca Habas⁴, Francine Marleau⁴, Andrea Biviano², Florence Durret¹
*Institution(s):*¹ IAP, ² INAF, ³ Sofia / USRA, ⁴ University of Innsbruck
- 346.16 The Co-Evolution of Galaxies, their ISM, and the ICM: The Hydrodynamics of Galaxy Transformation**
Author(s): **Rukmani Vijayaraghavan**², Craig L. Sarazin², Paul M. Ricker¹
*Institution(s):*¹ University of Illinois at Urbana-Champaign, ² University of Virginia

347 Evolution of Galaxies Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

- 347.01 Extraction of global 21-cm signal from simulated data for the Dark Ages Radio Explorer (DARE) using an MCMC pipeline**
 Author(s): **Keith A. Tauscher**², Jack O. Burns², David Rapetti², Jordan Mirocha¹, Raul A. Monsalve²
Institution(s): ¹ UCLA, ² Univ. of Colorado at Boulder
- 347.02 Predicting the High Redshift Galaxy Population for JWST**
 Author(s): **Zoey Flynn**¹, Andrew Benson²
Institution(s): ¹ Caltech, ² Carnegie Observatories
- 347.04 A New Semi-Empirical Model of Reionization**
 Author(s): **Steven L. Finkelstein**³, Jan-Pieter Paardekooper⁶, Peter Behroozi⁴, kristian finlator¹, Russell E. Ryan², Anson D'Aloisio⁵, Rachael C. Livermore³
Institution(s): ¹ NMSU, ² STScI, ³ The University of Texas at Austin, ⁴ UC Berkeley, ⁵ Univ of Washington, ⁶ University of Heidelberg
- 347.05 A Blind Search for Ly- α Emission from Galaxies at $z = 6-8$ with Deep HST Grism Spectra**
 Author(s): **Rebecca L Larson**³, Steven L. Finkelstein³, Norbert Pirzkal², Vithal Tilvi¹, Intae Jung³, Sangeeta Malhotra¹, James E. Rhoads¹
Institution(s): ¹ Arizona State University, ² Space Telescope Science Institute, ³ University of Texas at Austin
- 347.06 Investigating the Initial Mass Function with Increased Redshift**
 Author(s): **Danielle Rowland**¹, Steven L. Finkelstein³, Matthew L. Stevans³, Isaiah Tristan²
Institution(s): ¹ Columbia University, ² Rice University, ³ University of Texas at Austin
- 347.07 Searching for Extreme High Redshift Galaxies with HST Grism Spectroscopy**
 Author(s): **John R Weaver**¹, Michael Maseda¹
Institution(s): ¹ Leiden University
- 347.08 First Simultaneous Detection of Lyman-alpha Emission and Lyman Break from a Galaxy at Redshift 7.51 from Faint Infrared Grism Survey (FIGS)**
 Author(s): **Vithal Tilvi**¹, Norbert Pirzkal⁹, Sangeeta Malhotra¹, Steven L. Finkelstein¹³, James E. Rhoads¹, Rogier A. Windhorst¹, Norman A. Grogin⁹, Anton M. Koekemoer⁹, Nadia L. Zakamska³, Russell E. Ryan⁹, Lise Christensen¹¹, Nimish P. Hathi⁴, John Pharo¹, Bhavin Joshi¹, Huan Yang¹, Caryl Gronwall⁷, Andrea Cimatti¹⁰, J. Walsh², Robert W. O'Connell¹², Amber Straughn⁶, Göran Östlin⁸, Barry Rothberg⁵, Rachael C. Livermore¹³, Pascale Hibon², Jonathan P. Gardner⁶
Institution(s): ¹ Arizona State University, ² European Southern Observatory, ³ John Hopkins, ⁴ Laboratoire d'Astrophysique de Marseille, ⁵ LBTO, ⁶ NASA, ⁷ Penn State, ⁸ Stockholm University, ⁹ STScI, ¹⁰ Università di Bologna, ¹¹ University of Copenhagen, ¹² University of Virginia, ¹³ UT Austin
 Contributing team(s): FIGS Team

FRIDAY, 6 JANUARY 2017

347.09 Constraining CIII] Emission in a Statistic Sample of Five $z = 5.7$ Galaxies

Author(s): **Jiani Ding**⁴, Zheng Cai⁵, Xiaohui Fan⁴, Daniel Stark⁴, Fuyan Bian³, Linhua Jiang², Ian D. McGreer⁴, Brant E. Robertson⁵, Brian D. Siana¹

Institution(s): ¹ Dept of Physics and Astronomy, UC Riverside, ² Kavli Institute for Astronomy and Astrophysics, Peking University, ³ Research School of Astronomy and Astrophysics, Australian National University, ⁴ Steward Observatory, University of Arizona, ⁵ UCO/Lick Observatory, University of Santa Cruz

Contributing team(s): Space Telescope Science Institute

347.10 The [CII]/[NII] far-infrared line ratio at $z > 5$: extreme conditions for “normal” galaxies

Author(s): **Riccardo Pavesi**², Dominik Riechers², Peter L. Capak¹, Chris Luke Carilli⁴, Chelsea E. Sharon³, Gordon J. Stacey², Alexander Karim⁵, Nicholas Scoville¹, Vernesa Smolcic⁶

Institution(s): ¹ caltech, ² Cornell university, ³ McMaster University, ⁴ NRAO, ⁵ University of Bonn, ⁶ University of Zagreb

347.11 Discovery of Extreme [OIII]+H β Emission Line Galaxies Tracing an Overdensity at $z \sim 3.5$

Author(s): **Ben Forrest**¹, Kim-Vy Tran¹, Adam Broussard¹

Institution(s): ¹ Texas A&M University

Contributing team(s): The ZFOURGE Collaboration

347.12 Spatially Resolved Emission of a $z \sim 3$ Damped Lyman Alpha Galaxy with Keck/OSIRIS IFU

Author(s): **Holly Christenson**², Regina Jorgenson¹

Institution(s): ¹ Maria Mitchell Observatory, ² Western Washington University

347.13 ZFOURGE: Exploring the Properties of ~ 1500 Ks-Selected Galaxies at $2.5 < z < 4$ with Composite Spectra

Author(s): **Adam Broussard**¹

Institution(s): ¹ Rutgers University

Contributing team(s): ZFOURGE

347.14 Investigating the Metallicity Evolution of Sub-damped Lyman alpha Systems

Author(s): **Tarini Konchady**¹, Regina Jorgenson²

Institution(s): ¹ Johns Hopkins University, ² Maria Mitchell Observatory

347.15 Constraining the Merging History of Massive Galaxies Since Redshift 3 Using Close Pairs. I. Major Pairs from Candels and the SDSS

Author(s): **Kameswara Bharadwaj Mantha**²¹, Daniel H. McIntosh²¹, Ryan Brennan¹⁵, Joshua Cook²¹, Dritan Kodra²³, Jeffrey Newman²³, Rachel S.

Somerville¹⁵, Guillermo Barro¹⁸, Peter Behroozi¹³, Christopher Conselice²²,

Avishai Dekel¹⁴, Sandra M. Faber²⁰, Henry Closson Ferguson¹², Steven L.

Finkelstein²⁴, Adriano Fontana⁵, Audrey Galametz⁸, Pablo Perez-Gonzalez¹⁶,

Norman A. Grogan¹², Yicheng Guo²⁰, Nimish P. Hathi¹, Philip F. Hopkins², Jeyhan

S. Kartaltepe¹⁰, Dale Kocevski³, Anton M. Koekemoer¹², David C. Koo²⁰, Seong-

Kook Lee¹¹, Jennifer M. Lotz¹², Ray A. Lucas¹², Hooshang Nayyeri¹⁹, Michael

Peth⁶, Janine Pforr¹, Joel R. Primack²⁰, Paola Santini⁵, Brooke D Simmons⁹,

Mauro Stefanon⁷, Amber Straughn⁴, Gregory F. Snyder¹², Stijn Wuyts¹⁷

Institution(s): ^{1.} Aix Marseille Universite, ^{2.} California Institute of Technology, ^{3.} Colby College, ^{4.} Goddard Space Flight Center, ^{5.} INAF- Osservatorio Astronomico di Roma, ^{6.} Johns Hopkins University, ^{7.} Leiden University, ^{8.} Max Plank Institute fur Extraterrestrial Astrophysics, ^{9.} Oxford University, ^{10.} Rochester Institute of Technology, ^{11.} Seoul National University, ^{12.} Space Telescope Science Institute, ^{13.} Stanford University, ^{14.} The Hebrew University, ^{15.} The State University of New Jersey, Rutgers, ^{16.} Universidad Complutense de Madrid, ^{17.} University of Bath, ^{18.} University of California, Berkeley, ^{19.} University of California, Irvine, ^{20.} University of California, Santa Cruz, ^{21.} University of Missouri Kansas City, ^{22.} University of Nottingham, ^{23.} University of Pittsburgh, ^{24.} University of Texas, Austin

347.16 Flux sensitivity requirements for the detection of Lyman continuum radiation from star-forming galaxies below redshifts of 3

Author(s): **Stephan R. McCandliss**¹

Institution(s): ^{1.} Center for Astrophysical Sciences/Dept of Phys and Astro - JHU

347.17 Quantitative Morphology Measures in Galaxies: Ground-Truthing from Simulations

Author(s): **Desika T. Narayanan**³, Matthew W. Abruzzo¹, Romeel Dave⁴, Robert Thompson²

Institution(s): ^{1.} Haverford College, ^{2.} NCSA, ^{3.} University of Florida, ^{4.} University of the Western Cape

347.18 The 1D and 2D H α Kinematics of Galaxies in ZFIRE at $z \sim 2$

Author(s): **Leo Yvonne Alcorn**⁴, Kim-Vy Tran⁴, Karl Glazebrook³, Ivo Labbe¹, Caroline Straatman², Glenn Kacprzak³

Institution(s): ^{1.} Leiden University, ^{2.} Max Planck Institute for Astronomy, ^{3.} Swinburne University, ^{4.} Texas A&M University

Contributing team(s): ZFIRE, ZFOURGE

347.19 Discriminating among stellar population synthesis models of the TP-AGB phase in early quiescent galaxies

Author(s): **Mason MacDougall**¹, Andrew Newman², Sirio Belli³, Richard S. Ellis¹

Institution(s): ^{1.} Caltech, ^{2.} Carnegie Institution for Science, ^{3.} Max-Planck-Institut fur Extraterrestrische Physik (MPE)

347.20 Exploring the Role of Galaxy Morphology in the Mass-Metallicity-Star Formation Rate Relation

Author(s): **Anthony Pahl**³, Marc Rafelski², Claudia Scarlata³, Camilla Pacifici¹, Alaina L. Henry², Jonathan P. Gardner¹, Debra M. Elmegreen⁴

Institution(s): ^{1.} Goddard Space Flight Center, ^{2.} Space Telescope Science Institute, ^{3.} University of Minnesota, ^{4.} Vassar College

347.22 Reconstruction of Galaxy Star Formation Histories through SED Fitting: The Dense Basis Approach

Author(s): **Kartheik Iyer**¹, Eric J. Gawiser¹

Institution(s): ^{1.} Rutgers University

FRIDAY, 6 JANUARY 2017

347.23 Modeling the Internal Kinematics (Rotation and Dispersion) of Distant Galaxies ($z \sim 1.0$) Using Multi-PA Keck DEIMOS Slit Spectra

Author(s): **Connie Miao**¹, Jerry Chen¹, Jose Torres Hernandez², Puragra Guhathakurta², Hyerin Jang²

Institution(s): ¹ *The Harker School*, ² *UC, Santa Cruz*

347.24 Cosmic Web of Galaxies in the COMOS Field

Author(s): **Behnam Darvish**¹, Christopher D. Martin¹, Bahram Mobasher³, Nicholas Scoville¹, David Sobral²

Institution(s): ¹ *California Institute of Technology*, ² *Lancaster University*, ³ *University of California, Riverside*

Contributing team(s): The COSMOS science team

347.25 Constraining Metallicity and Age for Massive Quiescent Galaxies in a Redshift Range of 1

Author(s): **Vicente Estrada-Carpenter**⁶, Casey J. Papovich⁶, Ivelina G. Momcheva⁵, Gabriel Brammer⁵, Joanna Bridge⁴, Mark Dickinson², Henry Closson Ferguson⁵, kristian finlator³, Steven L. Finkelstein⁹, Mauro Giavalisco⁸, Catherine Gosmeyer⁵, Rachael C. Livermore⁹, James Long⁶, Jennifer M. Lotz⁵, Lalitwadee Kawinwanichakij⁶, Norbert Pirzkal⁵, Ryan Quadri⁶, Brett W. Salmon⁵, Vithal Tilvi¹, Jonathan R. Trump⁴, Benjamin J. Weiner⁷

Institution(s): ¹ *Arizona State University*, ² *National Optical Astronomy Observatory*, ³ *New Mexico State University*, ⁴ *Pennsylvania State University*, ⁵ *Space Telescope Science Institute*, ⁶ *Texas A&M University*, ⁷ *University of Arizona*, ⁸ *University of Massachusetts Amherst*, ⁹ *University of Texas*

347.26 Evolution in Solitude - Field Galaxies from Half the Age of the Universe to the Present

Author(s): **Charity Woodrum**³, Inger Jørgensen¹, Lindsey Oberhelman³, Taylor Contreras³, Ricardo Demarco², Robert Scott Fisher³, Jacob Bieker³

Institution(s): ¹ *Gemini Observatory*, ² *Universidad de Concepción*, ³ *University of Oregon*

347.27 Thick Disks and Galaxy Morphology in the Hubble Space Telescope Frontier Fields

Author(s): **Brittany Tompkins**³, Leah Jenks¹, Debra M. Elmegreen³, Bruce Elmegreen²

Institution(s): ¹ *Colgate University*, ² *IBM T.J. Watson Research Ctr.*, ³ *Vassar College*

347.28 The Stability Of Disk Barred Galaxies Over the Past 7 Billion Years

Author(s): **Amauri Tapia**¹, Brooke Simmons²

Institution(s): ¹ *California State University - Dominguez Hills*, ² *University of California - San Diego*

347.29 Broadband and Narrowband Search for $z < 1$ Analogs of High Redshift Star Forming Galaxies

Author(s): **Benjamin Rosenwasser**³, Amy J. Barger³, Isak Wold², Lennox Lauchlan Cowie¹

Institution(s): ¹ *University of Hawaii-Manoa*, ² *University of Texas-Austin*, ³ *University of Wisconsin-Madison*

- 347.30 Characterizing and Cataloguing Star-Forming Galaxies in Preparation for the LADUMA Survey**
 Author(s): **Manuel Joe Perez**², Andrew J. Baker¹, John F. Wu¹
 Institution(s): ¹ Rutgers, The State University of New Jersey, ² University of Redlands
- 347.31 Gas dynamical imaging and dust properties of the strongly-lensed quasar host galaxy RXJ1131-1231 at $z \sim 0.65$**
 Author(s): **Tsz Kuk Daisy Leung**¹, Dominik Riechers¹, Riccardo Pavesi¹
 Institution(s): ¹ Cornell University
- 347.32 Prediction of the Statistical Robustness of the Measurement of Neutral Hydrogen Mass Functions in the COSMOS H i Large Extragalactic Survey (CHILES)**
 Author(s): **Monica Sanchez-Barrantes**³, Patricia A Henning³, Jacqueline H. Van Gorkom¹, Natasha Maddox², Kelley M. Hess²
 Institution(s): ¹ Columbia University, ² Netherlands Institute for Radio Astronomy, ³ University of New Mexico
 Contributing team(s): CHILES team
- 347.33 The AGN Luminosity Fraction in Galaxy Mergers**
 Author(s): **Jeremy Dietrich**¹, Aaron Weiner², Matthew Ashby³, Juan Rafael Martinez-Galarza³, Howard Alan Smith³
 Institution(s): ¹ Harvard University, ² Rensselaer Polytechnic Institute, ³ Smithsonian Astrophysical Observatory
- 347.34 Correlating The Star Formation Histories Of MaNGA Galaxies With Their Past AGN Activity**
 Author(s): **Andrea Gonzalez Ortiz**¹
 Institution(s): ¹ CUNY-College of Staten Island
- 347.35 Incidence of WISE-Selected Obscured AGNs in Major Mergers and Interactions from the SDSS**
 Author(s): **Madalyn Weston**¹, Daniel H. McIntosh¹, Mark Brodwin¹, Justin Mann¹, Andrew Cooper¹, Adam McConnell¹, Jennifer L Nielson¹
 Institution(s): ¹ University of Missouri - Kansas City
- 347.36 Kinematics of Galaxy Mergers in The FIRE Simulation**
 Author(s): **Jose Antonio Flores**¹, Jorge Moreno¹
 Institution(s): ¹ Cal Poly Pomona
- 347.37 Galaxy merger time-scales in the Illustris Simulation**
 Author(s): **Areli Rojas**¹, Vicente Rodriguez-Gomez², Lars E. Hernquist², Sarah Wellons², Jorge Moreno¹
 Institution(s): ¹ Cal Poly Pomona, ² Harvard University
- 347.38 Properties of Pseudo-bulges and Classical Bulges Identified Among SDSS Galaxies**
 Author(s): **Yifei Luo**¹, Aldo Rodriguez⁵, David C. Koo⁵, Joel R. Primack⁵, Sandra M. Faber⁵, Yicheng Guo⁵, Zhu Chen⁴, Jerome J. Fang², Marc Huertas-Company³
 Institution(s): ¹ Nanjing University, ² Orange Coast College, ³ Paris Observatory, ⁴ Shanghai Normal University, ⁵ UC, Santa Cruz

FRIDAY, 6 JANUARY 2017

347.39 The HI Content of Galaxies as a Function of Local Density and Large-Scale Environment

Author(s): **Henry Thoreen**¹, Kelly Cantwell¹, Erin Maloney¹, Thomas Cane¹, Theodore Brough Morris¹, Oscar Flory¹, Mark Raskin¹, Mary Crone-Odekon¹

Institution(s): ¹ Skidmore College

Contributing team(s): ALFALFA Team

347.40 HI data reduction for the Arecibo Pisces-Perseus Supercluster Survey

Author(s): **Cory Davis**⁴, Cory Johnson⁴, David W Craig⁴, Martha P. Haynes¹, Michael G. Jones², Rebecca A. Koopmann³, Gregory L Hallenbeck³

Institution(s): ¹ Cornell University, ² Instituto de Astrofísica de Andalucía, ³ Union College, ⁴ West Texas A&M University

Contributing team(s): Undergraduate ALFALFA Team

347.41 The Local [CII] Emission Line Luminosity Function

Author(s): **Shoubaneh Hemmati**¹

Institution(s): ¹ IPAC/Caltech

347.42 Haro 11: Where is the Lyman Continuum Source?

Author(s): **Ryan P Keenan**³, M. S. Oey³, Anne Jaskot¹, Bethan James²

Institution(s): ¹ Smith College, ² University of Cambridge, ³ University of Michigan

347.43 Ram Pressure Stripping of Galaxy JO201

Author(s): **Greta Zhong**³, Stephanie Tonnesen¹, Yara Jaffé², Callum Bellhouse²

Institution(s): ¹ Carnegie Observatories, ² European Southern Observatory, ³ Pomona College

Contributing team(s): Bianca Poggianti

347.44 Ram Pressure Stripping: Observations Meet Simulations

Author(s): **Matthew Past**¹, Mateusz Ruszkowski¹, Keren Sharon¹

Institution(s): ¹ University of Michigan

347.45 Turbulence and Star Formation in Interacting Galaxies

Author(s): **Connor Auge**¹, Lisa Chien¹

Institution(s): ¹ Northern Arizona University

347.46 A Search for Triggered Star Formation in the Compact Group of Galaxies NGC 5851, NGC 5852 and CGCG 077-007

Author(s): **Charlotte Alexandra Olsen**¹, Antara Basu-Zych¹, Ann E. Hornschemeier¹

Institution(s): ¹ NASA Goddard Space Flight Center

Contributing team(s): NASA / GSFC X-ray Galaxies Group

347.47 The prevalence of dwarf galaxy compact groups over cosmic time

Author(s): **Christopher Wiens**¹

Institution(s): ¹ University of Virginia

347.48 The Radial Flow Speed of the Neutral Hydrogen in the Oval Distortion of NGC 4736

Author(s): **Jason Speights**¹, Allen Benton¹, Rebecca Reimer¹, Robert Lemaire¹, Caleb Godwin¹

Institution(s): ¹ Frostburg State University

- 347.49 Faraday rotation measure synthesis of UGC 10288**
 Author(s): **Patrick Kamienieski**¹, Q. Daniel Wang¹, Dylan Pare¹, Kendall Sullivan¹
 Institution(s): ¹ *University of Massachusetts Amherst*
- 347.50 Study of Remote Globular Cluster Satellites of M87**
 Author(s): **Arushi Sahai**², Andrew Shao¹, Elisa Toloba⁴, Puragra Guhathakurta⁴, Eric W Peng³, Hao Zhang³
 Institution(s): ¹ *Lynbrook High School*, ² *Menlo School*, ³ *Peking University*, ⁴ *UC, Santa Cruz*
- 347.51 Tracing the Angular Dependence of the CGM**
 Author(s): **Michael Nattinger**¹, Charlotte Christensen¹
 Institution(s): ¹ *Grinnell College*
- 347.52 Effects of Mechanical and Radiative Supernova Feedback on Subhalo Evolution**
 Author(s): **Amanda Quirk**¹, Ena Choi², Jeremiah P. Ostriker¹
 Institution(s): ¹ *Columbia University*, ² *Rutgers University*
- 347.53 Comparing the effects of supernovae feedback models on the interstellar medium**
 Author(s): **Lindsey Byrne**¹, Charlotte Christensen¹, Benjamin W Keller²
 Institution(s): ¹ *Grinnell College*, ² *McMaster University*
- 347.54 Recent Advances and Coming Attractions in the NASA/IPAC Extragalactic Database**
 Author(s): **Joseph M. Mazzarella**¹, Kay Baker¹, Hiu Pan Chan¹, Xi Chen¹, Rick Ebert¹, Cren Frayer¹, George Helou¹, Jeffery D Jacobson¹, Tak M Lo¹, Barry Madore¹, Patrick M. Ogle¹, Olga Pevunova¹, Ian Steer², Marion Schmitz¹, Scott Terek¹
 Institution(s): ¹ *Caltech*, ² *Self*
- 347.55 Spectral Analysis, Synthesis, & Energy Distributions of Nearby E+A Galaxies Using SDSS-IV MaNGA**
 Author(s): **Olivia A Weaver**⁶, Miguel Ricardo Anderson⁵, Muhammad Wally⁸, Olivia James⁴, Julia Falcone², Allen Liu⁷, Nicole Wallack¹, Charles Liu³
 Institution(s): ¹ *California Institute of Technology*, ² *Case Western Reserve University*, ³ *CUNY college of Staten Island*, ⁴ *CUNY York*, ⁵ *Duke University*, ⁶ *Florida Atlantic University*, ⁷ *Harvard University*, ⁸ *Xavier University*
 Contributing team(s): SDSS Collaboration
- 347.56 A Study of E+A Galaxies Through SDSS-MaNGA Integral Field Spectroscopy**
 Author(s): **Muhammad Wally**⁸, Olivia A Weaver⁶, Miguel Ricardo Anderson⁵, Allen Liu⁷, Julia Falcone², Nicole Lisa Wallack¹, Olivia James⁴, Charles Liu³
 Institution(s): ¹ *California Institute of Technology*, ² *Case Western Reserve*, ³ *CUNY College of Staten Island*, ⁴ *CUNY York College*, ⁵ *Duke University*, ⁶ *Florida Atlantic University*, ⁷ *harvard*, ⁸ *Xavier University of Louisiana*

FRIDAY, 6 JANUARY 2017

347.57 Gas motions within high-velocity cloud Complex A reveal that it is dissolving into the Galactic Halo

Author(s): Cannan Huey-You¹, Kathleen Barger⁴, David L. Nidever², Katherine Meredith Rueff³

Institution(s): ¹Accommodated Learning Academy, ²National Optical Astronomy Observatory, ³South Bend Community School Coporation, ⁴Texas Christian University

348 Next Generation VLA Poster Session

Friday, 5:30 pm - 6:30 pm; Longhorn Exhibit Hall D

348.01 Preliminary Antenna Concept for the ngVLA

Author(s): James Di Francesco², Robert Selina¹, Wes Grammer¹, Mark M. McKinnon¹

Institution(s): ¹National Radio Astronomy Observatory, ²National Research Council of Canada

348.02 Antenna Optics and Receiver Concept for the Next Generation Very Large Array

Author(s): Mark M. McKinnon², Sivasankaran Srikanth¹, Wes Grammer², Marian Pospieszalski¹, Silver Sturgis²

Institution(s): ¹NRAO, ²NRAO

348.03 Low Cost 1.2 to 116 GHz Receivers for the ngVLA

Author(s): Sander Weinreb², Ahmed Soliman¹, Hamdi Mani¹

Institution(s): ¹Arizona State University, ²caltech

348.04 Antenna Electronics Concept for the Next-Generation Very Large Array

Author(s): Anthony J. Beasley¹, Jim Jackson¹, Robert Selina¹

Institution(s): ¹National Radio Astronomy Observatory

348.05 Implementation Status of a Ultra-Wideband Receiver Package for the next-generation Very Large Array

Author(s): T. Joseph W Lazio¹, Jose Velazco¹, Melissa Soriano¹, Daniel Hoppe¹, Damon Russell¹, Larry D'Addario¹, Ezra Long¹, James Bowen¹, Lorene Samoska¹, Andrew Janzen¹

Institution(s): ¹Jet Propulsion Laboratory, California Institute of Technology

348.06 Computing Architecture for the ngVLA

Author(s): Jeffrey S. Kern¹, Brian Glendenning¹, R. Hiriart¹

Institution(s): ¹NRAO

348.07 Core Strength: Investigating Two Possible Configurations of the NGVLA

Author(s): Brian S. Mason¹, Chris Luke Carilli¹, Eric J. Murphy¹, Bryan J. Butler¹

Institution(s): ¹NRAO

348.08 Science with a Next-Generation VLA

Author(s): Eric J. Murphy¹, Chris Luke Carilli¹

Institution(s): ¹NRAO

Contributing team(s): ngVLA Science Working Groups

- 348.09 Imaging Cold Gas to 1 kpc scales in high-redshift galaxies with the ngVLA**
 Author(s): **Caitlin Casey**⁸, Desika Narayanan⁷, Romeel Dave⁹, Chao-Ling Hung⁸, Jaclyn Champagne⁸, Chris Luke Carilli⁵, Roberto Decarli³, Eric J. Murphy⁴, Gergo Popping², Dominik Riechers¹, Rachel S. Somerville⁶, Fabian Walter³
Institution(s): ¹ Cornell University, ² ESO, ³ MPIA, ⁴ NRAO, ⁵ NRAO, ⁶ Rutgers University, ⁷ University of Florida, ⁸ University of Texas at Austin, ⁹ University of Western Cape
- 348.10 Tracing the Baryon Cycle within Nearby Galaxies with a next-generation VLA**
 Author(s): **Amanda A. Kepley**¹, Adam Leroy², Eric J. Murphy¹
Institution(s): ¹ National Radio Astronomy Observatory, ² The Ohio State University
 Contributing team(s): ngVLA Baryon Cycle Science Working Group
- 348.11 Next Generation Very Large Array: The Cradle of Life**
 Author(s): **Andrea Isella**³, Charles L. H. Hull¹, Arielle Moullet²
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² NRAO, ³ Rice University
 Contributing team(s): ngVLA Cradle of Life
- 348.12 The Cold Gas History of the Universe as seen by the ngVLA**
 Author(s): **Dominik A. Riechers**³, Chris Luke Carilli⁸, Caitlin Casey¹⁰, Elisabete da Cunha¹, Jacqueline Hodge⁶, Rob Ivison⁴, Eric J. Murphy⁸, Desika Narayanan⁵, Mark T. Sargent⁹, Nicholas Scoville², Fabian Walter⁷
Institution(s): ¹ Australian National University, ² California Institute of Technology, ³ Cornell University, ⁴ ESO, ⁵ Haverford College, ⁶ Leiden, ⁷ MPIA, ⁸ NRAO, ⁹ Sussex, ¹⁰ UT Austin
- 348.13 Time Domain Science and Fundamental Physics with the Next-generation Very Large Array**
 Author(s): **Paul Demorest**², Geoffrey C. Bower¹
Institution(s): ¹ ASIAA, ² National Radio Astronomy Observatory
 Contributing team(s): ngVLA Time Domain/Physics Science Working Group

CSWA Meet & Greet

Friday, 6:30 pm - 7:30 pm; Yellow Rose Ballroom

Hosted by the AAS Committee on the Status of Women in Astronomy.

Organizer(s): Christina Richey (NASA HQ)

FRIDAY, 6 JANUARY 2017

Opportunities for Time Domain Science with LCOGT: Preparing for the LSST Era

Friday, 6:30 pm - 8:00 pm; Grapevine 2

The Las Cumbres Observatory global network of 1m and 2m telescopes will be made available to the US community through an award from NSF's MSIP program, starting in 2017. The goal of this program is to stimulate time domain science projects that respond to alerts from current surveys, with a view to developing infrastructure and experience applicable to LSST. This session will discuss the challenges inherent to observational projects of this kind. We will also summarize the capabilities of the LCO network and describe some of the tools that current users have developed to help them address these challenges. LSST will be a landmark program in time domain astronomy when it begins in ~2020, but much of its science return will depend on our ability to respond effectively to discoveries within its data and our handling of follow-up observations. Surveys in current operation have similar requirements. With the inauguration of this open-access program, LCO is encouraging the US community to prepare for a number of significant challenges: How will a wide range of desired targets be identified from the high-volume alert stream? What software tools are needed? How will follow-up observations be obtained in a timely fashion? How will observations be coordinated between many competing projects across many facilities? How will the resulting data be disseminated and how quickly? These and other questions demand careful preparation to ensure that the observational, hardware and software facilities required to maximize the science return can be brought to bear effectively. Existing and near-future time domain surveys offer an excellent opportunity for follow-up programs to develop tools, services and experience, and to take advantage of new technologies.

Organizer(s): Rachel Street (Las Cumbres Global Telescope Network, Inc.)

2017 NSF Astronomy and Astrophysics Postdoctoral Fellows Showcase and Forum

Friday, 6:30 pm - 8:30 pm; Texas C

This session forms part of the annual meeting of the NSF Astronomy and Astrophysics Postdoctoral Fellowship (AAPF). The NSF AAPF supports young scientists who carry out an integrated program of independent research and education. In this part of the meeting, six current Fellows will present short talks on their research and educational activities enabled by the fellowship. Following the talks, the speakers and several past Fellows will participate in a panel discussion on the fellowship program and application process. All members of the astronomical community are welcome and encouraged to attend. NSF AAPF Fellows conduct research on a wide range of topics in astronomy. Additionally, this is the only prize fellowship that includes a significant educational component. The speakers in this special session will showcase the fruits of this postdoctoral program. This session provides an opportunity for current, past, and prospective Fellows to meet and discuss their work with members of the community, as well as to broaden participation in the AAPF application process through the panel discussion.

Organizer(s): Darcy Barron (UC San Diego)

350 NRAO Town Hall

Friday, 6:30 pm - 8:00 pm; Grapevine C

This Town Hall will inform the American Astronomical Society membership about the status of science, science operations, and development programs at the National Radio Astronomy Observatory (NRAO). The NRAO Town Hall will include an opening reception that will be followed by a presentation by NRAO Deputy Director Phil Jewell that will update the membership regarding: (a) science operations status, scientific opportunities, and technical development at the Observatory; (b) recent scientific research results from across the community and the NRAO; and (c) scientific and technical planning for the next generation of radio-millimeter-submillimeter astronomy research facilities. The NRAO Town Hall will include time for discussion and answering audience questions.

Organizer(s): Mark Adams (NRAO)

SATURDAY, 7 JANUARY 2017

400 Plenary Session: Lancelot M. Berkeley Prize: Exploring for Galaxies in the First Billion Years with Hubble and Spitzer - Pathfinding for JWST, Garth Illingworth (UC Santa Cruz)

Saturday, 8:30 am - 9:20 am; Texas A

Chair: Christine Jones (Harvard-Smithsonian, CfA)



400.01 Exploring for Galaxies in the First Billion Years with Hubble and Spitzer - Pathfinding for JWST

Author(s): Garth D. Illingworth¹

Institution(s): ¹ UC, Santa Cruz

Contributing team(s): HUDF09, HLF

Citation: In recognition of his major research programs using innovative tools and techniques to investigate the formation, history, evolution, and nature of the most distant and earliest galaxies. He is awarded the Berkeley Prize for his team's report describing significant new results, "UV Luminosity Functions at Redshifts $z \sim 4$ to $z \sim 10$: 10,000 Galaxies from HST Legacy Fields", which was one of the most widely cited astrophysics papers of 2015."

Hack Together Day

Saturday, 10:00 am - 7:00 pm; Grapevine 4

Hack Together Day is a day to work intensively on collaborative projects of interest to the Astronomical community. A wide variety of projects will be undertaken, spanning everything from software development to creative outreach projects. Projects that take advantage of the unique gathering of enthusiasm and expertise at the Winter AAS Meeting are particularly encouraged. Hack day or programming experience is not required; newcomers are extremely welcome! Project ideas and participants will be solicited before and during the meeting. Participants can lead or join a project, and should plan on focusing on only one thing. In addition, we ask participants to commit to Hack Together Day for the majority of the day. The registration link and more information can be found here: www.astrobetter.com/wiki/AASHackDay

Organizer(s): Kelle Cruz (Hunter College/CUNY and AMNH)

401 Extrasolar Planets: Characterization & Theory VI

Saturday, 10:00 am - 11:30 am; Texas A

Chair: David Ciardi (Caltech)

401.01 HAT-P-26b: A Neptune-mass Exoplanet with Primordial Solar Heavy Element Abundance

Author(s): **Hannah R Wakeford**⁵, David K Sing⁹, Tiffany Kataria⁴, Drake Deming¹⁰, Nikolay Nikolov⁹, Eric Lopez⁸, Pascal Tremblin², David Skolid Amundsen³, Nikole K. Lewis⁶, Avi Mandell⁵, Jonathan J Fortney⁷, Heather Knutson¹, Björn Benneke¹, Tom M. Evans⁹

Institution(s): ¹. California Institute of Technology, ². CEA-CNRS-INRIA-UPS-UVSQ, ³. Columbia University, ⁴. Jet Propulsion Laboratory, ⁵. NASA Goddard Space Flight Center, ⁶. Space Telescope Science Institute, ⁷. University of California, ⁸. University of Edinburgh, ⁹. University of Exeter, ¹⁰. University of Maryland

401.02 Characterizing K2 Exoplanets with NIR Transit Photometry from the 3.5m WIYN Telescope

Author(s): **Knicole D. Colon**¹, Thomas Barclay¹, Susan E. Thompson¹, Jeffrey Coughlin², Geert Barentsen¹, Elisa V. Quintana²

Institution(s): ¹. NASA Ames Research Center, ². SETI Institute

401.03D Kepler Planet Masses and Eccentricities from Transit Timing Variations

Author(s): **Sam Hadden**¹, Yoram Lithwick¹

Institution(s): ¹. Northwestern University

401.04 Mitigating bias in testing the origins of warm Jupiters via constraints on transit duration variations

Author(s): **Rebekah Ilene Dawson**¹

Institution(s): ¹. The Pennsylvania State University

401.05 What Determines the Presence of a Thermal Inversion in Hot Jupiters?

Author(s): **Thomas G. Beatty**², Nikku Madhusudhan⁴, Richard W. Pogge¹, Angelos Tsiaras³, B. Scott Gaudi¹, Sun Mi Chung¹

Institution(s): ¹. Ohio State University, ². Pennsylvania State University, ³. University College London, ⁴. University of Cambridge

401.06 Atmosphere-magma ocean modeling of GJ 1132 b

Author(s): **Laura Schaefer**¹, Robin Wordsworth², Zachory K. Berta-Thompson⁴, Dimitar Sasselov³

Institution(s): ¹. Arizona State University, ². Harvard Paulson School of Engineering and Applied Sciences, ³. Harvard-Smithsonian Center for Astrophysics, ⁴. University of Colorado Boulder

402 AGN, QSO, Blazars: X-rays & Gamma Rays

Saturday, 10:00 am - 11:30 am; Texas C

Chair: Robert Nemiroff (Michigan Technological Univ.)

402.01 Scientific Drivers for X-Ray Polarimetry Observations of Active Galactic Nuclei

Author(s): **Banafsheh Beheshtipour**¹, Henric Krawczynski¹

Institution(s): ¹. Washington University in St. Louis

SATURDAY, 7 JANUARY 2017

402.02 A Long Look at NGC 3783 with Chandra/HETG and NuSTAR

Author(s): **Laura Brenneman**², Christopher S. Reynolds³, Michael Nowak¹
Institution(s): ¹ MIT Kavli Institute, ² Smithsonian Astrophysical Observatory,
³ University of Maryland

402.03 Chandra Observations of the Sextuply Imaged Quasar SDSS J2222+2745

Author(s): **David A. Pooley**², Saul A. Rappaport¹
Institution(s): ¹ MIT, ² Trinity University

402.04D X-Ray Modeling of the Intrinsic Absorption in NGC 4151

Author(s): **Jullianna Denes Couto**², Steven Kraemer², T. Jane Turner³, D. Michael Crenshaw¹
Institution(s): ¹ Georgia State University, ² The Catholic University of America,
³ University of Maryland Baltimore County

402.05 The BAT AGN Spectroscopic Survey (BASS)

Author(s): **Michael Koss**², Benny Trakhtenbrot², Claudio Ricci⁷, Isabella Lamperti², Kyuseok Oh², Simon Berney², Kevin Schawinski², Mislav Balokovic¹, Linda Baronchelli², Neil Gehrels⁶, Daniel Stern⁴, Richard Mushotzky⁸, Sylvain Veilleux⁸, Yoshihiro Ueda⁵, D. Michael Crenshaw³, Fiona Harrison¹, Travis C. Fischer³, Ezequiel Treister⁷
Institution(s): ¹ Caltech, ² ETH, ³ Georgia State University, ⁴ JPL/Caltech, ⁵ Kyoto University, ⁶ NASA Goddard, ⁷ Pontificia Universidad Catolica de Chile,
⁸ University of Maryland
Contributing team(s): BASS Team, Swift BAT Team

402.06 Gamma-ray blazars within the first two billion years

Author(s): **Marco Ajello**², Vaidehi Paliya², Dario Gasparrini¹, Roopesh Ojha³
Institution(s): ¹ ASI Science Data Center, ² Clemson, ³ GSFC/NASA
Contributing team(s): Fermi-LAT Collaboration

403 Extrasolar Planets Detection: Radial Velocity II

Saturday, 10:00 am - 11:30 am; Texas D

Chair: Diana Dragomir (MIT)

403.01 The Dharma Planet Survey of Low-mass and Habitable Rocky Planets around Nearby Solar-type Stars

Author(s): **Jian Ge**³, Bo Ma³, Sarik Jeram³, Sirinrat Sithajan³, Michael Singer³, Matthew W. Mutterspaugh¹, Frank Varosi³, Sidney Schofield³, Jian Liu³, Benjamin Kimock³, Scott Powell³, Michael W Williamson¹, Aleczer Herczeg³, Jim Grantham⁴, Greg Stafford⁴, Bruce Hille⁴, Gary Rosenbaum⁴, David Savage⁴, Steve Bland⁴, Joseph Hoscheidt⁴, Scott Swindle⁴, Melanie Waidanz⁴, Robert Petersen⁴, Nolan Grieves³, Bo Zhao³, Anthony Cassette³, Andrew Chun³, Louis Avner³, Rory Barnes⁵, Jonathan C. Tan³, Eric Lopez², Ruijia Dai³
Institution(s): ¹ Tennessee State University, ² The Royal Observatory, ³ Univ. of Florida, ⁴ University of Arizona, ⁵ University of Washington

403.02 Light Curves as Predictors of Good Radial Velocity Planet Search Targets in New Stellar Domains

Author(s): **Fabienne A. Bastien**², Jason Wright², Steinn Sigurdsson², Xavier Dumusque³, Jacob K. Luhn², Andrew Howard¹

Institution(s): ¹ California Institute of Technology, ² Center for Exoplanets and Habitable Worlds, Pennsylvania State University, ³ Geneva Observatory

403.03D Multiplexing Precision Radial Velocities with the Michigan/Magellan Fiber System: Searching for Hot Jupiters in Southern Open Star Clusters

Author(s): **John Ira Bailey**³, Mario L. Mateo⁴, Russel J. White², Jeffrey D. Crane¹, Stephen A. Shtetman¹

Institution(s): ¹ Carnegie Observatories, ² Georgia State University, ³ Leiden Observatory, ⁴ University of Michigan

Contributing team(s): M2FS Instrument Team

403.04 H α as a Diagnostic of FGKM Stellar Atmospheres

Author(s): **Johanna K. Teske**¹

Institution(s): ¹ Carnegie DTM

Contributing team(s): Carnegie/California Planet Search Team

403.05D Illuminating the Origins of Planets with Solar Twins

Author(s): **Megan Bedell**¹

Institution(s): ¹ University of Chicago

403.06 Precise Radial Velocity First Light Observations With iSHELL

Author(s): **Bryson Lee Cale**⁶, Peter Plavchan⁶, America Nishimoto⁶, Angelle M. Tanner⁵, Jonathan Gagne¹, Peter Gao⁷, Elise Furlan¹³, Russel J. White², Bernie Walp⁷, Kaspar von Braun⁴, Carolyn Brinkworth¹⁴, John A. Johnson³, Guillem Anglada-Escudé¹⁰, Todd J. Henry², Joseph Catanzarite¹², Stephen R. Kane¹¹, Charles Beichman Charles.A.Beichman@jpl.nasa.gov⁸, David R. Ciardi⁸, J. Kent Wallace⁹, Bertrand Mennesson⁹, Gautam Vasishth⁹

Institution(s): ¹ Carnegie Department of Terrestrial Magnetism, ² Georgia State University, ³ Harvard University, ⁴ Lowell Observatory, ⁵ Mississippi State University, ⁶ Missouri State University, ⁷ NASA Ames, ⁸ NASA Exoplanet Science Institute, ⁹ NASA JPL, ¹⁰ Queen Mary University of London, ¹¹ San Francisco State University, ¹² SETI Institute, ¹³ Spitzer Science Center, ¹⁴ University Corporation for Atmospheric Research

403.07 Planets around nearby M dwarfs

Author(s): **Hugh Jones**¹

Institution(s): ¹ University of Hertfordshire

Contributing team(s): Tuomi, M., Anglada-Escude, G., Feng, F., Butler, R.P., Vogt, S.

404 Galaxy Clusters II

Saturday, 10:00 am - 11:30 am; Grapevine A

Chair: Daniel R. Wik (NASA Goddard Space Flight Center)

SATURDAY, 7 JANUARY 2017

404.01 Strong Lens Models for Massive Galaxy Clusters in the Reionization Lensing Cluster Survey

Author(s): **Catherine Cerny**⁹, Keren Sharon⁹, Dan A. Coe⁴, Rachel Paterno-Mahler⁹, Christine Jones³, Nicole G. Czakon¹, Keiichi Umetsu¹, Daniel Stark⁶, Larry D. Bradley⁴, Michele Trenti⁸, Traci Johnson⁹, Marusa Bradac⁷, William Dawson², Steven A. Rodney⁵, Louis-Gregory Strolger⁴

Institution(s): ^{1.} *Academia Sinica, Institute of Astronomy and Astrophysics,* ^{2.} *Lawrence Livermore National Laboratory,* ^{3.} *Smithsonian Institution Astrophysical Observatory,* ^{4.} *Space Telescope Science Institute,* ^{5.} *The Johns Hopkins University,* ^{6.} *University of Arizona,* ^{7.} *University of California-Davis,* ^{8.} *University of Melbourne,* ^{9.} *University of Michigan*
Contributing team(s): RELICS Team

404.02 Mass Distribution from Strong Gravitational Lensing of Merging Cluster Abell 2146

Author(s): **Joseph E. Coleman**², Lindsay J King², Masamune Oguri³, Helen Russell¹

Institution(s): ^{1.} *University of Cambridge,* ^{2.} *University of Texas-Dallas,* ^{3.} *University of Tokyo*

404.03 Discovery of Electron Re-Acceleration at Galaxy Cluster Shocks

Author(s): **Reinout J. Van Weeren**⁷, Felipe Andrade-Santos⁷, William Dawson⁴, Nathan Golovich¹², Dharam V. Lal⁵, Hyesung Kang⁶, Dongsu Ryu¹⁰, Marcus Brüggen², Georgiana Ogrean⁸, William R. Forman⁷, Christine Jones⁷, Vinicius Placco¹³, Rafael Santucci¹¹, David M. Wittman¹², M. James Lee¹⁴, Ralph P. Kraft⁷, David Sobral³, Andra Stroe¹, Kevin Fogarty⁹

Institution(s): ^{1.} *European Southern Observatory,* ^{2.} *Hamburg University,* ^{3.} *Lancaster University,* ^{4.} *Lawrence Livermore National Lab.,* ^{5.} *National Centre for Radio Astrophysics,* ^{6.} *Pusan National University,* ^{7.} *Smithsonian Astrophysical Observatory,* ^{8.} *Stanford University,* ^{9.} *The Johns Hopkins University,* ^{10.} *UNIST,* ^{11.} *Universidade de São Paulo,* ^{12.} *University of California,* ^{13.} *University of Notre Dame,* ^{14.} *Yonsei University*

404.04 The Fraction of Cool-Core Clusters in X-ray vs. SZ samples using Chandra Observations

Author(s): **Felipe Andrade-Santos**¹, Christine Jones¹, William R. Forman¹, Lorenzo Lovisari¹

Institution(s): ^{1.} *Harvard-Smithsonian Center for Astrophysics*
Contributing team(s): Chandra-Planck Collaboration

404.05 Cool Core Disruption in Abell 1763

Author(s): **Edmund Douglass**³, Elizabeth L. Blanton¹, Tracy E. Clarke⁵, Scott W. Randall⁴, Louise O. V. Edwards², Ziad Sabry³

Institution(s): ^{1.} *Boston Univ.,* ^{2.} *California Polytechnic State University,* ^{3.} *Farmingdale State College - SUNY,* ^{4.} *Harvard-Smithsonian Center for Astrophysics,* ^{5.} *Naval Research Laboratory*

404.07 Are SZ and X-ray experiments detecting the same population of galaxy clusters?

Author(s): **Lorenzo Lovisari**¹, Christine Jones¹, Felipe Andrade-Santos¹, William R. Forman¹

Institution(s): ¹ *Smithsonian Astrophysical Observatory*

404.08 Subsonic evolution of the radio bubbles in the nearby massive early-type galaxy NGC 4472: uplift, buoyancy, and heating

Author(s): **Ralph P. Kraft**¹, Marie-Lou Gendron Marsolais², Akos Bogdan¹, Yuanyuan Su¹, William R. Forman¹, Julie Hlavacek-Larrondo², Christine Jones¹, Paul Nulsen¹, Scott W. Randall¹, Elke Roediger³

Institution(s): ¹ *Harvard-Smithsonian, CfA*, ² *Universite de Montreal*, ³ *University of Hull*

404.09 X-ray Scaling Relations of SPT Selected Galaxy Clusters Observed with XMM-Newton

Author(s): **Esra Bulbul**³, Inon Chiu¹, Michael McDonald³, Mark W. Bautz³, Bradford Benson⁴, Lindsey Bleem⁴, Eric D. Miller³, Joseph J. Mohr²

Institution(s): ¹ *Academia Sinica Institute of Astronomy and Astrophysics*, ² *LMU*, ³ *MIT*, ⁴ *University of Chicago*

405 NASA's 2020 Decadal Studies: An Update

Saturday, 10:00 am - 11:30 am; Grapevine B

NASA has started preparations to identify the next strategic mission to follow JWST and WFIRST. A community-driven process has indicated that the most likely candidate mission concepts will be a Far-IR (FIR) Surveyor, a Habitable Exoplanet Imager (HabEx), a Large UV, Optical, and IR (LUVOIR) Surveyor, and an X-ray Surveyor. In order to define the mission Concepts for consideration and prioritization by the 2020 Decadal, NASA has assembled four Study and Technology Definition Teams (STDTs) drawing membership from the astrophysics community. STDTs' work has been progressing steadily during the last 9 months, with telecons and face-to-face meetings. This session will report the progress achieved so far as well as providing an opportunity to the astrophysics community at large to give feedback.

Chair: Rita Sambruna (NASA HQ)

405.01 Origins Space Telescope

Author(s): **Asantha R. Cooray**¹

Institution(s): ¹ *UC Irvine*

Contributing team(s): Origins Space Telescope Study Team

405.02 The Habitable Exoplanet (HabEx) Imaging Mission: Preliminary Science Drivers and Technical Requirements

Author(s): **B. Scott Gaudi**¹

Institution(s): ¹ *Ohio State Univ.*

Contributing team(s): Habitable Exoplanet Imaging Mission Science and Technology Definition Team

SATURDAY, 7 JANUARY 2017

405.03 Revealing the Invisible Universe with the Lynx Mission

Author(s): **Feryal Ozel**¹

*Institution(s):*¹ *University of Arizona*

405.04 The Large Ultraviolet/Optical/Infrared Surveyor (LUVOIR)

Author(s): **Bradley M. Peterson**¹, Debra Fischer²

*Institution(s):*¹ *Space Telescope Science Institute*, ² *Yale University*

Contributing team(s): LUVOIR Science and Technology Definition Team

406 Cosmology III

Saturday, 10:00 am - 11:30 am; Grapevine C

Chair: **Daniel Jacobs (Arizona State University)**

406.01 The Distribution of Dark and Luminous Matter in the Galaxy Cluster Merger Abell 2146

Author(s): **Lindsay King**⁴, Douglas Clowe², Joseph E. Coleman⁴, Helen Russell⁶, Rebecca Santana², Jacob White⁵, Rebecca Canning³, Nicole Deering⁴, Andrew C Fabian⁶, Brandyn Lee⁴, Baojiu Li¹, Brian R. McNamara⁷

*Institution(s):*¹ *Durham University*, ² *Ohio University*, ³ *Stanford University*, ⁴ *The University of Texas at Dallas*, ⁵ *University of British Columbia*, ⁶ *University of Cambridge*, ⁷ *University of Waterloo*

406.02 The impact of baryonic matter on gravitational lensing by galaxy clusters

Author(s): **Brandyn E Lee**³, Lindsay King³, Douglas Applegate², Ian McCarthy¹

*Institution(s):*¹ *Liverpool John Moores University*, ² *University of Chicago*, ³ *University of Texas at Dallas*

406.03 A Study of the Gamma-Ray Burst Fundamental Plane

Author(s): **Maria Dainotti**⁴, Christian Gilbertson⁵, Sergey Postnikov¹, Shigehiro Nagataki³, Richard Willingale²

*Institution(s):*¹ *Indiana*, ² *Leicester*, ³ *RIKEN*, ⁴ *Stanford University*, ⁵ *Virginia Tech*

406.04D RR Lyrae period luminosity relations with Spitzer

Author(s): **Jillian R Neeley**¹, Massimo Marengo¹

*Institution(s):*¹ *Iowa State University*

Contributing team(s): CRRP team

406.05 Co-evolution of Central Direct Collapse Black Holes and Stellar Populations in the Early Universe

Author(s): **Aycin Aykutaalp**¹, John Wise¹

*Institution(s):*¹ *Georgia Institute of Technology*

406.07 The WFIRST Supernova Survey

Author(s): **Ryan J. Foley**², Rebekah Hounsell², Daniel Scolnic¹

*Institution(s):*¹ *U Chicago/KICP*, ² *UC Santa Cruz*

Contributing team(s): WFIRST Supernova Science Investigation Team

406.08 Multi-Messenger Time-Domain Astronomy with the Fermi Gamma-ray Burst Monitor

Author(s): **Valerie Connaughton**¹, Adam Goldstein¹

Institution(s): ¹ USRA

Contributing team(s): Fermi GBM - LIGO group

407 GW-Stellar Mass BH

Saturday, 10:00 am - 11:30 am; Grapevine D

Chair: **Tamara Bogdanovic (Univ. of Maryland)**

407.01D Temporal Constraints on the Size of Gamma-ray Burst Progenitors and Implications for Gravitational Wave Follow-up

Author(s): **V. Zach Golkhou**¹, Nathaniel Butler¹, Owen Littlejohns¹

Institution(s): ¹ ASU

407.02 Detectability of GW150914-like events by gravitational microlensing

Author(s): **Daniel Eilbott**¹, Alexander Riley¹, Jonathan Cohn¹, Michael H. Kesden¹, Lindsay J King¹

Institution(s): ¹ The University of Texas at Dallas

407.03 Electromagnetic counterparts to Gravitational Wave events with the Fermi Large Area Telescope

Author(s): **Giacomo Vianello**³, Nicola Omodei³, Judith L. Racusin¹, Julie E. McEnery¹, James Chiang², Sara Buson¹

Institution(s): ¹ NASA/GSFC, ² SLAC, ³ Stanford University

Contributing team(s): Fermi LAT collaboration

407.04 Learning about Black-Hole Formation from Gravitational Waves

Author(s): **Michael H. Kesden**¹

Institution(s): ¹ University of Texas at Dallas

407.05 LBT in the era of electromagnetic follow-up of gravitational sources

Author(s): **Andrea Rossi**¹

Institution(s): ¹ INAF/IASFBO

407.06 Discriminating Formation Channels of Binary Black Hole Systems with Advanced LIGO

Author(s): **Michael Zevin**¹, Carl L. Rodriguez¹, Chris Pankow¹, Vassiliki Kalogera¹, Frederic A. Rasio¹

Institution(s): ¹ Northwestern

407.07D Constraining Microwave Emission from Extensive Air Showers via the MIDAS Experiment

Author(s): **Matthew Richardson**¹, Paolo Privitera²

Institution(s): ¹ Planetary Science Institute, ² University of Chicago

408 The Coolest Stars & Brown Dwarfs

Saturday, 10:00 am - 11:30 am; Grapevine 1

Chair: **Jennifer Bartlett (US Naval Observatory)**

SATURDAY, 7 JANUARY 2017

408.01 Precision Spectral Variability of L Dwarfs from the Ground

Author(s): **Adam J. Burgasser**², Everett Schlawin³, Johanna K. Teske¹, Theodora Karalidi³, John Gizis⁴

Institution(s): ¹ *Carnegie Institute of Washington*, ² *UC San Diego*, ³ *University of Arizona Steward Observatory*, ⁴ *University of Delaware*

408.02D A Survey of Peculiar L and T Dwarfs in a Cross-Correlation of the SDSS, 2MASS and WISE Databases

Author(s): **Kendra Kellogg**¹, Stanimir A. Metchev¹

Institution(s): ¹ *Western University*

408.03D Atmospheric Properties of T Dwarfs Inferred from Model Fits at Low Spectral Resolution as Exoplanet Atmosphere Analogs

Author(s): **Paige A. Godfrey**¹

Institution(s): ¹ *The Graduate Center at the City University of New York*

408.04 Variable and Polarized Radio Emission from a T6 Brown Dwarf

Author(s): **Peter K. G. Williams**¹, John Gizis², Edo Berger¹

Institution(s): ¹ *Harvard-Smithsonian Center for Astrophysics*, ² *University of Delaware*

408.05 Parallaxes for 21 late-T and Y dwarfs in the Spitzer Parallax Program

Author(s): **Emily Martin**⁶, J. Davy Kirkpatrick², Charles A. Beichman³, Richard L Smart⁴, Patrick Lowrance², James G. Ingalls², Michael Cushing⁵, Edward L. Wright⁶, Jacqueline K. Faherty¹, Christopher R. Gelino², Ian S. McLean⁶, Sarah E. Logsdon⁶, Christopher G. Tinney⁷

Institution(s): ¹ *Carnegie Institute of Washington*, ² *IPAC*, ³ *NExSci*, ⁴ *OATO*, ⁵ *U Toledo*, ⁶ *UCLA*, ⁷ *University of New South Wales*

408.06D Constraining Substellar Magnetic Dynamos using Auroral Radio Emission

Author(s): **Melodie Kao**¹, Gregg Hallinan¹, J. Sebastian Pineda¹, Ivanna Escala¹, Adam J. Burgasser², David J. Stevenson¹

Institution(s): ¹ *California Institute of Technology*, ² *University of California San Diego*

409 Statistical, Mathematical & Computational Methods for Astronomy (ASTRO): SAMSI 2016-17

Saturday, 10:00 am - 11:30 am; Grapevine 2

Statistical and Applied Mathematical Sciences Institute (SAMSI), a National Science Foundation funded institute in Research Triangle Park, NC, is organizing a year-long research (Aug 2016- May 2017) program on Statistical, Mathematical and Computational Methods for Astronomy (ASTRO). This program will bring together astronomers, computer scientists, applied mathematicians and statisticians. The main aims are: to foster cross-disciplinary activities; to accelerate the adoption of modern statistical and mathematical tools into modern astronomy; and to develop new tools needed for important astronomical research problems. This is timely given the flood of data into astronomy from ground- and space-based missions at multiple wavelengths. Interpretation of the resulting complex data require diverse statistical and mathematical

methods. Mapping appropriate methods when confronting large datasets is crucial. Astronomical themes identified by SAMSI include cosmology, exoplanets, gravitational waves and synoptic surveys. Each of the astronomical sub-fields could benefit from improved time series analysis, hierarchical modeling, uncertainty quantification, reduced order modeling and inference with misspecified models and will be addressed. The SAMSI program is working on establishing some working groups viz. I: Uncertainty Quantification and Reduced Order Modeling in Gravitation, Astrophysics, and Cosmology, II: Synoptic Time Domain Surveys, III: Time Series Analysis for Exoplanets & Gravitational Waves: Beyond Stationary Gaussian Processes, IV: Population Modeling & Signal Separation for Exoplanets & Gravitational Waves, V: Statistics, computation, and modeling in cosmology. Collaborating scientists spend extended periods (weeks to a semester) of time at SAMSI and meet regularly via webex/telecon throughout the year.

Chair: Aneta Siemiginowska (Harvard-Smithsonian, CfA)

409.01 Overview of the SAMSI year-long program on Statistical, Mathematical and Computational Methods for Astronomy

Author(s): **G. Jogesh Babu**¹

Institution(s): ¹ Penn State University

409.02 Statistical Methods for Characterizing Variability in Stellar Spectra

Author(s): **Jessi Cisewski**¹

Institution(s): ¹ Yale University

Contributing team(s): Yale Astrostatistics

409.03 Statistics, Computation, and Modeling in Cosmology

Author(s): **Jeff Jewell**¹, Joe Guinness²

Institution(s): ¹ NASA JPL, ² North Carolina State University

Contributing team(s): SAMSI 2016 Working Group in Cosmology

409.04 Statistical and Mathematical Methods for Synoptic Time Domain Surveys

Author(s): **Ashish A. Mahabal**¹

Institution(s): ¹ Caltech

Contributing team(s): SAMSI Synoptic Surveys Time Domain Working Group

410 Supernovae & Remnants

Saturday, 10:00 am - 11:30 am; Fort Worth 6

Chair: Amanda Bayless (Southwest Research Institute)

410.01 Type Iax Supernovae

Author(s): **Saurabh W Jha**², Yssavo Camacho², Curtis McCully¹, Ryan Foley³

Institution(s): ¹ Las Cumbres Observatory Global Telescope, ² Rutgers University,

³ University of California Santa Cruz

410.02 Near-infrared absolute magnitudes of Type Ia Supernovae

Author(s): **Arturo Avelino**¹, Andrew S. Friedman², Kaisey Mandel¹, Robert Kirshner¹, Peter Challis¹

Institution(s): ¹ Harvard University, ² MIT

SATURDAY, 7 JANUARY 2017

410.03D Interstellar-medium Mapping in M82 and Circumstellar Environment Constraints through Light Echoes Around Supernova 2014J

Author(s): **Yi Yang**¹, Lifan Wang¹

*Institution(s):*¹ *Texas A&M University*

410.04 The Three-Dimensional Motions of the Ejecta of Tycho's Supernova Remnant

Author(s): **Brian J. Williams**², Nina Coyle⁵, Hiroya Yamaguchi², Joseph M. DePasquale¹, John W. Hewitt⁶, John M. Blondin³, Kazimierz J. Borkowski³, Parviz Ghavamian⁴, Robert Petre², Stephen P. Reynolds³

*Institution(s):*¹ *Harvard-Smithsonian CfA*, ² *NASA Goddard*, ³ *North Carolina State University*, ⁴ *Towson University*, ⁵ *University of Chicago*, ⁶ *University of North Florida*

410.05 A new set of supernova remnant distances for the inner Galaxy

Author(s): **Denis A. Leahy**¹, Sujith Ranasinghe¹

*Institution(s):*¹ *Univ. of Calgary*

410.06 The Unprecedented Metamorphosis of Supernova 2014C: New Insights from New Observations by HST and Gemini

Author(s): **Dan Milisavljevic**¹, Daniel Patnaude¹, Raffaella Margutti³, Atish Kamble¹, John C. Raymond¹, Michael Bietenholz⁶, Jerod Parrent¹, Robert Kirshner¹, Peter Challis¹, Claes Fransson⁴, Wen-fai Fong⁵, Ashley Zauderer²

*Institution(s):*¹ *Harvard-Smithsonian, CfA*, ² *New York University*, ³ *Northwestern University*, ⁴ *Stockholm University*, ⁵ *University of Arizona*, ⁶ *York University*

410.07 Critical Resolution and Physical Dependences of Supernovae: Stars in Heat and Under Pressure

Author(s): **David Vartanyan**¹, Adam Seth Burrows¹

*Institution(s):*¹ *Princeton University*

410.08 The Role of Waves in the Explosion Mechanism of Core-Collapse Supernovae

Author(s): **Sarah Gossan**¹, Jim Fuller¹, Luke Roberts²

*Institution(s):*¹ *California Institute of Technology*, ² *Michigan State University*

411 Astronomy Education Across the Human Continuum: Research, Programs, Practice, & More!

Saturday, 10:00 am - 11:30 am; Dallas 6

Chair: Nicole Gugliucci (Saint Anselm College)

411.01 Middle School Teacher Misconceptions and Anxieties Concerning Space Science Disciplinary Core Ideas in NGSS

Author(s): **Kristine Larsen**¹

*Institution(s):*¹ *Central Connecticut State University*

411.02 Analyzing Tibetan Monastic Conceptions of the Universe Through Individual Drawings

Author(s): **Tenzin Sonam**¹, Chris David Impey¹

*Institution(s):*¹ *University of Arizona*

411.03 Educating the Public about the 2017 Total Solar Eclipse

Author(s): **Jay M. Pasachoff**¹

Institution(s): ¹ *Williams College*

411.04 NASA's Universe of Learning: Connecting Scientists, Educators, and Learners

Author(s): **Denise A. Smith**⁷, Kathleen Lestition⁵, Gordon K. Squires³, W. M. Greene⁴, Anya A Biferno⁴, Lynn R. Cominsky⁶, Irene Goodman², Allyson Walker¹

Institution(s): ¹ *Cornerstone Evaluation Associates*, ² *Goodman Research Group*, ³ *IPAC at Caltech*, ⁴ *Jet Propulsion Laboratory*, ⁵ *Smithsonian Astrophysical Observatory*, ⁶ *Sonoma State University*, ⁷ *STScI*

Contributing team(s): Universe of Learning Team

411.05 Astrophysics for Older adults in Chicago.

Author(s): **Daniel Grin**², Randall H. Landsberg³, Karen Flude¹

Institution(s): ¹ *Age with Ease*, ² *Haverford College*, ³ *University of Chicago*

411.06 Bringing the Science of JWST to the Public

Author(s): **Joel D. Green**¹, Denise A. Smith¹, Brandon L. Lawton¹, Bonnie K. Meinke¹, Hussein Jirdeh¹

Institution(s): ¹ *Space Telescope Science Institute*

411.07 Bringing Live Astronomy into the Classroom and to the Public

Author(s): **Paul Cox**¹

Institution(s): ¹ *Slooh LLC*

411.08 Solar System Symphony: Combining astronomy with live classical music

Author(s): **Kyle Kremer**¹

Institution(s): ¹ *CIERA-Northwestern University*

Contributing team(s): WorldWide Telescope

411.09 Do Facilitate, Don't Demonstrate: Meaningful Engagement for Science Outreach

Author(s): **Richard Gelderman**¹

Institution(s): ¹ *Western Kentucky University*

412 Plenary Talk: The 21st Century: The Century of Biology on Earth and Beyond, Jill Tarter (SETI Institute)

Saturday, 11:40 am - 12:30 pm; Texas A

Chair: Charles Woodward (Univ. of Minnesota)



412.01 The 21st Century: The Century of Biology on Earth and Beyond

Author(s): **Jill C. Tarter**¹

Institution(s): ¹ *SETI Institute*

Contributing team(s): SETI Team

SATURDAY, 7 JANUARY 2017

POSTER SESSIONS

424 The Sun & Solar System Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

- 424.01 Multi-site Observations of the March 2016 Total Solar Eclipse: Calibration of Images to Simulate Continuous Monitoring**
Author(s): **Robert Bosh**⁹, Matthew J. Penn⁴, Myles McKay⁷, Robert Baer⁶, David Garrison³, Richard Gelderman⁹, Honor Hare⁹, Fred Isberner⁶, Logan Jensen⁸, Sarah Kovac⁶, Adriana Mitchell⁴, Michael Pierce⁸, Patricia Thompson⁹, Andrei Ursache³, John R. Varsik¹, Donald K. Walter⁵, Zachary Watson⁴, David Young²
Institution(s): ¹. *Big Bear Solar Observatory*, ². *Citizen CATE Team*, ³. *Mathworks Inc.*, ⁴. *National Solar Observatory*, ⁵. *South Carolina State University*, ⁶. *Southern Illinois University*, ⁷. *Space Telescope Science Institute*, ⁸. *University of Wyoming*, ⁹. *Western Kentucky University*
Contributing team(s): Citizen Cate Team
- 424.02 DIY Astrophysics: Examining diurnal and seasonal fluctuations in the effects of solar gravity using a three-axis accelerometer**
Author(s): **Kristine Romich**¹, Andrew Kruger¹
Institution(s): ¹. *City Colleges of Chicago*
- 424.03 Albedos of Centaurs, Jovian Trojans and Hildas**
Author(s): **William Romanishin**¹
Institution(s): ¹. *Univ. of Oklahoma*
- 424.04 Shape Modeling and Boulder Mapping of Asteroid 1992 UY4**
Author(s): **Nicholas Duong**², Michael W. Busch¹
Institution(s): ¹. *SETI Institute*, ². *University of Louisville*
- 424.05 Simulation of Rogue Planet Encounters with the Solar System: Is Planet 9 a Captured Rogue?**
Author(s): **James Vesper**¹, Paul A. Mason¹
Institution(s): ¹. *New Mexico State University*
- 424.06 Matching intermediate-term, multi-angle averages of CIRS FP1+FP3 observations for the He VMR and cloud in Saturn's atmosphere**
Author(s): **Joshua Serrano**², Glenn S. Orton¹, James Sinclair¹, Leigh N. Fletcher³
Institution(s): ¹. *NASA Jet Propulsion Laboratory*, ². *University of La Verne*, ³. *University of Leicester*

425 Extrasolar Planets Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

- 425.01 Transiting Planets with LSST: Finding exoplanets in the Large Magellanic Cloud**
Author(s): **Michael Lund**³, Joshua Pepper², Savannah Jacklin¹, Keivan G. Stassun³
Institution(s): ¹. *Fisk University*, ². *Lehigh University*, ³. *Vanderbilt University*

- 425.02 Planets, Moons, and Multiple Stars – Gravitational Microlensing by Three-Body Systems**
 Author(s): **David Heyrovsky**¹, Kamil Danek¹
 Institution(s): ¹ Charles University
- 425.03 The metallicity distribution and hot Jupiter rate of the Kepler field: Hectochelle High-resolution spectroscopy for 776 Kepler target stars**
 Author(s): **Xueying Guo**³, John A. Johnson², Andrew W Mann⁴, Adam L. Kraus⁴, Jason L. Curtis¹, David W. Latham²
 Institution(s): ¹ Columbia University, ² Harvard-Smithsonian Center for Astrophysics, ³ Massachusetts Institute of Technology, ⁴ The University of Texas at Austin
- 425.04 Insights on the spectral signatures of RV jitter from PCA**
 Author(s): **Allen Bradford Davis**³, Jessica Cisewski³, Xavier Dumusque², Debra Fischer³, Eric B. Ford¹
 Institution(s): ¹ The Pennsylvania State University, ² University of Geneva, ³ Yale University
- 425.05 The Escaping Upper Atmospheres of Hot Jupiters**
 Author(s): **Eric Davidson**¹, Gabrielle Jones², Ana Uribe¹, Joseph Carson¹
 Institution(s): ¹ College of Charleston, ² South Carolina State University
- 425.07 ZEIT: Searching for Young Stars in K2**
 Author(s): **Nathan Morris**¹, Andrew W Mann¹
 Institution(s): ¹ University of Texas at Austin
- 425.08 A Novel Statistical Technique for Determining the Properties of Extrasolar Planets**
 Author(s): **Cassandra Starr Henderson**¹, Andrew Skemer¹, Caroline Morley¹, Jonathan J. Fortney¹
 Institution(s): ¹ UC Santa Cruz
- 425.09 pyLIMA : an open source microlensing software**
 Author(s): **Etienne Bachelet**¹
 Institution(s): ¹ LCO
- 425.10 A population of planetary systems from Kepler data that are characterized by short-period, Earth-sized planets**
 Author(s): **Jason H. Steffen**², Jeffrey Coughlin¹
 Institution(s): ¹ SETI Institute, ² University of Nevada, Las Vegas
- 425.11 Extra Solar Planet Science With a Non Redundant Mask**
 Author(s): **Stefenie Nicolet Minto**¹
 Institution(s): ¹ The Space Telescope Science Institute
 Contributing team(s): Anand Sivaramakrishnan, Alexandra Greenbaum, Kathryn St Laurent , Deeparshi Thatte
- 425.12 Investigating Exoplanets Within Stellar Clusters**
 Author(s): **Joseph Paul Glaser**¹, Tyler Reisinger¹, Jonathan Thornton¹, Stephen L. W. McMillan¹
 Institution(s): ¹ Drexel University

SATURDAY, 7 JANUARY 2017

426 Galaxy Clusters and the IGM Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

- 426.01 The dark matter distribution of merging galaxy cluster PLCKG287.0+32.9 by weak lensing**
Author(s): **Kyle Finner**⁴, James Jee⁴, William Dawson¹, Nathan Golovich³, Daniel Gruen², Brian Lemaux³, David M. Wittman³
Institution(s): ¹ Lawrence Livermore National Lab, ² Stanford University, ³ UC Davis, ⁴ Yonsei University
- 426.02 Helium Reionization in From New Sightlines**
Author(s): **David Syphers**¹
Institution(s): ¹ Eastern Washington University
- 426.03 Magnetic Draping as a Possible Solution to Turbulent Heating of the ICM in Kinetic Mode AGN Feedback**
Author(s): **Christopher John Bambic**¹, Christopher S. Reynolds¹, Brian Morsony¹
Institution(s): ¹ University of Maryland, College Park
- 426.04 Probing Galaxy Clusters and Substructures using Gravitational Lensing**
Author(s): **Miyong Choi**², Hoang Nguyen², Lindsay King², Brandyn E Lee², Ian McCarthy¹
Institution(s): ¹ Liverpool John Moores, ² The University of Texas at Dallas
- 426.05 Ratio of Dust to Metal Abundance in Quasar Absorption Line Systems from 1.9 < z < 3.3**
Author(s): **Stephanie Stawinski**¹, Sangeeta Malhotra¹
Institution(s): ¹ Arizona State University
- 426.06 Observation of Weak Low-ionization Winds in Host Galaxies of Low Luminosity Active Galactic Nuclei at z ~1**
Author(s): **Hassen Yesuf**¹
Institution(s): ¹ University of California Santa Cruz
Contributing team(s): David C. Koo, S. M. Faber, J. Xavier Prochaska, Yicheng Guo, F. S. Liu, Emily C. Cunningham, Alison L. Coil, Puragra Guhathakurta

427 Galaxy Evolution Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

- 427.01 Galaxy Structure in the Far-Ultraviolet**
Author(s): **Violet Mager**⁴, Christopher Conselice⁶, Mark Seibert², Courtney Gusbar³, Anthony Katona⁵, Joseph Villari⁵, Barry F. Madore², Rogier A. Windhorst¹
Institution(s): ¹ Arizona State University, ² Carnegie Observatories, ³ Ohio University, ⁴ Penn State Wilkes-Barre, ⁵ Susquehanna University, ⁶ University of Nottingham

SATURDAY, 7 JANUARY 2017

- 427.02 The Universe Going Green: Extraordinarily Strong [OIII]5007 in Typical Dwarf Galaxies at $z \sim 3$**
Author(s): **Matthew Arnold Malkan**¹, Daniel Cohen¹
Institution(s): ¹ UC, Los Angeles
- 427.03 Constraining the Effect of Close-Pairs on the Measurements of the Number Density of the Most Massive Galaxies in the Early Universe**
Author(s): **Zehra Cemile Marsan**², Danilo Marchesini², Gabriel Brammer¹, Adam Muzzin³
Institution(s): ¹ STScI, ² Tufts University, ³ York University
- 427.04 Galactic Winds and Cosmic Ray Transport in a Multiphase Interstellar Medium**
Author(s): **Ryan Farber**², Mateusz Ruszkowski², Karen Hsiang-Yi¹, Ellen Gould Zweibel³
Institution(s): ¹ University of Maryland, College Park, ² University of Michigan, Ann Arbor, ³ University of Wisconsin-Madison
- 427.05 The multi-wavelength properties of faint submillimeter galaxies at 450 and 850 μ m**
Author(s): **Jorge Zavala**¹, Itziar Aretxaga¹, David Hughes¹, James Dunlop², Michal Michalowski²
Institution(s): ¹ INAOE, ² University of Edinburgh
Contributing team(s): SCUBA-2 Cosmology Legacy Survey
- 427.06 Environmental Variations in the Atomic and Molecular Gas Radial Profiles of Nearby Spiral Galaxies**
Author(s): **Angus Mok**¹, Christine Wilson¹
Institution(s): ¹ McMaster University
Contributing team(s): JCMT Nearby Galaxies Legacy Survey
- 427.07 Ram Pressure Stripping and Morphological Transformation in the Coma Cluster**
Author(s): **Michael Gregg**², Michael West¹
Institution(s): ¹ Lowell Observatory, ² University of California, Davis
- 427.08 Bar Evolution and Bar Properties from Disc Galaxies in the Early Universe**
Author(s): **Tenley Hutchinson-Smith**¹, Brooke Simmons²
Institution(s): ¹ Spelman College, ² UC San Diego

428 The Milky Way and Other Galaxies Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

- 428.01 Two Populations of SiO Masers in the Galactic Bulge**
Author(s): **Adam Trapp**², Robert Michael Rich², Mark Morris², Ylva Pihlstrom³, Lorant Sjouwerman¹, Mark J. Claussen¹, Michael Stroh³
Institution(s): ¹ NRAO, ² UCLA, ³ University of New Mexico
- 428.02 The Colors and Stellar Populations of Ultra-Diffuse Galaxies in the Coma and Virgo Clusters**
Author(s): **Maria Babakhanyan Stone**¹, Aaron J. Romanowsky¹
Institution(s): ¹ San Jose State University

SATURDAY, 7 JANUARY 2017

428.03 A New High Resolution JVLA Survey of the Fireworks Galaxy, NGC 6946

Author(s): **Christina K. Lacey**¹, Zuzana Isabelle Calbo¹, Thomas Pannuti³, Christopher Stockdale², Kelly E. Fries¹

Institution(s): ¹ Hofstra University, ² Marquette University, ³ Morehead State University

428.04 Simulating Galaxies: Investigating Spiral Pitch Angle and the Efficiency of Radial Mixing

Author(s): **Noah Lifset**², Luke Barbano², Kathryn J Daniel¹

Institution(s): ¹ Bryn Mawr College, ² Swarthmore College

428.05 Spectral Analysis of CLU Galaxies

Author(s): **Jessica Sutter**², David O. Cook¹, Mansi M. Kasliwal¹, Daniel A. Dale²

Institution(s): ¹ Caltech, ² University of Wyoming

428.06 Numerical Simulations of a Jet-Cloud Collision and Starburst: Application to Minkowski's Object

Author(s): **Jason Witry**¹, P. Christopher Christopher Fragile¹, Peter Anninos², Steve Croft⁴, Mark Lacy³

Institution(s): ¹ College of Charleston, ² Lawrence Livermore National Laboratory, ³ NRAO, ⁴ UC Berkeley

428.07 Near-Infrared Photometric Properties of Red Supergiant Stars in Neaby Galaxies: NGC 4214, NGC 4736 and M51

Author(s): **DooSeok Jung**², Sang-Hyun Chun¹, Samyaday Choudhury³, Young-Jong Sohn²

Institution(s): ¹ Seoul National University, ² Yonsei University, ³ Yonsei University Observatory

428.08 Studying Lyman-alpha escape and reionization in Green Pea galaxies

Author(s): **Huan Yang**¹, Sangeeta Malhotra¹, James E. Rhoads¹, Max Gronke⁴, Claus Leitherer³, Aida Wofford², Mark Dijkstra⁴

Institution(s): ¹ Arizona State University, ² National Autonomous University of Mexico, ³ STScI, ⁴ University of Oslo

429 AGN and Friends Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

429.01 AGN feedback in action? - outflows and star formation in type 2 AGNs

Author(s): **Jong-Hak Woo**¹

Institution(s): ¹ Seoul National University

429.02 Infrared Variability and Time Lags for Periodic Quasars

Author(s): **Hyunsung David Jun**³, Daniel Stern³, Matthew J. Graham¹, Stanislav G. Djorgovski¹, Amy Mainzer³, Roc M. Cutri², Andrew J. Drake¹, Ashish A. Mahabal¹

Institution(s): ¹ Caltech, ² IPAC, ³ Jet Propulsion Laboratory

- 429.03 Near-Infrared Spectroscopic Analysis of Galaxy Mergers: Revealing Obscured Accretion**
 Author(s): **Jason Ferguson**², Anca Constantin², Shobita Satyapal¹, Barry Rothberg³
 Institution(s): ¹ George Mason University, ² James Madison University, ³ Large Binocular Telescope Observatory
- 429.04 Reverberation mapping of PG 0934+013**
 Author(s): **Songyoung Park**¹, Jong-Hak Woo¹, Encarni Romero-colmenero², Steve Crawford², Yiseul Jeon¹
 Institution(s): ¹ Seoul National University, ² South African Astronomical Observatory
- 429.05 Constraining Quasar Properties with Variability via the Dark Energy Survey and Australian DES**
 Author(s): **Dale Mudd**¹, Paul Martini¹
 Institution(s): ¹ Ohio State University
 Contributing team(s): Dark Energy Survey, Australian DES
- 429.06 Integrated Properties of Nearby Seyfert Galaxies Measured by 2-D Spectroscopy**
 Author(s): **Junjie Xia**¹, Matthew Arnold Malkan¹
 Institution(s): ¹ University of California, Los Angeles
- 429.07 Galactic Winds in Galaxies with Active Black Holes**
 Author(s): **Lin Lee**¹, Hassen Mohammed Yesuf²
 Institution(s): ¹ The Hockaday School, ² UC Santa Cruz
- 429.08 NGC1448 and IC 3639: Two Concealed Black Holes Lurking in our Cosmic Backyard Unveiled by NuSTAR**
 Author(s): **Daniel Stern**¹¹, Peter Boorman¹⁸, Ady Annuar⁵, Poshak Gandhi¹⁸, D. M Alexander⁵, George B Lansbury⁵, Daniel Asmus⁶, David R. Ballantyne⁸, Franz E. Bauer¹⁶, Steven E. Boggs¹⁷, W. Niel Brandt¹³, Murray Brightman², Finn Christensen⁴, William W. Craig¹⁷, Duncan Farrah¹⁹, Andy D. Goulding¹⁴, Charles James Hailey³, Fiona Harrison², Sebastian Hoenig¹⁸, Michael Koss⁷, Stephanie M. LaMassa¹², Alberto Masini⁹, Stephen S. Murray¹⁰, Claudio Ricci¹⁵, Guido Risaliti¹, David J. Rosario⁵, Flora Stanley⁵, William Zhang¹²
 Institution(s): ¹ Arcetri, ² Caltech, ³ Columbia, ⁴ DTU-Space, ⁵ Durham University, ⁶ ESO, ⁷ ETH-Zurich, ⁸ Georgia Tech, ⁹ INAF, ¹⁰ Johns Hopkins, ¹¹ JPL/ Caltech, ¹² NASA GSFC, ¹³ Penn State, ¹⁴ Princeton, ¹⁵ PUC, ¹⁶ Space Science Institute, ¹⁷ Space Sciences Laboratory, ¹⁸ University of Southampton, ¹⁹ Virginia Tech

430 Cosmology and Related Topics Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

- 430.01 Cosmological constraints with weak lensing peak counts and second-order statistics in a large-field survey**
 Author(s): **Austin Peel**², Chieh-An Lin², Francois Lanusse¹, Adrienne Leonard³, Jean-Luc Starck², Martin Kilbinger²
 Institution(s): ¹ Carnegie Mellon University, ² CEA Saclay, ³ University College London

SATURDAY, 7 JANUARY 2017

430.02 A large sample of binary quasars: Does quasar bias tracks from Mpc scale to kpc scales?

Author(s): Sarah Eftekharzadeh², Adam D. Myers², Stanislav G. Djorgovski¹, Matthew J. Graham¹

Institution(s): ¹ California Institute of Technology, 1200 E California Blvd, ² Department of Physics and Astronomy, 1000 E. University, Dept 3905

430.03 Deep Learning the Universe

Author(s): Shiwangi Singh¹, Deborah Bard¹

Institution(s): ¹ NERSC, Lawrence Berkeley National Laboratory

430.04 The Primordial Inflation Polarization Explorer (PIPER)

Author(s): Natalie Gandilo², Peter Ade¹, Dominic J. Benford⁴, Charles L. Bennett², David T. Chuss⁹, Jessie L. Dotson³, Joseph Eimer², Dale J. Fixsen⁴, Mark Halpern⁷, Gene Hilton⁵, Gary F. Hinshaw⁷, Kent Irwin⁶, Christine Jhabvala⁴, Mark Kimball⁴, Alan J. Kogut⁴, Luke Lowe⁴, Jeff McMahon⁸, Timothy Miller⁴, Paul Mirel⁴, Samuel H. Moseley⁴, Samuel Pawlyk⁴, Samelys Rodriguez⁴, Elmer Sharp⁴, Peter Shirron⁴, Johannes Staguhn², Dan Sullivan⁴, Eric Switzer⁴, Peter Taraschi⁴, carole tucker¹, Edward Wollack⁴

Institution(s): ¹ Cardiff University, ² Johns Hopkins University, ³ NASA / Ames, ⁴ NASA / GSFC, ⁵ NIST, ⁶ Stanford University, ⁷ University of British Columbia, ⁸ University of Michigan, ⁹ Villanova University

430.05 Massive Black Hole Binary Mergers and their Gravitational Waves

Author(s): Luke Zoltan Kelley¹, Laura Blecha³, Lars Hernquist¹, Alberto Sesana²

Institution(s): ¹ Harvard University, ² University of Birmingham, ³ University of Maryland

430.06 The Wave Turbulence Approach to Gravitational Collapse in Anti-de Sitter Space

Author(s): Brian Cook¹, Leopoldo Pando Zayas¹

Institution(s): ¹ University of Michigan

430.07 Gravitational lensing of gravitational wave

Author(s): Wang Kei Wong¹, Kwan Yeung Ng¹

Institution(s): ¹ The Chinese University of Hong Kong

431 Neutron Stars & Friends Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

431.01 Exploring the Physical Conditions in Millisecond Pulsar Emission Regions

Author(s): Joanna M. Rankin¹

Institution(s): ¹ Univ. of Vermont

431.02 Polarization Behavior Across Profile Modes For B0329+54: What Consistent Non-RVM Polarization Tells About the Emission Processes

Author(s): Casey Brinkman-Traverse², Joanna M. Rankin², Dipanjan Mitra¹

Institution(s): ¹ NCRA, TIFR, ² University of Vermont

431.03 Single Pulse Searches for Pulsars in the Galactic Center

Author(s): **Daniel Joseph Cushey**¹, Walid A. Majid², Thomas Allen Prince¹
Institution(s): ¹ *California Institute of Technology*, ² *Jet Propulsion Laboratory*

431.04 Searching for Magnetar SGR 0755-2933

Author(s): **Amanda Harrison**¹
Institution(s): ¹ *Green Bank Telescope*
 Contributing team(s): Ryan Lynch, NRAO Green Bank Telescope

431.05 Contrasting Magnetohydrodynamic Turbulence with alpha-Viscosity in Simulations of Black Hole Accretion

Author(s): **P. Christopher Christopher Fragile**², Sarina Marie Etheridge², Peter Anninos³, Bhupendra Mishra¹
Institution(s): ¹ *CAMK*, ² *College of Charleston*, ³ *Lawrence Livermore National Laboratory*

431.06 Signatures of strong gravity in the light curves of tidal disruption events

Author(s): **Júlia Alsina Oriol**¹, Tamara Bogdanovic¹
Institution(s): ¹ *Georgia Institute of Technology*

431.07 Tracking the Disk Wind Behavior of MAXI J1305-704

Author(s): **Kimberly Poppy Sinclair**¹, Jon M. Miller¹
Institution(s): ¹ *University of Michigan*

431.08 Mass Constraints on the Black Hole Candidate in M62

Author(s): **Christopher Britt**³, Jay Strader³, Laura Chomiuk³, Thomas J. Maccarone⁴, Laura Shishkovsky³, James Miller-Jones¹, Vlad Tudor¹, Evangelina Tremou³, Arash Bahramian³, Sebastian Kamann²
Institution(s): ¹ *Curtin University*, ² *Institute for Astrophysics Göttingen*, ³ *Michigan State University*, ⁴ *Texas Tech University*

432 Star Formation, Young Stars and Clusters Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

432.01 Revealing the Jets in the BHR 71 Protostellar System

Author(s): **Tyler L. Bourke**³, John J. Tobin⁴, Antoine Gusdorf¹, Hector G. Arce⁵, Mario Tafalla²
Institution(s): ¹ *LERMA/ENS*, ² *OAN*, ³ *SKA Organisation*, ⁴ *University of Oklahoma*, ⁵ *Yale*

432.02 High Resolution SOFIA/EXES Spectroscopy of CH₄ and SO₂ toward Massive Young Stellar Objects

Author(s): **Abraham C. A. Boogert**⁷, Matt Richter⁵, Curtis DeWitt⁵, Nick Indriolo⁴, David A. Neufeld³, Agata Karska¹, Edwin A. Bergin⁶, Rachel L. Smith², Edward Montiel⁵
Institution(s): ¹ *Adam Mickiewicz University*, ² *Appalachian State University*, ³ *Johns Hopkins University*, ⁴ *STScI*, ⁵ *UC Davis*, ⁶ *University of Michigan*, ⁷ *USRA-Stratospheric Observatory for Infrared Astronomy, NASA Ames Research Center*

SATURDAY, 7 JANUARY 2017

432.03 Size Distribution of Star Clusters and Stellar Groups in IC2574

Author(s): Anne Pellerin², Martin J. Meyer¹, Daniela Calzetti³

Institution(s): ¹ International Centre for Radio Astronomy Research, The University of Western Australia, ² SUNY Geneseo, ³ University of Massachusetts Amherst

433 Stars of Many Stripes Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

433.01 Investigation into the Morphology and Temporal Variability of Auroral H α Emission from LSR J1835+3259

Author(s): J. Sebastian Pineda¹, Gregg Hallinan¹, Stuart Littlefair⁴, Chris Watson², Gibor S. Basri³

Institution(s): ¹ Caltech, ² Queen's University - ARC, ³ UC Berkeley, ⁴ University of Sheffield

433.02 Using Model Point Spread Functions to Identifying Binary Brown Dwarf Systems

Author(s): Kyle Matt¹, Denise C. Stephens¹, Leanne T Lunsford¹

Institution(s): ¹ Brigham Young University

433.03 Searching for GALEX FUV and NUV Detections of BOSS Ultracool Dwarfs

Author(s): Jonathan Wheatley², Sarah J. Schmidt¹, Barry Welsh²

Institution(s): ¹ AIP Leibniz, ² University of California Berkeley

433.04 The Red Supergiants of M33: Determining Physical Properties

Author(s): Madeleine Beck², Philip Massey¹

Institution(s): ¹ Lowell Observatory, ² Wellesley College

433.05 Regimes of Internal Rotation in Differentially Rotating White Dwarfs

Author(s): J. Craig Wheeler², Pranab Ghosh¹

Institution(s): ¹ Tata Institute of Fundamental Research, ² Univ. of Texas

433.06 The Betelgeuse Project: Constraints from Rotation

Author(s): Manuel Diaz¹, Sarafina Nance¹, James Sullivan¹, J. Craig Wheeler¹

Institution(s): ¹ The University of Texas at Austin

433.07 Magnesium Amplification: The Last Missing Piece in Integrated Light Studies

Author(s): Guy Worthey¹

Institution(s): ¹ Washington State Univ.

433.08 The Diversity of Chemical Composition and the Effects on Stellar Evolution and Planetary Habitability

Author(s): Amanda Truitt¹, Patrick A. Young¹

Institution(s): ¹ Arizona State University, School of Earth and Space Exploration

433.09 BVRI Photometric Study of V1695 Aquilae, an Extreme Mass Ratio, High fill-out Contact Binary

Author(s): Ronald G. Samec², Daniel B. Caton¹, Danny R. Faulkner⁴, Walter V. Van Hamme³, Christopher R Gray²

Institution(s): ¹ Dark Sky Observatory, Appalachian State University, ² Emmanuel College, ³ Florida International University, ⁴ University of South Carolina, Lancaster

- 433.10 Characterization of Detached Main Sequence Binaries Observed by Kepler, SDSS(APOGEE) and Gaia**
 Author(s): **Christina Oleander Solis**¹, Paul A. Mason¹
 Institution(s): ¹ NMSU-DACC
- 433.11 Eclipsing Binary Star Detection Using Kepler**
 Author(s): **Ekaterina Vydra**¹, Derek L. Buzasi¹
 Institution(s): ¹ Florida Gulf Coast University
- 433.12 Dynamical Tide in Action: Tidally Excited Oscillations in Kepler Heartbeat Stars**
 Author(s): **Zhao Guo**¹, Douglas R. Gies¹, Avi Shporer², Jim Fuller², Howard T. Isaacson³
 Institution(s): ¹ Georgia State University, ² JPL, Caltech, ³ University of California, Berkeley
 Contributing team(s): Kepler Eclipsing Binary Working Group
- 433.13 BVRI Photometric Study of the Twin, Detached, Near-Contact W UMA Binary, GQ Cancri**
 Author(s): **Daniel B. Caton**¹, Ronald G. Samec², Amber Olsen², Walter V. Van Hamme³, Danny R. Faulkner⁴
 Institution(s): ¹ Appalachian State Univ., ² Emmanuel College, ³ Florida International Observatory, ⁴ Johnson Observatory
- 433.14 Numerical Simulations of Close and Contact Binary Systems Having Bipolytropic Equation of State**
 Author(s): **Kundan Kadam**², Geoffrey C. Clayton², Patrick M. Motl¹, Dominic Marcello², Juhan Frank²
 Institution(s): ¹ Indiana University Kokomo, ² Louisiana State University
- 433.15 Characterizing RR Lyraes using SDSS, Single-Epoch Spectroscopy**
 Author(s): **Stacy Scott Long**², Ronald J. Wilhelm², Nathan M. De Lee¹
 Institution(s): ¹ Northern Kentucky University, ² University of Kentucky
- 433.16 In Search of Stellar Music: Finding Pulsators for the TESS Mission**
 Author(s): **Tyler Richey-Yowell**¹, Joshua Pepper²
 Institution(s): ¹ Dickinson College, ² Lehigh University
 Contributing team(s): KELT Collaboration
- 433.17 Searching for frequency multiplets in the pulsating subdwarf B star PG 1219+534**
 Author(s): **John Crooke**¹, Ryan Roessler¹, Michael Reed¹
 Institution(s): ¹ Missouri State University
- 433.18 Mira Period-Luminosity Relations at Near-Infrared**
 Author(s): **Wenlong Yuan**¹, Lucas M. Macri¹, Shiyuan He³, James Long³, Jianhua Huang³, Chow-Choong Ngeow⁴, Shashi Kanbur²
 Institution(s): ¹ Department of Physics & Astronomy, Texas A&M University, ² Department of Physics, SUNY Oswego, ³ Department of Statistics, Texas A&M University, ⁴ Graduate Institution of Astronomy, National Central University

SATURDAY, 7 JANUARY 2017

433.19 The Initial-Final Mass Relation: Analysis of White Dwarfs in the M7 Open Cluster

Author(s): **Jeff D Cummings**², Jason S. Kalirai³, Douglas Geisler⁴, Pier-Emmanuel Tremblay⁵, Francesco Mauro⁴, Constantine P. Deliyannis¹

Institution(s): ¹ Indiana University, ² Johns Hopkins University, ³ STScI, ⁴ Universidad de Concepcion, ⁵ University of Warwick

433.20 Planet-Planet Scattering and White Dwarf Pollution

Author(s): **Arielle Joasil**¹, Matthew John Payne¹, Dimitri Veras²

Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² University of Warwick

433.21 Low States of Polars from CRTS Optical Light Curves

Author(s): **Joshua Santana**¹, Paul A. Mason¹

Institution(s): ¹ New Mexico State University

433.22 Shaping the Outbursts of Dwarf Novae with Convection and Magnetorotational Turbulence

Author(s): **Matthew S. B. Coleman**¹

Institution(s): ¹ UCSB

433.23 The Habitable Zone of the Binary System Kepler-16

Author(s): **Sarah Moorman**¹, Manfred Cuntz¹

Institution(s): ¹ The University of Texas at Arlington

434 Supernovae et Multo Amplius Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

434.01 Observations of the Ultraviolet-Bright Type IIP Supernova ASASSN-14ha

Author(s): **Andrew Quick**¹, Peter J Brown¹, Nicholas B. Suntzeff¹

Institution(s): ¹ Texas A&M University

434.02 Correlations Between Hubble Residuals and Local Stellar Populations of Type Ia Supernovae

Author(s): **Benjamin Rose**¹, Peter M. Garnavich¹

Institution(s): ¹ University of Notre Dame

434.03 SuperNovae Analysis aPplication (SNAP): A new analysis tool for understanding the physics of supernovae

Author(s): **Patrick Roming**³, Amanda J. Bayless³, Janie De La Rosa⁴, Wesley P. Even², Lucille Frey², Chris Fryer², Brandon Kerry Wiggins², Ryan Wollaeger², Patrick A. Young¹, Rebecca Hay³, Rachel Landers³, Heather Persson³, Luke Powell³, Rob Thorpe³

Institution(s): ¹ Arizona State University, ² Los Alamos National Laboratory, ³ Southwest Research Institute, ⁴ University of Texas, San Antonio

434.04 Two Years and Five Images of Supernova Refsdal

Author(s): **Patrick Kelly**¹

Institution(s): ¹ California - Berkeley, University of

- 434.05 Creation of a Unified Set of Core-Collapse Supernovae for Training of Photometric Classifiers**
 Author(s): **William D'Arcy Kenworthy**¹, Daniel Scolnic², Richard Kessler²
 Institution(s): ¹ *University of Cambridge*, ² *University of Chicago*
- 434.06 Post-Merger Evolution of Betelgeuse**
 Author(s): **James Sullivan**¹, J. Craig Wheeler¹, Sarafina Nance¹, Manuel Diaz¹
 Institution(s): ¹ *University of Texas at Austin*
- 434.07 Modeling Type-II_n Interacting Supernovae**
 Author(s): **Austin McDowell**¹, Paul Duffell¹, Daniel Kasen¹
 Institution(s): ¹ *UC Berkeley*
- 434.08 Asymmetry in Supernovae**
 Author(s): **Angela Collier**¹, Harrison Bachrach¹, Chris Fryer¹, Carola Ellinger¹
 Institution(s): ¹ *LANL*
- 434.09 Asymmetries in the bright and moderately extincted SN Ia ASASSN-14lp**
 Author(s): **Amber L. Porter**¹, Peter Milne³, Grant Williams³, Jon Mauerhan², Mark D. Leising¹, Paul S. Smith³
 Institution(s): ¹ *Clemson University*, ² *UC Berkeley*, ³ *University of Arizona*
- 434.10 A Chandra Observation of the Luminous Northeastern Rim of the Galactic Supernova Remnant W28 (G6.4-0.1): Spatially-Resolved Spectroscopic Analysis and Radial Fitting**
 Author(s): **Thomas Pannuti**³, Glenn E. Allen¹, Bradley Mahaffey³, Parker Poulos²
 Institution(s): ¹ *MIT*, ² *Montgomery County High School*, ³ *Morehead State University*
- 434.11 Synthesizing Planetary Nebulae for Large Scale Surveys: Predictions for LSST**
 Author(s): **George Vejar**², Rodolfo Montez³, Margaret Morris¹, Keivan G. Stassun⁴
 Institution(s): ¹ *Brandeis University*, ² *Fisk University*, ³ *Harvard Smithsonian Center for Astrophysics*, ⁴ *Vanderbilt University*
- 434.12 The Korean 1592—1593 Record of a Guest Star: A Luminous Transient of the Cassiopeia A Supernova?**
 Author(s): **Bon-Chul Koo**², Changbom Park¹, Sung-Chul Yoon²
 Institution(s): ¹ *Korea Institute for Advanced Studies*, ² *Seoul National University*

435 The ISM, Dust and Circumstellar Disks Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

- 435.01 Revisiting the Trend of Debris Disks with regards to the Improved Ages of Early-Type Stars**
 Author(s): **Brianna P. Thomas**², Lynne Hillenbrand¹
 Institution(s): ¹ *California Institute of Technology*, ² *Howard University*

SATURDAY, 7 JANUARY 2017

435.02 Characterizing Dusty Debris Disks with the Gemini Planet Imager

Author(s): **Christine Chen**⁸, Pauline Arriaga¹⁰, Sebastian Bruzzone¹⁶, Elodie Choquet⁶, John H. Debes⁸, Jessica Donaldson², Zachary Draper¹⁵, Gaspard Duchene⁹, Thomas Esposito⁹, Michael P. Fitzgerald¹⁰, David A. Golimowski⁸, Dean C. Hines⁸, Sasha Hinkley¹², A. Meredith Hughes¹⁷, Paul Kalas⁹, Ludmilla Kolokolova¹⁴, Samantha Lawler¹⁵, Brenda C. Matthews¹⁵, Johan Mazoyer⁵, Stanimir A. Metchev¹⁶, Max Millar-Blanchaer⁶, Amaya Moro-Martin⁸, Erika Nesvold², Deborah Padgett⁷, Jenny Patience¹, Marshall D. Perrin⁸, Laurent Pueyo⁸, Fredrik Rantakyro³, Timothy Rodigas², Glenn Schneider¹¹, Remi Soummer⁸, Inseok Song¹³, Chris Stark⁸, Alycia J. Weinberger², David J. Wilner⁴
Institution(s): ¹ ASU, ² Carnegie Institution of Washington, ³ Gemini Observatory, ⁴ Harvard-Smithsonian CfA, ⁵ Johns Hopkins University, ⁶ JPL, ⁷ NASA GSFC, ⁸ STScI, ⁹ UC Berkeley, ¹⁰ UCLA, ¹¹ University of Arizona, ¹² University of Exeter, ¹³ University of Georgia, ¹⁴ University of Maryland, ¹⁵ University of Victoria, ¹⁶ University of Western Ontario, ¹⁷ Wesleyan University

435.03 A Discovery of a Compact High Velocity Cloud-Galactic Supershell System

Author(s): **Geumsook Park**², Bon-Chul Koo², Ji-hyun Kang⁴, Steven J. Gibson³, Joshua Eli Goldston Peek⁷, Kevin A. Douglas¹, Eric J. Korpela⁶, Carl E. Heiles⁵
Institution(s): ¹ Department of Physics and Astronomy, Okanagan College, ² Department of Physics and Astronomy, Seoul National University, ³ Department of Physics and Astronomy, Western Kentucky University, ⁴ Korea Astronomy and Space Science Institute, ⁵ Radio Astronomy Lab, UC Berkeley 601 Campbell Hall, ⁶ Space Sciences Laboratory, University of California Berkeley, ⁷ Space Telescope Science Institute

435.04 The generation, destination, and astrophysical applications of magnetohydrodynamic turbulence

Author(s): **Siyao Xu**¹, Alex Lazarian³, Bing Zhang²
Institution(s): ¹ Peking University, ² University of Nevada Las Vegas, ³ University of Wisconsin-Madison

435.05 Spatial Variations of Turbulent Properties in Neutral Hydrogen Observations of the Small Magellanic Cloud Using Structure Function Analysis

Author(s): **David Nestingen-Palm**², Snezana Stanimirovic², Brian L Babler², DIEGO GONZALEZ CASANOVA², Katherine Jameson¹, Alberto D. Bolatto¹
Institution(s): ¹ University of Maryland, ² University of Wisconsin-Madison

435.06 Toward a Kinetic Model of Silicon Carbide Condensation in Type II Supernovae

Author(s): **Ethan A.N Deneault**¹
Institution(s): ¹ Univ. Of Tampa

436 GRBs and Space Missions Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

436.01 Comparing Data from Telescopic X-Ray Instruments: Can We Trust All Satellites?

Author(s): **Quianah T. Joyce**¹, Alexander Fortenberry¹, Bruce Gendre¹
Institution(s): ¹ University of the Virgin Islands

436.03 Image Analysis of OSIRIS-REx Touch-And-Go Camera System (TAGCAMS)

Thermal Vacuum Test Images

Author(s): **Kenneth Everett Gordon**¹, Brent J Bos²

Institution(s): ¹ James Madison University, ² NASA Goddard Space Flight Center

436.04 Updated Status and Performance of the Cosmic Origins Spectrograph on the Hubble Space Telescope

Author(s): **Mees Bernard Fix**¹, Gisella De Rosa¹, Andrew Fox¹, Nick Indriolo¹, Bethan James¹, Robert I. Jedrzejewski¹, Cristina M. Oliveira¹, Steven V. Penton¹, Rachel Plesha¹, Marc Rafelski¹, Julia Roman-Duval¹, David J. Sahnou¹, Paule Sonnentrucker¹, Elaine M. Snyder¹, Joanna M. Taylor¹, James White¹

Institution(s): ¹ Space Telescope Science Institute

437 From the Earth, We Peer Outward...Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

437.01 The CCAT-prime Extreme Field-of-View Submillimeter Telescope on Cerro Chajnantor

Author(s): **Brian Koopman**¹, Frank Bertoldi³, Scott Chapman², Michel Fich⁶, Riccardo Giovanelli¹, Martha P. Haynes¹, Terry L. Herter¹, Norman W. Murray⁵, Michael D. Niemack¹, Dominik Riechers¹, Peter Schilke⁴, Gordon J. Stacey¹, Juergen Stutzki⁴

Institution(s): ¹ Cornell University, ² Dalhousie University, ³ University of Bonn, ⁴ University of Cologne, ⁵ University of Toronto, ⁶ University of Waterloo
Contributing team(s): CCAT-prime Collaboration

437.02 Development of Real-Time Image Stabilization for an Airborne Infrared Spectrometer

Author(s): **Samuel Fedeler**¹, Jenna Samra², Giora Guth²

Institution(s): ¹ North Carolina State University, ² Smithsonian Astrophysical Observatory

437.03 Absorber Coatings for Mid-Infrared Astrophysics

Author(s): **Dahlia Anne Baker**¹, Edward Wollack², Karwan Rostem²

Institution(s): ¹ Coe College, ² NASA Goddard Space Flight Center, Observational Cosmology Lab

437.04 Development of a Low Cost Telescope System for VHE Astronomy

Author(s): **Rodney Querrard**², Jeremy S Perkins¹

Institution(s): ¹ NASA-GSFC, ² University of the Virgin Islands

437.05 Innovative polarization-holographic imaging Stokes polarimeter for observational studies of the solar spicules: the first results

Author(s): **Teimuraz Kvernadze**¹, George Kurkhuli¹, George Kakauridze², Barbara Kilosanidze², Vazha Kulijanishvili¹, Eldar Khutsishvili¹, David Khutsishvili¹

Institution(s): ¹ Abastumani Astrophysical Observatory, ² Institute of Cybernetics at Georgian Technical University

SATURDAY, 7 JANUARY 2017

437.06 Economical Emission-Line Mapping: ISM Properties of Nearby Protogalaxy Analogs

Author(s): **Jacqueline A. Monkiewicz**¹

Institution(s): ¹ *Arizona State University*

438 Catalogs, Surveys, Computation, etc. Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

438.01 Searching for short-duration transients in the Chandra archive

Author(s): **Giacomo Vianello**², Nitika Yadlapalli¹

Institution(s): ¹ *Rutgers, The State University Of New Jersey*, ² *Stanford University*

Contributing team(s): the EXTraS project (<http://www.extras-fp7.eu/>)

438.02 A Jupyter-based Interactive Visualization Tool for Astronomical Catalogs

Author(s): **Weixiang Yu**¹, Matias Carrasco Kind¹, Robert Brunner¹

Institution(s): ¹ *University of Illinois at Urbana-Champaign*

438.03 MeerKAT Large Area Survey

Author(s): **Lerothodi Leeuw**¹

Institution(s): ¹ *University of South Africa*

438.04 The JWST North Ecliptic Pole Survey Field for Time-domain Studies

Author(s): **Rolf A Jansen**¹, Mehmet Alpaslan⁵, Matthew Ashby³, Teresa Ashcraft¹, Seth H. Cohen¹, James J. Condon⁸, Christopher Conselice¹², Andrea Ferrara⁹, Brenda L. Frye¹⁴, Norman A. Grogan¹⁰, Heidi B. Hammel², Nimish P. Hathi⁴, Bhavin Joshi¹, Duho Kim¹, Anton M. Koekemoer¹⁰, Matt Mechtley¹, Stefanie N. Milam⁶, Steven A. Rodney¹⁵, Michael J. Rutkowski¹³, Louis-Gregory Strolger¹⁰, Chadwick A. Trujillo⁷, Christopher Willmer¹⁴, Rogier A. Windhorst¹, Haojing Yan¹¹

Institution(s): ¹ *ASU*, ² *AURA*, ³ *Cfa*, ⁴ *LAM*, ⁵ *NASA-Ames*, ⁶ *NASA-GSFC*, ⁷ *NAU*, ⁸ *NRAO*, ⁹ *SNS*, ¹⁰ *STScI*, ¹¹ *U. Missouri*, ¹² *U. Nottingham*, ¹³ *U. Stockholm*, ¹⁴ *UofA*, ¹⁵ *UofSC*

438.05 Extended X-ray Objects in the Galactic Bulge Survey

Author(s): **Brandon Matthews**¹

Institution(s): ¹ *Texas Tech University*

438.06 Ultra-deep Large Binocular Camera U-band Imaging of the GOODS-North Field: Depth vs. Resolution

Author(s): **Teresa Ashcraft**¹, Rogier A. Windhorst¹, Rolf A Jansen¹, Seth H. Cohen¹, Andrea Grazian³, Konstantina Boutsia², Adriano Fontana³, Emanuele Giallongo³, Robert W. O'Connell⁶, Diego Paris³, Michael J. Rutkowski⁴, Claudia Scarlata⁵, Vincenzo Testa³

Institution(s): ¹ *Arizona State University*, ² *Carnegie Observatories*, ³ *INAF - Osservatorio Astronomico di Roma*, ⁴ *Stockholm University*, ⁵ *University of Minnesota*, ⁶ *University of Virginia*

SATURDAY, 7 JANUARY 2017

- 438.07 Hot Star Extension to the Hubble Space Telescope Stellar Spectral Library**
Author(s): **Islam Khan¹**, Guy Worthey¹
Institution(s): ¹ *Washington State University*
- 438.08 PyXel: A Python Package for Astronomical X-ray Data Modeling**
Author(s): **Georgiana Ogorean¹**
Institution(s): ¹ *Stanford University*
- 438.09 What's New in CASA: 'tclean' and the Cycle 4 ALMA Pipeline**
Author(s): **Jennifer Donovan Meyer¹**
Institution(s): ¹ *NRAO*
Contributing team(s): CASA Development Team, ALMA Pipeline Working Group, NAASC Software Support Team

439 Education and Public Outreach Late Poster Session

Saturday, 1:00 pm - 2:00 pm; Longhorn D

- 439.01 Starry Campus: Reducing Light Pollution at Smith College**
Author(s): **Alexandria Brenon¹**
Institution(s): ¹ *Smith College*
- 439.02 ASTRO 850: Teaching Teachers about Exoplanets**
Author(s): **Daniel Barringer¹**, Christopher Palma¹
Institution(s): ¹ *Pennsylvania State University*
- 439.04 Virtual Reality Astronomy Education Using AAS WorldWide Telescope and Oculus Rift**
Author(s): **A. David Weigel¹**, Christina D Moraitis¹
Institution(s): ¹ *Samford University*
- 439.05 Youth for Astronomy & Engineering Program: Engaging Local Families and Partners**
Author(s): **Tania Anderson¹**
Institution(s): ¹ *Space Telescope Science Institute*
- 439.06 Adding Interferometer Restoration and Upgrade: Learning by Doing with the NINE Program**
Author(s): **Linnea Saby¹**
Institution(s): ¹ *Piedmont Virginia Community College*
- 439.07 Reaching for the Stars: NASA Science for Girl Scouts (Girl Scout Stars)**
Author(s): **Edna DeVore¹**, Pamela Harman¹
Institution(s): ¹ *SETI Institute*
Contributing team(s): Girl Scouts of the USA, Girl Scouts of Northern California, University of Arizona, Astronomical Society of the Pacific, and Aires Scientific
- 439.08 Exploring Systems Engineering (and the Universe) Through the RadioJOVE telescope**
Author(s): **Anya Aditi Raj¹**
Institution(s): ¹ *University of Washington*

SATURDAY, 7 JANUARY 2017

413 Extrasolar Planets: Characterization & Theory VII

Saturday, 2:00 pm - 3:30 pm; Texas A

Chair: Laura Schaefer (Washington Univ.)

413.01D Optical-to-UV correlations and particle fluxes for M dwarf exoplanet host stars

Author(s): Allison Youngblood¹

Institution(s): ¹ University of Colorado at Boulder

413.02 Leveraging Ensemble Dynamical Properties to Prioritize Exoplanet Follow-Up Observations

Author(s): Sarah Ballard¹

Institution(s): ¹ MIT

413.03 Identifying Young Kepler Planet Host Stars from Keck-HIRES Spectra of Lithium

Author(s): Travis Allen Berger¹, Andrew Howard¹, Ann M. Boesgaard¹

Institution(s): ¹ University of Hawaii at Manoa

413.04 A New Method for the Quick Determination of S-Type and P-Type Habitable Zones in Binary Systems

Author(s): Zhaopeng Wang¹, Manfred Cuntz¹

Institution(s): ¹ University of Texas at Arlington

413.05 Jupiter's Phase Variations from Cassini: a testbed for future direct-imaging missions

Author(s): Laura Mayorga⁴, Jason Jackiewicz⁴, Kathy Rages⁵, Robert A. West², Ben Knowles¹, Nikole K. Lewis⁶, Mark S. Marley³

Institution(s): ¹ CICLOPS/Space Science Institute, ² JPL, ³ NASA Ames Research Center, ⁴ New Mexico State University, ⁵ SETI Institute, ⁶ Space Telescope Science Institute

413.06 Compositions of Small Planets & Implications for Planetary Dynamics

Author(s): Jennifer Johnson⁴, Johanna Teske², Diogo Souto³, Katia M. L. Cunha³, Cayman T. Unterborn¹, Wendy Panero⁴

Institution(s): ¹ Arizona State University, ² Carnegie Observatories, ³ Observatorio Nacional, ⁴ Ohio State Univ.

Contributing team(s): SDSS/APOGEE team

413.07 Ray-tracing base integrated Earth system and instruments model for characterization and detection of exoplanets

Author(s): Dongok Ryu¹, Sug-Whan Kim¹

Institution(s): ¹ Yonsei University

414 AGN, QSO, Blazars: Nuclear Regions & Black Holes

Saturday, 2:00 pm - 3:30 pm; Texas C

Chair: Valerie Connaughton (NASA/MSFC)

414.01 The Sloan Digital Sky Survey Reverberation Mapping Project: Quasar Reverberation Mapping Studies

Author(s): Catherine Grier¹

Institution(s): ¹ Pennsylvania State University

Contributing team(s): The SDSS-RM Collaboration

414.02D Reverberation Mapping of AGN Accretion Disks

Author(s): Michael Fausnaugh¹

Institution(s): ¹ The Ohio State University

Contributing team(s): AGN STORM Collaboration

414.03 Reverberation Mapping Results for NGC 4151

Author(s): Caroline Anna Roberts¹, Misty C. Bentz¹, Merida Batiste¹

Institution(s): ¹ Georgia State University

414.04 The Lick AGN Monitoring Project 2016: Extending Reverberation Mapping to Higher Luminosity AGNs

Author(s): Vivian U¹

Institution(s): ¹ UC Riverside

Contributing team(s): LAMP2016 Collaboration

414.05 Optical Variability Signatures from Massive Black Hole Binaries

Author(s): Vishal P. Kasliwal¹, Koby Alexander Frank¹, Adam Lidz¹

Institution(s): ¹ University of Pennsylvania

414.06 Diagnostic Power of Broad Emission Line Profiles in Searches for Binary Supermassive Black Holes: Comparison of Models with Observations

Author(s): Khai Nguyen¹, Tamara Bogdanovic¹, Michael Eracleous², Jessie C. Runnoe², Steinn Sigurdsson²

Institution(s): ¹ Georgia Institute of Technology, ² Pennsylvania State University

415 Extrasolar Planets Detection: Methodology

Saturday, 2:00 pm - 3:30 pm; Texas D

Chair: David Kipping (Harvard-Smithsonian Center for Astrophysics)

415.01 Identifying Long-period Planets from Single Transit Events with the MEarth Project

Author(s): Jason Dittmann², Jonathan Irwin², David Charbonneau², Xavier Bonfils⁵, Nicola Astudillo⁴, Elisabeth R. Newton³, Zachory K. Berta-Thompson¹

Institution(s): ¹ Colorado University, ² Harvard Smithsonian, CfA,

³ Massachusetts Institute of Technology, ⁴ Observatoire de Geneve, ⁵ Universite de Grenoble

415.02 Searching for the First Exomoon in the Radio: A Report on GMRT Data

Author(s): Marialis Rosario-Franco², Joaquin Noyola², Suman Satyal², Zdzislaw E. Musielak², Jitendra Kodilkar¹

Institution(s): ¹ Giant Metrewave Radio Telescope, ² University of Texas at Arlington

SATURDAY, 7 JANUARY 2017

415.04 Transit Clairvoyance: Enhancing TESS follow-up using artificial neural networks

Author(s): **Christopher Lam**¹, David M. Kipping¹

Institution(s): ¹ Columbia University

415.05D The Past, Present, and Future of Planetary Systems

Author(s): **Andrew Vanderburg**¹

Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics

415.06 Updated Starshade Technology Gap List

Author(s): **Brendan P. Crill**¹, Nicholas Siegler¹

Institution(s): ¹ Jet Propulsion Laboratory

415.07 How, when and where Life will begin on another planet after Earth by Duky's Theory

Author(s): **Satveer Deol**², Amritpal Singh Nafria¹

Institution(s): ¹ Lovely Professional University, ² Punjabi University

416 Dwarf & Irregular Galaxies II

Saturday, 2:00 pm - 3:30 pm; Grapevine A

Chair: **David Sand** (UC Santa Barbara)

416.01D Galactic Building Blocks: Dwarf Galaxies Near and Far

Author(s): **Andrew Lipnicky**¹, Sukanya Chakrabarti¹

Institution(s): ¹ Rochester Institute of Technology

416.02 A new dwarf detection algorithm applied to M101

Author(s): **Paul Bennet**¹, David J. Sand¹, Denija Crnojevic¹

Institution(s): ¹ Texas Tech University

416.03 Effects of Tides on Milky Way Dwarf Satellite Galaxies

Author(s): **Mei-Yu Wang**², Louis Strigari², Azadeh Fattahi⁶, Carlos S Frenk¹,

Andrew Cooper¹, Mark Lovell³, Julio F. Navarro⁶, Till Sawala⁴, Andrew Zentner⁵

Institution(s): ¹ Durham University, ² Texas A&M University, ³ University of

Amsterdam, ⁴ University of Helsinki, ⁵ University of Pittsburgh, ⁶ University of Victoria

416.04 The First Data Release of the Survey of the MAGellanic Stellar History (SMASH)

Author(s): **David L. Nidever**¹

Institution(s): ¹ NOAO

Contributing team(s): SMASH

416.05 The Survey of the MAGellanic Stellar History (SMASH): Tracing Stellar Structures in the southern disk of LMC

Author(s): **Yumi Choi**², David L. Nidever¹, Knut A. Olsen¹, Gurtina Besla²

Institution(s): ¹ NOAO, ² University of Arizona

Contributing team(s): SMASH team

416.06 The Magellanic Satellites Survey: Searching for Hierarchical Structure Formation within the Local Group

Author(s): **Keith Bechtol**¹

Institution(s): ¹ *LSS*

Contributing team(s): Magellanic Satellites Survey (MagLiteS)

416.08 The Dark Matter Content of the Triangulum II Ultra-Faint Dwarf Galaxy

Author(s): **Evan N Kirby**¹, Judith G. Cohen¹, Joshua D. Simon²

Institution(s): ¹ *California Institute of Technology*, ² *Carnegie Observatories*

417 Binary Stellar Systems

Saturday, 2:00 pm - 3:30 pm; Grapevine B

Chair: **Andrej Prsa** (Villanova University)

417.01D Tidal Interaction among Red Giants Close Binary Systems in APOGEE Database

Author(s): **Meng Sun**², Phil Arras², Steven R. Majewski², Nicholas William Troup², Nevin N. Weinberg¹

Institution(s): ¹ *Department of Physics and MIT Kavli Institute, MIT*, ² *University of Virginia*

417.02 Resolving M-dwarf Binaries in Young Moving Groups (YMGs) with MagAO

Author(s): **Yutong Shan**¹, Jennifer C Yee¹, Brendan P. Bowler²

Institution(s): ¹ *Harvard University*, ² *University of Texas at Austin*

417.03 Spatial Distribution and Evolution of Massive Stars

Author(s): **Mojgan Aghakhanloutakanloo**¹, Jeremiah W Murphy¹

Institution(s): ¹ *fsu*

417.04 KIC 9832227: a red nova precursor

Author(s): **Lawrence A. Molnar**², Daniel Van Noord², Karen Kinemuchi¹, Jason P. Smolinski², Cara E. Alexander², Henry A. Kobulnicky³, Evan M. Cook², Byoungchan Jang², Steven D. Steenwyk²

Institution(s): ¹ *Apache Point Observatory*, ² *Calvin College*, ³ *University of Wyoming*

417.05 Estimating Parallax Error Due to Orbital Motion for HST/WFC3 Spatial Scan Observations of 19 Long-period Classical Cepheids

Author(s): **Richard Irving Anderson**², Stefano Casertano¹, Adam G. Riess²

Institution(s): ¹ *STScI*, ² *The Johns Hopkins University*

418 Dark Matter, Dark Energy & CMB

Saturday, 2:00 pm - 3:30 pm; Grapevine C

Chair: **Lindsay King**

418.02D Hidden Sector Hydrogen as Dark Matter: Predictions for Small-scale Structure

Author(s): **Anna Kwa**², Kimberly Boddy³, Manoj Kaplinghat², Annika Peter¹

Institution(s): ¹ *The Ohio State University*, ² *University of California, Irvine*, ³ *University of Hawaii*

SATURDAY, 7 JANUARY 2017

418.03 Simulated Studies of Supernova Cosmology for LSST

Author(s): **Rahul Biswas**¹

Institution(s): ¹ *University of Washington*

418.04D Complex Scalar Field Dark Matter and the Stochastic Gravitational Wave Background from Inflation: New Cosmological Constraints and Detectability

Author(s): **Bohua Li**¹, Paul R. Shapiro¹, Tanja Rindler-Daller²

Institution(s): ¹ *The University of Texas at Austin*, ² *University of Vienna*

418.05D Using Galaxy Simulations to Examine Dark Matter in the Solar Neighborhood with Implications for Direct Detection

Author(s): **Jonathan D Sloane**¹

Institution(s): ¹ *Rutgers, The State University of New Jersey*

418.06 Decaying sterile neutrino dark matter in the Local Group

Author(s): **Brandon Bozek**², Michael Boylan-Kolchin², Shunsaku Horiuchi⁴, Shea Garrison-Kimmel¹, Kevork Abazajian³, James Bullock³

Institution(s): ¹ *California Institute of Technology*, ² *The University of Texas at Austin*, ³ *University of California, Irvine*, ⁴ *Virginia Tech*

419 Star Formation II

Saturday, 2:00 pm - 3:30 pm; Grapevine D

Chair: John Tobin (National Radio Astronomy Observatory)

419.01 Probing the EBL evolution at high redshifts using 22 GRBs detected with the Fermi-LAT

Author(s): **Abhishek Amitbhai Desai**¹, Marco Ajello¹, Nicola Omodei², Dieter Hartmann¹

Institution(s): ¹ *Clemson University*, ² *Stanford University*

Contributing team(s): Fermi-LAT collaboration

419.02 Five-Steps Star Formation Histories across M51: Hybrid FUV+IR Star Formation Rates and the Contribution of Older Stars to the IR Emission

Author(s): **Rafael T. Eufrazio**², Bret Lehmer², Andreas Zezas³, Ann E. Hornschemeier¹

Institution(s): ¹ *NASA Goddard Space Flight Center*, ² *University of Arkansas*, ³ *University of Crete*

419.03D Star Formation in Edge-on Galaxies and its Relation to Radio Continuum Halos

Author(s): **Carlos J. Vargas**², Silvia Carolina Mora Partiarroyo¹, Philip Schmidt¹, Rene A.M. Walterbos², Judith Irwin³, Daniel Wang⁵, Richard J. Rand⁶, Yelena Stein⁴

Institution(s): ¹ *Max Planck Institute for Radio Astronomy*, ² *New Mexico State University*, ³ *Queen's University*, ⁴ *Ruhr University Bochum*, ⁵ *University of Massachusetts Amherst*, ⁶ *University of New Mexico*

Contributing team(s): CHANG-ES

419.04 Are We Correctly Measuring Star-Formation Rates?

Author(s): **Kristen B. McQuinn**², Evan D. Skillman², Andrew E. Dolphin¹, Noah P. Mitchell³

Institution(s): ¹ Raytheon Company, ² Univ. of Minnesota, ³ University of Chicago

419.05D Swift/UVOT Measurements of the UV Dust Extinction Curve and the Recent Star Formation History of the SMC and M33

Author(s): **Lea M. Z. Hagen**², Michael Siegel², Erik A. Hoversten², Caryl Gronwall², Stefan Immler¹, Angelica Vargas²

Institution(s): ¹ NASA/GSFC, ² Penn State

419.06 Tracing magnetic fields and identifying star formation with velocity gradients

Author(s): **Alex Lazarian**¹, DIEGO GONZALEZ CASANOVA¹, Ka Ho YUEN¹

Institution(s): ¹ Univ. of Wisconsin

419.07 Observations of the Zeeman effect in Class I methanol masers

Author(s): **Anuj Pratim Sarma**¹, Emmanuel Momjian²

Institution(s): ¹ DePaul University, ² National Radio Astronomy Observatory (NRAO)

420 Circumstellar & Debris Disks

Saturday, 2:00 pm - 3:30 pm; Grapevine 1

Chair: Marshall Perrin (STScI)

420.01 A New M Dwarf Debris Disk Candidate in a Young Moving Group Discovered with Disk Detective

Author(s): **Steven M. Silverberg**⁷, Marc J. Kuchner³, John P. Wisniewski⁷, Jonathan Gagne¹, Alissa Bans⁸, Shambo Bhattacharjee⁶, Thayne M. Currie⁴, John H. Debes⁵, Joseph R. Biggs², Milton Bosch², Katharina Doll², Hugo A. Durantini Luca², Alexandru Enachioaie², Phillip Griffith², Michiharu Hyogo², Fernanda Piniero²

Institution(s): ¹ Carnegie Institution of Washington, ² Disk Detective, ³ NASA's GSFC, ⁴ National Astronomical Observatory of Japan, ⁵ Space Telescope Science Institute, ⁶ University of Leeds, ⁷ University of Oklahoma, ⁸ Valparaiso University
Contributing team(s): Disk Detective Collaboration

420.02D Modeling gas–dust interactions in debris disks

Author(s): **Alex J.W. Richert**³, Marc J. Kuchner², Wladimir Lyra¹

Institution(s): ¹ California State University, Northridge, ² NASA Goddard Space Flight Center, ³ The Pennsylvania State University

420.03 Modeling Mid-Infrared Polarization from Protoplanetary Disks and YSOs

Author(s): **Han Zhang**², Eric Pantin¹, Dan Li², Charles M. Telesco²

Institution(s): ¹ Service d'Astrophysique CEA, ² University of Florida

420.04 In Outburst, the Seeds of Planet Formation

Author(s): **Joel D. Green**¹

Institution(s): ¹ Space Telescope Science Institute

SATURDAY, 7 JANUARY 2017

420.05 Evidence for Magnetically Driven Protoplanetary Disk Winds

Author(s): **Molly Simon**⁵, Ilaria Pascucci⁵, Suzan Edwards⁴, Wanda Feng¹, Elisabetta Rigliaco², Uma Gorti³, David J. Hollenbach³, James Tuttle Keane⁵
Institution(s): ¹ Arizona State University, ² ETH Zurich, ³ SETI, ⁴ Smith College, ⁵ University of Arizona

420.06 Probing the debris disks of nearby stars with Fermi-LAT

Author(s): **Alexander Riley**², Louis Strigari¹
Institution(s): ¹ Texas A&M University, ² University of Texas at Dallas

420.07 Pushing the limits of high contrast with STIS/BARS

Author(s): **John H. Debes**², Bin Ren¹
Institution(s): ¹ Johns Hopkins University, ² STScI

421 Astronomy Picture of the Day: Creative Uses in the Classroom & Beyond

Saturday, 2:00 pm - 3:30 pm; Grapevine 2

Do you use APOD in your class? In addition to finding relevant astronomy images, teachers around the world leverage APOD to help educate their students and the public in creative and engaging ways. The session will start with a "behind the scenes" look of how the popular Astronomy Picture of the Day (APOD; main NASA address <http://apod.nasa.gov/>) is created and the most spectacular APODs of 2016 will be reviewed. Next, speakers will share their APOD-related resources and how they use APOD with their classes and in public outreach. After the presentations, the floor will be opened so audience members can share their experiences with using APOD in their own activities, make general comments, ask questions, and provide criticisms. If you are curious about APOD, use APOD in your classroom, want ideas for using APOD in your classroom or for outreach, want to know how to get APOD to promote your astronomy outreach activity, or would like to make suggestions for changing APOD, this session is your chance to provide direct feedback.

Chair: Robert Nemiroff (Michigan Technological Univ.)

421.01 Can My Image Appear on APOD?: How APOD Really Works

Author(s): **Robert J. Nemiroff**¹, Jerry T. Bonnell²
Institution(s): ¹ Michigan Technological Univ., ² NASA's GSFC

421.02 Beyond APOD

Author(s): **Alice Allen**¹
Institution(s): ¹ Astrophysics Source Code Library

421.03 After APOD: From the Website to the Classroom and Beyond

Author(s): **Teresa Wilson**¹
Institution(s): ¹ Michigan Technological University
Contributing team(s): APOD

421.04 Spacetime Symphony: APOD and Gravitational Waves

Author(s): **Lynn R. Cominsky**¹, Aurore Simonnet¹
Institution(s): ¹ Sonoma State Univ.
Contributing team(s): LIGO-Virgo Scientific Collaboration

421.05 Teaching Astronomy with Podcasts of the APOD

Author(s): **Robert M. Wagner**¹

Institution(s): ¹ Harrisburg Area Community College

421.06 Fake! Astronomy picture forgeries and how to find them

Author(s): **Matipon Tangmatitham**¹

Institution(s): ¹ Michigan Technical University

Contributing team(s): APOD Team

422 Plenary Talk: The 2017 Total Solar Eclipse: Through the Eyes of NASA, Alex Young (NASA GSFC)

Saturday, 3:40 pm - 4:30 pm; Texas A

Chair: James Lowenthal (Smith College)



422.01 The 2017 Total Solar Eclipse: Through the Eyes of NASA

Author(s): **C. Alex Young**¹, Louis Mayo², Carolyn Ng², Troy Cline², Elaine Lewis², Shannon Reed², Asidesach Debebe², Bryan Stephenson², Sten Odenwald², Steele Hill³, Ernest Wright¹

Institution(s): ¹ NASA's GSFC, ² NASA/GSFC/ADNET, ³ NASA/GSFC/WYLE

423 Plenary Talk: How Supermassive Black Hole Feedback Might Work, Megan Donahue (Michigan State University)

Saturday, 4:30 pm - 5:20 pm; Texas A

Chair: Jack Burns (Univ. of Colorado at Boulder)



423.01 How Supermassive Black Hole Feedback Might Work

Author(s): **Megan Donahue**¹

Institution(s): ¹ Michigan State Univ.

AAS Closing Reception

Saturday, 5:30 pm - 6:30 pm; Grapevine C

Please join us as we close the 229th AAS Meeting, and say goodbye to old friends and new, with light refreshments provided.

AUTHORS INDEX

- Aadland, Erin: 243.06
Aalto, Susanne: 222.03
Aarnio, Alicia: **157.01, 212.01**
Abazajian, Kevork: 418.06
Abdeen, Mohamed Shameer.: **144.07**, 144.14
Abruzzo, Matthew W.: **242.09**, 330.01, 330.03, 347.17
Achterberg, Richard K.: 112.05
Acquaviva, Viviana: 214.04
Adamo, Angela: 127.03, 340.14
Adams, Carson: **342.02**
Adams, Elisabeth R.: 104.03
Adams, Elizabeth A.: 145.09, 145.10, 145.11, 145.12, 239.05, **324.02**
Adams, Joseph D.: 241.12, 309.01, 309.02
Ade, Peter: 133.05D, 133.06, 430.04
Adebahr, Björn: 324.02
Adelman, Saul J.: 151.05
Afrin Badhan, Mahmuda: **202.05**
Aganze, Christian: **240.17**, 240.18
Aghakhanlootakanloo, Mojgan: **417.03**
Agostino, Christopher James.: **240.23**
Agueros, Marcel A.: 131.01D, 131.02D, 336.02
Ahmed, Sheehan H.: **123.06D**
Ahumada, Tomás: **343.22**
Aickara Gopinathan, Sreejith: **238.11**
Ajello, Marco: 121.01, 220.05, 337.04, **402.06**, 419.01
Akeson, Rachel L.: **146.16**, 241.01, 345.04
Akiyama, Kazunori: 247.01
Akiyama, Sachiko: 325.03
Alam, Munazza: 240.06, 240.32, 243.07
Alatalo, Katherine A.: 157.02, **304.03**
Albert, Loic: 245.02
Alcorn, Leo: 229.02
Alcorn, Leo Yvonne.: **347.18**
Aldering, Greg Scott.: 341.05, 341.08, 342.07
Alexander, Cara E.: 417.04
Alexander, D. M.: 429.08
Alexander, Kate Denham.: 243.07
Alexandroff, Rachael: **121.02D**
Ali, Aamir: **323.03D**
Ali, Aleezah: 344.20
Aljanahi, Sara: **250.25**
Alladi, Yashaswi: 333.03
Allen, Alice: **236.13, 312.05**, 335.03, **421.02**
Allen, Glenn E.: 434.10
Allen, Thomas: 241.02, 241.03, 241.04
Allende-Prieto, Carlos: 123.04, 343.01, 343.02
Aller, Kimberly Mei.: 240.01, 240.02
Allred, Joel C.: 339.02
Almgren, Ann: 236.12
Alonso, Roi: 202.06
Alpaslan, Mehmet: **114.05**, 438.04
AlSayyad, Yusra: **220.03D**
Alsina Oriol, Júlia: **431.06**
Alty, Michelle: **340.18**
Amanullah, Rahman: 341.08
Amaro, Rachael Christina.: **156.04**
Ammons, Stephen: 206.07
Amundsen, David Skalid.: 401.01
Amy, Paul Martin.: **142.15**
Anand, Gagandeep: **346.06**
Andersen, Bridget Clare.: **242.10**
Andersen, Morten: **237.12**
Anderson, Crystal N.: 249.07
Anderson, Jay: 134.05, 228.06D, 238.05, 342.01
Anderson, Loren D.: 340.07, 340.26
Anderson, Michael E.: 144.11
Anderson, Miguel Ricardo.: 347.55, 347.56
Anderson, Richard Irving.: 152.06, **417.05**
Anderson, Scott F.: 225.03
Anderson, Tania: **439.05**
Andersson, B-G: **133.02**, 142.10
Andrade-Santos, Felipe: 404.03, **404.04**, 404.07
Andrews, Sean M.: 327.06, 327.07
Andrews, Sydney: **341.21**
Angell, Dylan: 335.09
Angilè, Francesco E.: 133.05D, 133.06
Anglada-Escudé, Guillem: 403.06
Annibali, Francesca: **123.01**
Anninos, Peter: 428.06, 431.05
Annuar, Ady: 429.08
Anthony-Twarog, Barbara J.: 236.06
Antilogus, Pierre: 341.05
Antoniou, Vallia: 233.05
Antwi-Danso, Jacqueline: **145.07**
Apai, Daniel: **209.05**, 240.07, **301.07**
Apollo, Peter H.: 238.14
Appel, John W.: 323.03D
Appel, Sabrina: **343.13**
Appleby, Heather O'Toole.: 143.01
Applegate, Douglas: 406.02
Aragon Orozco, Anthony: 241.10
Aragon-Calvo, Miguel A.: 342.12
Aragon-Salamanca, Alfonso: 237.13, 336.05
Arai, Toshiaki: 238.10
Arancibia, Demian: 324.04
Arcavi, Iair: 308.06, 335.11
Arce, Hector G.: 432.01
Archer, Haylee: 346.01
Archibald, Andrew R.: 241.11
Archibald, Anne: 330.08
Ardila, David R.: **206.05**
Ardila, Felipe: **346.13**
Arenberg, Jonathan: **238.02**, 238.29
Arendt, Richard G.: 107.07
Aretxaga, Itziar: 132.02, 427.05
Armentrout, William P.: 340.26
Armitage, Philip J.: 107.04
Armstrong, James: 334.05
Armus, Lee: 222.03
Arney, Giada: 120.03, 245.03
Arras, Phil: 301.01D, 417.01D
Arriaga, Pauline: 146.04, 435.02
Arroyo, Joseph: **248.03**
Arur, Kavitha: **344.05**
Arzoumanian, Zaven: 309.03, 309.04
Asercion, Joseph: **236.16**
Ashby, Matthew: 107.03, 205.02D, 347.33, 438.04
Ashcraft, Teresa: 438.04, **438.06**
Ashley, Sierra F.: 344.02
Ashley, Trisha L.: **123.05**, 143.01
Ashton, Peter Campbell.: **133.05D**, 133.06
Ashton, Tristan: **153.15**
Asmus, Daniel: 429.08

AUTHORS INDEX

- Astraatmadja, Tri L.: **134.06**
Astudillo, Nicola: 415.01
Atallah, Dany Victor.: **141.03**
Atkinson, Charles: 238.02
Aube, Martin: **200.01**
Aubert, Dominique: 342.03
Aufdemberge, Emily: 142.09
Auge, Connor: **347.45**
Austermann, Jason Edward.: 133.06
Austin, Carmen: **335.04**
Avelino, Arturo: **410.02**
Avery, Tess: 344.10
Avila, Roberto J.: 238.06, 342.01
Avilez, Ian: 241.02, 241.03, **241.04**, 241.06
Avner, Louis: 403.01
Awan, Humna: **128.04**
Aykutalp, Aycin: **406.05**
Ayres, Thomas R.: 151.05, **239.02**, 340.04
Azadi, Mojegan: 229.04D, **319.02D**
Babler, Brian L.: 204.02D, 344.02, 344.21, 435.05
Babu, G. Jogesh: **409.01**
Bachelet, Etienne: **425.09**
Bachrach, Harrison: 434.08
Bae, Jaehan: **310.04D**
Baer, Robert: 140.02, 339.07, 424.01
Baer, Rudolf E.: **247.10**
Baganoff, Frederick K.: 107.03
Baggett, Sylvia M.: **238.05**
Bahramian, Arash: 431.08
Bailer-Jones, Coryn: 134.06
Bailey, John Ira.: 221.05, **403.03D**
Bailey, Stephen J.: 341.05
Bailey, Vanessa P.: 146.04
Baines, Ellyn K.: 131.05D
Baker, Andrew J.: 114.06, 132.02, **132.07**, 347.30
Baker, Ashley: 128.02D, 146.09, **155.15**
Baker, Bob: 309.01, 309.02
Baker, Claire: **141.01**
Baker, Dahlia Anne.: **437.03**
Baker, David: **146.38**
Baker, Kay: 347.54
Bakerman, Maya: 140.01, 334.11
Bakhaj, Benjamin: 241.10
Bakos, Gaspar: 104.01
Bakshian, Jacquelyn: 241.10
Baldassare, Vivienne F.: **319.04D**
Baldauf, Brian: 238.29
Baldry, Ivan: 144.17
Balick, Bruce: 148.09
Ball, Catie: **145.09**, 145.10, 145.13
Ballantyne, David R.: **250.09**, 250.49, 429.08
Ballard, Sarah: 240.14, **413.02**
Balogh, Michael: 106.02
Balokovic, Mislav: **121.03D**, 402.05
Balonek, Thomas J.: 137.03, 250.33, **250.34**
Balsler, Dana S.: 340.07, 340.26
Bamba, Aya: 208.04
Bambic, Christopher John.: **426.03**
Bandler, Simon: 309.01, 309.02
Banerji, Manda: 302.03D
Bania, Thomas M.: 340.07, 340.26
Banovetz, John: 145.13
Bans, Alissa: 420.01
Barbano, Luke: 428.04
Barbary, Kyle H.: 341.05, 341.08, 342.07
Barchas, Joseph: **233.01D**
Barclay, Thomas: 401.02
Barcos, Loreto: 153.09
Bard, Deborah: 430.03
Bardalez Gagliuffi, Daniella: **230.04D**, 240.19
Barenfeld, Scott A.: **327.01**
Barentsen, Geert: 401.02
Barger, Amy J.: 231.05D, 342.11, 347.29
Barger, Kat: 145.04, **145.06**, 145.08
Barger, Kathleen: 145.05, 340.16, 340.29, 347.57
Baring, Matthew G.: 233.01D
Barker, Adrian: 219.07D
Barker, Elizabeth A.: 342.01
Barker, Hallie: **154.08**
Barker, Thurburn: 237.11
Barkhouse, Wayne: 346.01
Barlow, Brad: 242.04
Barman, Travis S.: 146.01, 245.14
Barnaby, David A.: **338.01**
Barnes, Rory: 120.03, 326.06, 403.01
Barnes, Stuart: 146.09
Barnett, Megan: **245.24**
Baron, Edward A.: 341.16
Baron, Fabien: 232.01, 250.53
Baronchelli, Linda: 402.05
Barringer, Daniel: **439.02**
Barrios Sazo, Maria: **242.06**
Barro, Guillermo: 347.15
Barrow, Kirk Stuart Simeon.: 205.03
Barrows, R. Scott: 114.01D
Barsdell, Benjamin R.: 236.05
Barstow, Joanna: 301.03
Barth, Aaron J.: 114.06, 247.13, 250.24
Bartier, Crystal-Lynn: **143.05**
Bartlett, Jennifer L.: 128.03, 236.01, **240.13**,
334.12, **335.05**
Bary, Jeffrey S.: 311.03
Basri, Gibor S.: 240.23, 433.01
Bassa, Ceas: 242.09, 330.01, 330.03
Bassett, Neil: 250.01, 250.02, 250.03, **250.04**, 250.05,
250.06, 250.07
Bastian, Timothy S.: 146.35
Bastien, Fabienne A.: 146.30, **403.02**
Bastieri, Denis: 250.41
Basu, Sarbani: 318.03D
Basu-Zych, Antara: **249.05**, 326.04, 344.06, 347.46
Batalha, Natalie M.: 245.22
Batalha, Natasha: **120.02**, 202.05, 245.03, 301.06
Batiste, Merida: **319.01**, 414.03
Battaglia, Giuseppina: 305.07
Battaglia, Nicholas: **105.07**, 125.08
Battersby, Cara: 153.10, **238.24**
Battisti, Andrew: **133.03D**
Battle, John: 238.10
Battye, Richard: 222.06
Batygin, Konstantin: 146.32, 318.07
Baucco, Alexandria Resi.: 335.04
Bauer, Franz E.: **231.06**, 429.08
Baugh, Derek: 341.05

AUTHORS INDEX

- Baum, Stefi: 239.01, 250.45, 324.04
Baum, Stefi Alison.: 250.47
Bautz, Mark W.: 404.09
Bayless, Amanda J.: **115.01**, 434.03
Bayliss, Daniel: 104.02
Bean, Jacob: 301.05, **301.08**
Beasley, Anthony J.: 146.35, **348.04**
Beasley, Matt: 238.34
Beaton, Rachael: 145.21
Beatty, Thomas G.: 146.08, 202.04D, 320.02, **401.05**
Beauchamp, Kara M.: 340.25
Bechtol, Keith: **416.06**
Beck, Madeleine: **433.04**
Beck, Rainer: 144.06
Beck, Sara C.: 249.07
Becker, Arno: 139.02
Becker, Peter A.: 203.01, 233.04D
Becker, Valerie Rose.: **340.27**
Beckey, Jacob Lucas.: 340.30
Becklin, Eric E.: 107.03
Beckner, Vince: 236.12
Bedell, Megan: **403.05D**
Bednarski, Daniel: 344.21
Beers, Timothy C.: 134.03, 142.17, 142.18, **232.03**,
232.04
Begelman, Mitchell C.: 107.04, 250.47
Beheshtipour, Banafsheh: **402.01**
Behmard, Aida: **139.03**
Behroozi, Peter: 342.12, 347.04, 347.15
Beichman, Charles A.: 408.05
Bekiaris, Georgios: 132.01
Beklen, Elif: 242.18
Belfiore, Francesco: 237.13, 336.05
Belikov, Ruslan: 146.22, 146.23, 206.07, **303.06**
Bell, Cameron PM.: 240.03
Bell, Eric F.: 134.07, 231.07
Bell, John: 236.12
Bell, Keaton J.: **228.02D**
Bell, Steve: 140.03
Bellhouse, Callum: 347.43
Belli, Sirio: 347.19
Bellm, Eric Christopher.: **242.17**, **313.01**, 313.06,
314.02, 328.04
Belloni, Diogo: 343.17
Bellusci, Nina: 250.37
Ben-Ami, Sagi: 155.06
Bendek, Eduardo: 146.23, **206.07**, 303.06
Benedict, George Fritz.: 240.30, **245.15**
Benford, Dominic J.: 430.04
Benjamin, Robert A.: 340.13, 340.21, 340.35
Benneke, Björn: 120.08, 209.06, 219.07D, 318.07,
401.01
Bennet, Paul: **416.02**
Bennett, Charles L.: 323.03D, 430.04
Bensel, Holly: **334.06**, **334.09**
Benson, Andrew: 347.02
Benson, Bradford: 404.09
Bento, Joao: 104.02
Benton, Allen: 347.48
Benton, Steven J.: 133.05D
Bentz, Misty C.: 319.01, 414.03
Berdis, Jodi: 344.21
Berenji, Bijan: **233.03**
Berger, Dillon Tanner.: **250.08**
Berger, Edo: 115.03D, 247.04, 408.04
Berger, Sabrina: **245.11**
Berger, Travis Allen.: **413.03**
Bergerud, Brandon M.: 340.25
Bergin, Edwin A.: 432.02
Berlanga Medina, Jazmin: 144.07
Berlind, Andreas A.: 128.02D, 237.03
Berlind, Perry L.: 131.03
Bernal, Iannelly: 154.06
Bernal Neira, David: 145.09, 145.10
Berney, Simon: 402.05
Berrier, Joel: 107.01D, 144.14
Berriman, G. Bruce.: **236.09**, 236.13
Bershady, Matthew A.: 319.01
Berta-Thompson, Zachory K.: 301.04, 401.06, 415.01
Bertoldi, Frank: 437.01
Besla, Gurtina: 123.02, 145.27, 416.05
Best, William M J.: 120.08, 146.19, **240.01**, 240.02
Betti, Sarah: **340.35**
Bezanson, Rachel: 229.05, 319.05, 333.02
Bhakta, Deven: **222.05**
Bhalerao, Jayant: 148.04, **148.05**
Bhattacharjee, Shambo: 420.01
Bian, Fuyan: 220.01D, 220.02D, 347.09
Bida, Thomas A.: 155.02
Biddle, Lauren: 241.02, 241.04, 241.06
Biddle, Lauren I.: 241.03
Bieker, Jacob: 347.26
Bieryla, Allyson: 240.32, 243.07, **314.03**
Bietenholz, Michael: 410.06
Biferno, Anya A.: 411.04
Biggs, Joseph R.: 420.01
Billings, Tashalee: 133.06
Bird, Jonathan C.: 142.13, 216.01, 240.17, 240.18
Biretta, John A.: 250.47
Birkby, Jayne: **202.06**, 245.09
Birkinshaw, Mark: 250.47
Birky, Jessica L.: 240.17, **240.18**
Birmingham, Paige: 334.09
Biswas, Rahul: **418.03**
Bittle, Lauren E.: **335.09**, **340.06**
Bittner, Ashley: 128.02D, 237.01
Biviano, Andrea: 346.15
Bixel, Alex: 301.07
Bizyaev, Dmitry: 156.02
Bjoraker, Gordon: 112.05
Bjorkman, Jon Eric.: 151.06, 151.07, 151.08, 336.07,
344.02, 344.21
Bjorkman, Karen S.: 151.06, 151.07, 151.08, 336.07,
344.02, 344.21
Black, Christine: 148.06, **308.04**
Blackman, Ryan: 126.04
Blagorodnova, Nadejda: **215.06**
Blair, William P.: 144.18
Blake, Cullen: 146.09, 155.15, 240.22, 320.02
Blakeslee, John: 143.04, 143.05
Blakeslee, John P.: 124.04D
Blanc, Guillermo A.: 340.14
Blanchard, Peter: 243.07
Bland, Steve: 403.01

AUTHORS INDEX

- Bland-Hawthorn, Jonathan: 144.17, 145.06
Blaney, Diana L.: 138.04
Blanton, Elizabeth L.: 346.06, 404.05
Blaum, Klaus: 139.02
Blazek, Jonathan: 224.05
Bleacher, Lora: 140.01
Blecha, Laura: 430.05
Bleem, Lindsey: 404.09
Blitz, Leo: 204.05D
Blondin, John M.: 410.04
Blume, Catherine: **339.09**
Blunt, Sarah Caroline.: **146.02**
Blyth, Sarah: 132.07
Bobar, Dale: **144.10**
Bock, James: 125.01, 238.10
Boddy, Kimberly: 418.02D
Boehle, Anna: **203.03D**
Boehringer, Hans: 341.08
Boesgaard, Ann M.: 154.17, 413.03
Bogdan, Akos: 404.08
Bogdanovic, Tamara: 107.06, **216.04**, 240.33, 247.14, 250.13, 346.14, 414.06, 431.06
Boggs, Steven E.: 429.08
Boizelle, Benjamin: **114.06**
Bolatto, Alberto D.: 204.05D, 435.05
Bolcar, Matthew R.: 155.13
Boley, Aaron C.: **209.07**, 327.04
Bolmer, Jan: 220.05
Bonar, Kyle: 240.31
Bonfils, Xavier: 415.01
Bongard, Sebastien: 341.05
Boni, Samantha: 250.34
Bonilla, Alaina: **145.28**
Bonnell, Jerry T.: 335.03, 421.01
Boogert, Abraham C.A.: **432.02**
Booker, Joseph J.: **212.06D**
Boone, Fletcher: 323.03D
Boone, Kyle: 341.05, 341.08
Boorman, Peter: 121.04, 429.08
Bord, Donald J.: 152.09
Bordoloi, Rongmon: 113.04D
Borgman, Christine: 128.01
Borkowski, Kazimierz J.: 410.04
Borncamp, David: 238.06, 342.01
Bos, Brent J.: 436.03
Bosch, Milton: 420.01
Bosh, Robert: 140.02, 339.07, **424.01**
Bot, Caroline: 133.04
Bottke, William: **101.01**
Bottorff, Mark: 250.57
Bouchez, Antonin H.: 124.01D
Bourke, Stephen: 116.05D
Bourke, Tyler L.: **432.01**
Bournaud, Frederic: 144.21
Bourque, Matthew: 238.05
Boutsia, Konstantina: 438.06
Bowen, James: 348.05
Bower, Geoffrey C.: 242.09, 330.01, 330.02, **330.03**, 348.13
Bowers, Charles W.: 238.12
Bowler, Brendan: 318.07
Bowler, Brendan P.: **120.08**, 146.19, 245.17, 417.02
Bowman, Judd D.: 238.28, 306.04
Bowman, Oliver: 333.03
Boyajian, Tabetha S.: 131.05D
Boyd, Patricia T.: 152.10, 203.02D
Boylan-Kolchin, Michael: 418.06
Boyle, Richard P.: **142.10**
Bozek, Brandon: 335.11, **418.06**
Braatz, James A.: 250.56
Bracey, Georgia: 334.11
Bradac, Marusa: 404.01
Bradford, Charles: 238.20, **238.25**
Bradford, Matt: 125.01
Bradford, Sarah: 144.17
Bradley, Larry D.: 404.01
Bradley, Richard F.: 238.28, 306.04
Brainerd, Tereasa G.: **141.08**
Brame, Cynthia: 333.01
Brammer, Gabriel: 347.25, 427.03
Brandt, Ben-Elias: 236.10
Brandt, Timothy: 155.10
Brandt, W. Niel.: **223.05**, **235.01**, 250.24, 429.08
Brannon, Sean: 339.05
Brauer, Kaley: **344.03**
Breckinridge, James B.: **206.02**
Bregman, Joel N.: **144.11**, 340.10
Breiding, Peter: **250.44**
Breitenfeldt, Christian: 139.02
Breitfeld, Abby: 344.10
Breivik, Katelyn: 141.05, 141.06, 228.03, **247.07**
Brennan, Ryan: **103.02D**, 347.15
Brenneman, Laura: **402.02**
Brenon, Alexandria: **439.01**
Bressan, Alessandro: 154.26
Brewer, John Michael.: **318.03D**
Brewer, Michael: 323.03D
Breyer, Fiona: 139.04
Breyse, Patrick: **205.04D**
Briceno, Cesar: 154.18, 241.08
Bridge, Joanna: **222.01D**, 229.03D, 347.25
Brightman, Murray: 429.08
Brinjikji, Marah: **345.15**
Brinkman-Traverse, Casey: **431.02**
Brinks, Elias: 144.21
Brinkworth, Carolyn: 320.04, 403.06
Brisbin, Drew: 214.06
Briskin, Walter: 106.04
Brissenden, Gina: 314.05
Britt, Amber: 245.03
Britt, Christopher: **431.08**
Brittain, Sean D.: 337.04
Brock, Annika: 145.13
Brock, Laci: 213.01
Brodie, Jean P.: 145.23
Brodwin, Mark: 231.03, 341.08, 347.35
Brogan, Crystal L.: 340.06
Brogí, Matteo: 245.07
Bromm, Volker: 306.05
Brooks, Alyson: 134.07
Brooks, Keira: 238.13
Brooks, Thomas: 238.33
Brorby, Matthew: **222.02**
Brosch, Noah: 144.15

AUTHORS INDEX

- Brotherton, Michael S.: **203.04**
Broussard, Adam: 347.11, **347.13**
Brown, Alexander: 345.12
Brown, Arianna: **250.51**
Brown, Jonathan: **237.10**
Brown, Peter J.: **341.02**, 341.07, 434.01
Brown, Rebecca: 250.39
Brucoleri, Alexander: 238.32
Brueneman, Stacy: 152.08
Brüggen, Marcus: 404.03
Brunner, Robert: 438.02
Bruzzone, Sebastian: 146.04, 435.02
Bryan, Greg: 311.04D
Bryan, Marta: **318.07**
Bryden, Geoffrey: 230.03D, 345.05
Buchhave, Lars A.: 104.01
Bucklein, Brian: 237.05
Buckner, Spencer L.: **329.04**, **333.04**
Budreviciute, Rimute: 243.07
Bueno, Michael: **141.05**
Buhidar, Kelsey: **144.12**
Bulbul, Esra: 248.02, **404.09**
Bulger, Joanna: 230.03D, 345.05
Bullivant, Christopher William.: 335.04, **341.04**
Bullock, James: 145.03, 145.18, 418.06
Bumble, Bruce: 125.01
Bundy, Kevin: 236.18
Buote, David A.: 114.06
Burch, Lance: 335.06
Burchett, Joseph: **113.04D**
Burgasser, Adam J.: 230.04D, 240.12, 240.17, 240.18, 240.19, 336.05, **408.01**, 408.06D
Burke, Douglas J.: 156.03
Burke-Spolaor, Sarah: 242.09, 307.05, 307.06, 330.01, 330.02
Burkepile, Joan: 339.04
Burkhardt, Andrew: 335.09
Burkhart, Blakesley K.: 153.01
Burns, Jack O.: 238.28, **306.04**, 347.01
Burriss, Debra L.: 154.23, 250.18
Burrow, Anthony: 151.06, **151.07**
Burrows, Adam Seth.: 410.07
Burrows, David N.: **148.01**, 148.03
Busch, Michael W.: 424.04
Buser, Alexander: **247.14**
Buson, Sara: 238.26, 407.03
Butcher, Zhon: 137.08
Butler, Bryan J.: 242.09, 330.01, 330.02, 330.03, 348.07
Butler, Jayden: **138.01**
Butler, Nathaniel: 407.01D
Butler, Paul: 320.07
Buton, Clement: 341.05
Buxner, Sanlyn: **140.01**, **213.01**, 213.02, 213.04, 213.05, 213.06, **334.11**
Buzard, Cam: 240.06
Buzasi, Derek L.: 240.26, 433.11
Byrne, Lindsey: **347.53**
Cabot, Samuel: **249.12**
Cabrera, Nicole: **314.01**
Caceres, Claudio: 345.13
Cahoy, Kerri Lynn.: 146.23, **328.02**
- Cai, Zheng: 347.09
Calahan, Jenny: 335.04
Calamida, Annalisa: 134.05, 142.09, 152.06
Calbo, Zuzana Isabelle.: **247.13**, 428.03
Calder, Alan: 154.27, 244.05
Calderon, Victor: 237.03
Caldwell, Nelson: 221.05
Cale, Bryson Lee.: **403.06**
Calhoun, Grace V.: 243.06
Calkins, Michael L.: 131.03
Call, Demitri: **338.02**
Calvet, Nuria: 154.18, 241.08
Calzetti, Daniela: 124.05, **127.01**, 127.05, 127.08, 133.03D, 432.03
Camacho, Yssavo: 341.01, 410.01
Cameron, Thomas Jacob.: **250.18**
Camnasio, Sara: 240.06
Campbell, Duncan A.: **321.05D**
Campbell, Lauren E P.: **333.01**
Cancino, Andrew: 320.04
Candlish, Graeme: 343.22
Cane, Thomas: 347.39
Canning, Rebecca: 406.01
Cannizzo, John K.: **215.02**
Cannon, John M.: 137.03, 145.09, 145.10, 145.11, 145.12, 145.13, 145.14, 145.15, 145.16, **239.05**, 249.01, 249.02, 249.03, 249.04, **336.06**
Cantiello, Matteo: 308.01
Cantua, Oscar: **144.09**
Cantwell, Kelly: 347.39
Cao, Yi: **313.02**, 341.06
Capak, Peter L.: 236.18, 342.02, 347.10
Capellupo, Daniel M.: **250.40**, 302.05
Caplar, Neven: 103.06
Capone, John: 126.03
Cappelluti, Nico: **107.07**, 247.05, 248.02, 250.26
Cara, Mihai: 250.47
Carballido, Augusto: 340.22, **345.20**
Carciofi, Alex C.: 151.08, 344.21
Carey, Sean J.: 107.03, **238.19**
Carignano, Natalia: **343.05**
Carilli, Chris Luke.: 319.06, 347.10, 348.07, 348.08, 348.09, 348.12
Carini, Michael T.: 147.06, 250.38, **250.39**
Carino, Alexandria: 148.04
Carlin, Jeffrey L.: 134.02D, 142.14, 142.15, **145.23**
Carlsson, Mats: 339.02
Carlton, Ashley: 328.02
Carmichael, Theron: 240.32, 243.07
Carollo, Daniela: 142.17, 142.18
Carpenter, John M.: 146.31, 327.01, 345.06
Carpenter, Kenneth G.: **151.02**
Carr, Brandon Michael.: **145.15**
Carr, Derrick: 243.08, **343.14**
Carr, Michael: 155.10
Carramiñana, Alberto: 250.29
Carrasco, Luis: 250.29
Carrasco Damele, Eleazar Rodrigo.: 155.11
Carrasco Kind, Matias: 438.02
Carrera, Ricardo: 221.03, 343.02
Carretti, Ettore: 340.05
Carroll, Sean: **217.01**

AUTHORS INDEX

- Carson, Joseph: 425.05
Carter, Anna: **238.08**
Carter, Brad: 320.07
Carter, Ruth: 238.20
Cartier, Kimberly Michelle Star.: **202.04D, 335.01**
Cartledge, Stefan IB.: 340.27
Casados-Medve, Colton: **142.13**
Casement, L. Suzanne.: 146.20
Casertano, Stefano: 134.05, 417.05
Casey, Caitlin: 222.06, 222.07, 249.08, **348.09**, 348.12
Cash, Jennifer: 152.13, **336.09**, 337.04
Cassette, Anthony: 403.01
Castelaz, Michael: 237.11
Castelaz, Michael W.: **344.10**
Castelli, Fiorella: 151.03
Catanzarite, Joseph: 245.22, 403.06
Catelan, Marcio: 343.05
Caton, Daniel B.: 433.09, **433.13**
Caucal, Paul: 205.02D
Cauley, Paul W.: **219.02**, 245.06, 245.14, 310.07
Cauzzi, Gianna: 339.02
Cavanaugh, Amy: **236.03**
Cecil, Gerald: 222.04
Cemenenkoff, Nicholas: **346.03**
Cen, Renyue: 249.12
Cenko, Stephen B.: **126.03, 328.04**, 341.03
Cerny, Catherine: **404.01**
Chakrabarti, Sukanya: 123.07
Chakrabarty, Deepto: 309.04
Challis, Peter: 115.03D, 410.02, 410.06
Chambers, John E.: 318.05
Chambers, Kenneth C.: **223.03**
Chambers, Lauren: **345.18**
Chambers, Timothy G.: 213.03, 314.05
Champagne, Jaclyn: 348.09
Chan, Hiu Pan: 347.54
Chan, Manwei: 323.03D
Chandar, Rupali: **127.04**
Chandler, Claire J.: 212.05, 324.03, 324.04, 345.03
Chang, Tzu-Ching: 125.01
Chanover, Nancy J.: 237.13, **336.04**, 336.05
Chapman, Katie: 250.34
Chapman, Scott: 222.06, 437.01
Chappell, Samantha: 142.01
Charbonneau, David: 131.03, 219.03, 230.02, 301.04, 415.01
Charles, Baltay: 341.05, 342.07
Charles, Eric: 248.01
Charles.A.Beichman@jpl.nasa.gov,
Charles Beichman.: 241.06, 403.06
Charlton, Jane C.: 113.03, 302.07D, 321.03
Charnley, Steven B.: 212.04
Chary, Ranga-Ram: 133.03D
Chastenet, Jeremy: 102.05
Chatterjee, Shami: 128.07, 242.09, 242.18, 324.04, **330.01**, 330.03, 330.07
Chavushyan, Vahram: 250.29
Che, George: 133.06
Chen, Chen: **250.20**
Chen, Cheng: **245.10**
Chen, Christine: **435.02**
Chen, Hansheng: 139.04
Chen, Howard: **245.29**
Chen, Jerry: 347.23
Chen, Juncheng: 341.05
Chen, Xi: 347.54
Chen, Ying-Tung: 112.04
Chen, Zhu: 347.38
Chené, André-Nicolas: **236.08**
Cheng, Yun-Ting: 125.01
Cherinka, Brian: 237.13, 336.05
Cheung, Chi C.: 250.47, 326.08
Chiaberge, Marco: 302.02
Chiang, Eugene: 327.07
Chiang, Hsin-Fang: 345.03
Chiang, James: 407.03
Chiaro, Graziano: 250.41
Chiboucas, Kristin: 237.12
Chick, William T.: **151.10**, 203.04
Chien, Lisa: 347.45
Chiffelle, Elizabeth: 241.10
Chilcote, Jeffrey K.: 146.04, 155.10
Childs, Francesca: 243.08, **250.31**
Chiti, Anirudh: 145.17
Chiu, Inon: 404.09
Chizek Frouard, Malynda: 334.12, 335.05
Chizek Frouard, Malynda R.: **140.03, 158.04, 236.01**
Cho, Hsiao-Mei: 133.06
Cho, Hyejeon: **124.04D**
Choi, Ena: 347.52
Choi, Jun-Hwan: 342.03
Choi, Miyoung: **426.04**
Choi, Yumi: **416.05**
Chomiuk, Laura: 215.07, 326.08, 431.08
Choquet, Elodie: 435.02
Chornock, Ryan: 115.03D
Chotard, Nicolas: 341.05
Choudhury, Samyaday: 428.07
Christensen, Charlotte: 134.07, 347.51, 347.53
Christensen, Finn: 429.08
Christensen, Lise: 347.08
Christenson, Holly: 243.08, **347.12**
Christiansen, Jessie: 146.16, 146.32, **320.05**
Christiansen, Kevin: 250.45
Christie, Duncan: 301.01D
Christodoulou, Dimitris: 233.05
Christy, Brian: 242.16
Chu, Devin: 142.02
Chun, Andrew: 403.01
Chun, Sang-Hyun: 428.07
Chung, Chul: **221.02**
Chung, Dongwoo: 153.07
Chung, Sun Mi: 401.05
Church, Sarah E.: 153.07
Churchill, Christopher W.: 113.02D, 150.06, **321.03**
Chuss, David T.: 323.03D, 430.04
Ciampa, Drew A.: **145.08**
Ciardi, David R.: **104.04**, 146.16, 219.06, 240.28, 241.06, 320.04, 403.06
Ciardullo, Robin: 229.03D
Cid, Aurora: 240.16
Cimatti, Andrea: 347.08
Cisewski, Jessi: **409.02**
Cisewski, Jessica: 425.04

AUTHORS INDEX

- Civano, Francesca: 156.03
Clampin, Mark: 238.12
Clark, Catherine: **241.08**
Clark, James: 328.02
Clark, Nina: 148.04
Clark, Susan: **109.03, 133.01D**
Clarke, Riley Walton.: **344.17**
Clarke, Seth: **343.10**
Clarke, Tracy E.: 106.04, 250.45, 404.05
Clarkson, William I.: 142.09, 152.09, 221.05
Claussen, Mark J.: 428.01
Clautice, Devon: **250.47**
Clavel, Maica: 247.15
Clayson, Timothy: 147.05
Clayton, Geoffrey C.: **152.02**, 154.16, 326.01, 433.14
Cleary, Colleen: **240.05**
Cleary, Kieran: 153.07
Cleeves, Lauren Ilseadore.: 345.18
Clemens, J. Christopher: 228.01, 228.05D
Clement, Matthew S.: **112.03**
Clementini, Gisella: 130.07
Cline, J. Donald.: 140.05, **237.11**
Cline, Troy: 422.01
Clowe, Douglas: 406.01
Coatman, Liam: **302.03D**
Coble, Kimberly A.: 137.03, 346.10
Cochran, Mallory: 240.34
Cochran, William D.: 104.02, 245.06
Cody, Ann Marie: 146.11, 146.34, 241.05, 341.15
Coe, Dan A.: **205.05**, 404.01
Coe, Malcolm: 233.05
Cohen, Daniel: 427.02
Cohen, David Held.: 232.05D
Cohen, Judith G.: 416.08
Cohen, Ofer: 243.01
Cohen, Roger: 221.03
Cohen, Seth H.: 438.04, 438.06
Cohn, Haldan N.: 228.06D
Cohn, Jonathan: 407.02
Coil, Alison L.: 229.04D, 319.02D
Colazo, Felipe: 323.03D
Cole, Bradley: **144.18**
Coleman, Joseph E.: **404.02**, 406.01
Coleman, Matthew S B.: **433.22**
Collier, Angela: **434.08**
Collova, Natasha: 346.09
Colon, Knicole D.: 104.02, **401.02**
Comastri, Andrea: 121.01
Comerford, Julia M.: **307.01**
Cominsky, Lynn R.: 411.04, **421.04**
Concepcion Mairey, Florence: **144.13**
Condon, James J.: 438.04
Conn, Blair: 145.17
Connaughton, Valerie: **406.08**
Connelly, Paul: 335.03
Connolly, Andrew J.: 220.03D
Connors, Riley Michael Thomas.: **107.02D**
Conroy, Kyle E.: **344.22**, 344.23
Conselice, Christopher: 103.01D, 144.17, **205.01**, 347.15, 427.01, 438.04
Constantin, Anca: 429.03
Conti, Alberto: 238.02, **238.29**
- Contreras, Rodrigo: 343.12
Contreras, Taylor: 347.26
Cook, Brian: **430.06**
Cook, David O.: **127.03, 237.08**, 428.05
Cook, Evan M.: 417.04
Cook, Joshua: 347.15
Cool, Adrienne: 228.06D
Cool, Ian: 334.06
Cooper, Andrew: 347.35, 416.03
Cooper, Eric: 148.04
Cooper, Jennifer: **236.19**
Cooper, Rachel Ann.: 107.07, 247.05, **250.26**
Cooray, Asantha R.: 125.01, 222.07, 236.19, 238.10, **238.18**, 249.08, 249.11, 250.51, 340.20, **405.01**
Copin, Yannick: 341.05
Coppi, Paolo S.: **237.09**, 250.47
Corbally, Christopher J.: 142.10
Corcoran, Michael F.: 151.13, **209.03**
Corder, Stuartt: 327.04
Cordes, James M.: 242.09, 242.18, 330.01, 330.03, 330.07
Cordova, Rodrigo: 240.32, 243.07
Corradi, R. L. M.: 148.09
Corsi, Alessandra: 341.03
Cortes, Paulo: 153.01
Cortez, German: 238.30
Costa, Allison H.: 340.25
Costa, Timothy: 236.05
Costagliola, Francesco: 222.03
Cote, Patrick: 106.02
Cotton, William D.: 102.07
Coughlin, Jeffrey: 401.02, 425.10
Court, Travis: **341.01**
Covey, Kevin R.: 131.02D, 151.06, 151.07
Cowan, John J.: 139.01, 144.18, 154.17
Cowan, Nicolas B.: 245.19
Cowie, Lennox Lauchlan.: 231.05D, 347.29
Cowley, Charles R.: **151.03**
Cowley, Michael: 229.02
Cox, Erin Guilfoil.: **345.03**
Cox, Paul: **411.07**
Coyle, Nina: 410.04
Crabtree, Kyle: 151.15
Craig, David W.: **132.03**, 137.03, 346.10, 346.12, 347.40
Craig, William W.: 429.08
Crane, Jeffrey D.: 155.08, 403.03D
Cranmer, Miles: **236.05**
Crannell, Graham: 146.38
Crawford, Fronefield: **242.16**
Crawford, Steve: 132.04D, 429.04
Creech-Eakman, Michelle J.: 151.01, 154.19
Crenshaw, D. Michael.: 250.48, 250.53, 250.54, 302.04, 402.04D, 402.05
Crepp, Justin R.: 146.10
Crichton, Devin T.: **203.05D**
Crill, Brendan P.: **415.06**
Crisp, David: 120.03
Crispo, Danielle: 148.10
Crites, Abigail: **125.01**
Crnojevic, Denija: 145.23, 416.02

AUTHORS INDEX

- Croft, Steve: 116.04, 307.06, 428.06
Croll, Bryce: 126.07
Crone-Odekon, Mary: 137.03, 346.10, 347.39
Crooke, John: **433.17**
Croom, Scott: 304.01, 319.03D
Crosley, Michael Kevin.: **240.09**
Crossfield, Ian: 209.06, 240.27
Cruz, Kelle L.: 240.04, 240.06, **240.08**, 240.16, 336.05
Cuadra, Jorge: 216.07
Cucchiara, Antonino: 126.03
Cudworth, Kyle M.: 343.07
Culliton, Christopher S.: **302.07D**
Cummings, Jeff D.: **433.19**
Cunha, Carlos E.: 341.08
Cunha, Katia M L.: 123.04, 124.03D, 343.01, 343.02, 343.03, 343.04, 413.06
Cunningham, Elizabeth: 237.04
Cunningham, John: 341.11
Cunningham, Joni Marie Clark.: **344.20**
Cunningham, Maria R.: 133.06
Cunningham, Nichol: **153.07**, 241.13
Cuntz, Manfred: **230.06**, 413.04, 433.23
Currie, Miles: **146.13**, 342.07
Currie, Thayne M.: **303.04**, 420.01
Curtis, Jason L.: 425.03
Cusano, Felice: **130.07**
Cushey, Daniel Joseph.: **431.03**
Cushing, Michael: 126.08, 408.05
Cusumano, Giancarlo: 121.01
Cutri, Roc M.: 429.02
Cuturilo, Sophie: **247.15**
Czakon, Nicole G.: 404.01
Czekala, Ian: 327.06
D'Abrusco, Raffaele: **239.03**
D'Addario, Larry: 348.05
D'Aloisio, Anson: 342.03, 347.04
D'Auteuil, Brian: 250.34
Da Costa, Gary S.: 145.17
da Cunha, Elisabete: 348.12
Dabrowski, Elizabeth: **342.13**
Dage, Kristen C.: **247.03**
Dahal, Sumit: 323.03D
Dahl, Eric: 248.03
Dahlin, Patrick: **155.17**
Dai, Biwei: **342.10**
Dai, Ruijia: 403.01
Dai, Xinyu: 144.11
Dai, Yu Sophia.: 327.06
Dai, Zhibin: 215.05
Dainotti, Maria: 149.02, **406.03**
Dalba, Paul A.: 126.07
Dalcanton, Julianne: 145.14, 145.15, 145.16, 154.26
Dale, Daniel A.: **144.16**, 237.08, 250.01, 250.02, 250.03, 250.04, 250.05, 250.06, 250.07, 428.05
Dame, Thomas M.: 340.36
Damke, Guillermo: 343.04
Damon, Gabriel: 154.02
Danek, Kamil: 425.02
Daniel, Kathrynne J.: 428.04
Dann, Julian: **340.04**
Danowski, Meredith E.: 309.01, 309.02
Darch, Peter T.: **128.01**
Darling, Jeremiah K.: 114.06, 246.01
Darvish, Behnam: **347.24**
Dasadia, Sarthak: **105.05D**
Dashtamirova, Dzhuliya: **250.48**
Davachi, Niyousha: 120.05, **120.06**
Dave, Pranav: 308.02
Dave, Romeel: 229.02, 347.17, 348.09
Davenport, James R A.: 230.05, 344.17
David, Trevor J.: 241.05, **318.01D**
Davidson, Eric: **425.05**
Davidson, James W.: 344.02, 344.21
Davies, Richard: 250.52
Davis, Allen Bradford.: **425.04**
Davis, Benjamin: 144.14
Davis, Benjamin L.: 114.03D
Davis, Benjamin L.: 107.01D
Davis, Blair: 335.09
Davis, Cory: 132.03, **347.40**
Davis, Jonathan: 240.07
Davis, Kristina: 133.06
Daw, Adrian N.: 339.02
Dawoodbhoy, Taha: **342.03**
Dawson, Joanne: 340.26
Dawson, Kyle S.: 250.24
Dawson, Rebekah Ilene.: **401.04**
Dawson, William: 404.01, 404.03, 426.01
Day, Brian: 140.01
de Blok, Willem J.G.: 324.02
De Buizer, James M.: **340.11**
De Cat, Peter: 305.02
De Cia, Annalisa: 313.04
de Gouvêa, André: 147.01
de Grijis, Richard: **154.09**
De La Rosa, Janie: 434.03
De La Rosa, Oscar A.: **241.15**
De Lee, Nathan M.: **152.08**, 433.15
De Pree, Christopher G.: **340.31**
De Rosa, Gisella: 436.04
De Rosa, Robert J.: 146.02, 146.04, 146.19, 230.03D, 344.16
de Toma, Giuliana: 339.04
DeAbreu, Caia: 152.11
Deam, Sophie: 250.01, **250.02**, 250.03, 250.04, 250.05, 250.06, 250.07
Debattista, Victor P.: 134.07
Debebe, Asidesach: 422.01
Debes, John H.: 244.02, 420.01, **420.07**, 435.02
DeBoer, David R.: 116.04
Decarli, Roberto: 348.09
DeCesar, Megan E.: 242.17
Deck, Katherine: 146.32
Decker, Bandon: **231.03**
DeCoster, Richard: 334.08
Deering, Nicole: 406.01
DeGroot, Laura: 229.04D
Dehghanfar, Arezu: 142.02
Deitrick, Russell: 120.03, **326.06**
Dekel, Avishai: 347.15
Delacroix, Christian: 238.15
DeLint, Arie: 241.10
Deliyannis, Constantine P.: 433.19
Delrez, Laetitia: 219.07D

AUTHORS INDEX

- Delworth, Natalie: **346.07**
Demarco, Ricardo: 347.26
Deming, Drake: 202.05, 219.04, 219.07D, 245.02, 401.01
Demorest, Paul: 242.10, 330.03, **348.13**
Den Hartog, Elizabeth: 139.01, 154.17
Denbo, Sara: 240.03
Deneault, Ethan AN.: **435.06**
Denes Couto, Jullianna: **402.04D**
Deneva, Julia S.: 106.04
Deng, Licai: 154.09
DeNigris, Natalie: **250.35**
Denis, Kevin: 323.03D
Denissenkov, Pavel: 142.17
Denn, Grant R.: 137.03
Denneau, Larry: 223.02
Dennihiy, Erik: 228.05D
Dennis, Harold: 240.36
Dent, William: 327.04
Deol, Satveer: **415.07**
DePasquale, Joseph M.: 410.04
Depoy, Darren L.: 155.12
Dermer, Charles D.: 233.04D
DeRoo, Casey: 309.05
Desai, Abhishek Amitbhai.: **419.01**
Desai, Karna Mahadev.: **140.04, 345.16**
Desai, Vandana: 231.05D
Desch, Steven: 244.04, 345.17
Desira, Christopher: **147.07**
Dessart, Luc: 308.01
Dettman, Kyle: 341.01
Deustua, Susana E.: **206.04**, 341.08, 342.07
Devine, Kathryn E.: **153.11**
Devlin, Mark J.: 133.05D, 133.06
DeVore, Edna: **439.07**
DeVorkin, David H.: **158.05**
Devost, Daniel: **106.02**
DeWitt, Curtis: 432.02
Dhabal, Arnab: **155.14**
Dhawan, Vivek: 319.06
Dholakia, Shashank: 146.11, **146.34**
Dholakia, Shishir: **146.11**, 146.34
Di Francesco, James: **348.01**
Di Mauro, Mattia: 248.01
Di Paola, Andrea: 112.07
Di Stefano, Rosanne: 141.01
Diaferio, Antonaldo: 346.03
Diamond-Lowe, Hannah: **301.04**
Diaz, Manuel: **433.06**, 434.06
Dicker, Simon: 133.06
Dickey, John Miller: 204.02D, 340.05, 340.26
Dickinson, Mark: 132.01, 347.25
Dickmann, Samantha Rose.: 241.11
Didio, Nicholas: 250.34
Diesing, Rebecca Rimai.: **242.12**
Dieterich, Sergio: 154.12, 240.21, **240.30**
Dietrich, Jeremy: **347.33**
Dietz, Sarah: 232.04
Dietz, Sarah Eliana.: **142.18**
Dijkstra, Mark: 428.08
Dikpati, Mausumi: 339.04
Diner, Oz: 155.06
Dinerstein, Harriet L.: 311.06D
Ding, Jeffrey: 240.20
Ding, Jiani: **347.09**
Diniz, Marlon: 250.53
Dipirro, Mike: 238.20
Dirks, Cody: 340.27, **340.32**
DiTeodoro, Enrico: 142.04
DiTomasso, Victoria: **240.04, 335.06**, 335.10
Dittenber, Benjamin: **144.04**
Dittmann, Jason: 301.04, **415.01**
Dixon, Don: 151.10, 250.01, 250.02, 250.03, 250.04, 250.05, 250.06, 250.07, 340.08, **340.09**
Dixon, Samantha: 341.08
Djordjevic, Julie: **340.23**
Djorgovski, Stanislav G.: 429.02, 430.02
Do, Tuan: 142.01, 142.02
Dober, Bradley: 133.05D, 133.06
Dokter, Erin F.: 213.01
Dolch, Timothy: 242.16, 242.18, **330.07**
Doll, Katharina: 420.01
Dolphin, Andrew E.: 145.11, 145.12, 145.14, 145.15, 145.16, 239.05, 419.04
Domagal-Goldman, Shawn: 120.03, 202.05, 245.03
Donahue, Megan: 105.02D, **423.01**
Donaldson, Jessica: 435.02
Dong, Jiayin: 345.03
Donor, John: **343.01**, 343.02, 343.03
Donovan Meyer, Jennifer: **438.09**
Doré, Olivier: 224.01
Doriese, Randy: 309.01, 309.02
Dorn, Leah: 344.10
Dorrington, Iain: 141.03
Dorsey, Ronan: 139.04
Dotson, Jessie L.: **147.08**, 430.04
Dotto, Elisabetta: 112.07
Douglas, Ewan: 328.02
Douglas, Ewan S.: **146.23**
Douglas, Kevin A.: 340.05, 340.36, 435.03
Douglas, Stephanie: **131.02D**
Douglass, Edmund: 346.06, **404.05**
Douglass, Kelly: **123.03D**
Dowell, Jayce: 236.05
Doyle (Mizusawa), Trisha: **232.05D**
Doyon, Rene: 146.01
Dragomir, Diana: 104.02, **209.06, 301.05**
Drake, Andrew J.: 429.02
Drake, Jeremy J.: 233.05, 243.01
Draper, David: 238.28
Draper, Zachary: 146.04, 435.02
Dressing, Courtney D.: 146.18, **219.03**
Drew, Patrick: **249.08**
Drew-Moyer, Hannah: **241.07**
Driscoll, Peter E.: 120.03
Driver, Simon P.: 105.03, 106.02, 144.17
Drury, Jason: 130.01
Duchene, Gaspard: 146.05, **344.16**, 435.02
Duffell, Paul: 434.07
Dulaney, Nick: **151.08**
Dulz, Shannon: 146.10, **245.13**
Dumas, Julie: **321.01**
Dumusque, Xavier: 403.02, 425.04
Duncan, James: 146.38

AUTHORS INDEX

- Duncan, Kenneth: 205.01
Dunham, Michael: 102.03, 153.03, 212.05, 345.03
Dunlap, Bart H.: **228.01**, 228.05D
Dunlop, James: 427.05
Dunn, Jacqueline M.: **145.01**, 145.02
Dunn, Jay P.: 250.48
Dunn, Marina Madeline.: **238.30**
Dunne, Loretta: 144.17
Dünner, Rolando: 323.03D
Duong, Nicholas: **424.04**
DuPrie, Kimberly: 236.13
Dupuy, Trent J.: 146.19, **219.01**, 219.05, **227.04**
Durantini Luca, Hugo A.: 420.01
Durbala, Adriana: 137.03, 346.09, 346.10
Duriscoe, Dan M.: 236.20
Durisen, Richard H.: 345.16
Durrell, Patrick R.: **144.20**
Durret, Florence: 346.15
Duvvuri, Girish Manideep.: **146.18**, 310.07
Dwarkadas, Vikram: 148.03
Dykhoff, Devin: 341.15
Eadie, Gwendolyn: **134.04D**
Eastman, Jason D.: 106.05, 146.08, 146.09, 155.04, 320.01, **320.02**
Ebert, Rick: 347.54
Eckart, Megan: 309.01, 309.02
Eckelkamp, Grant: **343.18**
Eckert, Kathleen D.: **128.02D**, 237.02, 237.03
Eckley, Ross: 335.04
Edelstein, Jerry: 340.03
Edmonds, Peter: 228.06D
Edwards, Louise O V.: 404.05
Edwards, Nick: **147.04**, 155.03
Edwards, Suzan: 420.05
Eftekhari, Tarraneh: **247.04**
Eftekharzadeh, Sarah: **430.02**
Eikenberry, Stephen S.: 238.16
Eilbott, Daniel: **407.02**
Eimer, Joseph: 323.03D, 430.04
Eisenhardt, Peter R.: 341.08
Eisenstein, Daniel: 236.18
Eisner, Brian: 145.13
Eisner, Brian Andrew.: **249.03**, 249.04
Eisner, Joshua A.: 102.04D
Ekstrom, W. Haydon: 335.04
Eller, Brianna: 238.34
Ellinger, Carola: 434.08
Ellis, Justin: 242.18, 307.06
Ellis, Richard S.: 347.19
Ellis, Scott: 146.20
Elmegreen, Bruce: **114.04**, 123.05, 124.05, 144.21, 145.22, 347.27
Elmegreen, Debra M.: **144.21**, 347.20, 347.27
Elosegui, Pedro: 238.35
Elson, Edward C.: 132.07, 145.11, 145.12, 239.05
Elsworth, Yvonne P.: 305.05
Elvis, Martin: **206.06**, 250.55
Emrahoglu, Nuri: 139.01
Enachioaie, Alexandru: 420.01
Endl, Michael: 104.02, 104.03, 245.06
Eng, Ron: 238.33
Engle, Scott G.: 120.04, 152.05, 152.06
Ennico, Kimberly: 241.12
Enriquez, J. Emilio: **116.04**
Eracleous, Michael: 225.03, 250.13, 302.07D, 414.06
Erazo, Jaquelin: **148.02**
Erickson, Edwin F.: **111.02**, **158.06**
Erickson, Mary: **152.05**
Erickson, Paul: 129.02
Erler, Jens: 342.02
Escala, Ivanna: 408.06D
Espaillat, Catherine: 345.15
Espinel, Jose Luis.: **243.07**
Espinoza, Nestor: 301.07
Esplin, Taran: **212.03D**
Esposito, Thomas: 146.05, 146.19, 435.02
Essick, Reed: **108.01**
Essinger-Hileman, Thomas: 323.03D
Estrada-Carpenter, Vicente: **347.25**
Etheridge, Sarina Marie.: **154.01**, 431.05
Eufrasio, Rafael: 144.07, 344.06
Eufrasio, Rafael T.: 326.04, **419.02**
Evans, Aaron S.: 153.09, 222.03
Evans, Kate Anne.: **154.04**
Evans, Tom M.: 301.03, 401.01
Even, Wesley P.: 341.21, 434.03
Evonosky, William: 240.10, **240.11**
Fabbiano, Giuseppina: 239.03, 250.55
Faber, Sandra M.: 231.07, 347.15, 347.38
Fabian, Andrew C.: **208.01**, 406.01
Fabrycky, Daniel: 146.01
Factor, Samuel M.: **146.25**
Fadda, Dario: **346.15**
Faesi, Christopher: **204.03D**
Fagrelius, Parker: 341.05, 341.08, 342.07
Faherty, Jackie: 240.04
Faherty, Jacqueline K.: 126.05, 240.06, 408.05
Fakhouri, Hannah: 341.05
Falcke, Heino: 116.04
Falcone, Julia: 347.55, 347.56
Falgarone, Edith: 311.05
Falstad, Niklas: 222.03
Fan, Xiaohui: 220.01D, 220.02D, 220.03D, 347.09
Fanelli, Michael N.: **143.01**
Fang, Jerome J.: 347.38
Fang, Tatao: 239.04
Fang, Xiao: **224.05**
Farber, Ryan: **427.04**
Farihi, Jay: 310.07
Farmer, Robert: **308.01**
Farrar, Duncan: 429.08
Fassbender, Rene: 341.08
Fattahi, Azadeh: 416.03
Faucher-Giguere, Claude-Andre: 331.01
Faulkner, Danny R.: 433.09, 433.13
Fausnaugh, Michael: **414.02D**
Fayolle, Edith: 139.03
Fazio, Giovanni G.: 107.03
Fedeler, Samuel: **437.02**
Feinberg, Lee: 238.14
Feindt, Ulrich: 341.05
Feldman, Daniel: 240.35
Feldmeier, John J.: 144.20
Feng, Wanda: **244.04**, 420.05

AUTHORS INDEX

- Ferguson, Henry Closson.: 347.15, 347.25
Ferguson, Jason: **429.03**
Ferkinhoff, Carl: **214.06**
Fernandes, Rachel: **345.11**
Fernandes, Rachel B.: 345.10, 345.14
Fernandes, Sunil: **250.29**
Fernandez Trincado, Jose Gregorio.: 221.03, 343.05
Feroci, Marco: 309.04
Ferrara, Andrea: 438.04
Ferrara, Elizabeth C.: **238.26**
Ferraro, Simone: 105.07
Ferson, Scott: 154.27
Fesen, Robert: 308.04
Fesen, Robert A.: 148.06
Feuillet, Diane: 237.13, 336.05
Fialkov, Anastasia: **207.01**, 306.04
Fica, Haley Diane.: **155.08**
Fich, Michel: 437.01
Fields, Brian D.: 115.02D
Fields, Carl: 308.01
Figueroa-Feliciano, Enectali: 309.01, 309.02
Figura, Charles C.: **153.14**
Filippenko, Alexei V.: 341.14
Finan, Emily R.: 206.07
Finch, Charlie T.: 240.13, 240.21
Findlay, Joseph: 250.01, 250.02, 250.03, 250.04, 250.05, 250.06, 250.07
Finkelstein, Steven L.: 132.01, 141.09, **347.04**, 347.05, 347.06, 347.08, 347.15, 347.25
Finlator, kristian: 347.04, 347.25
Finn, Molly: **344.14**
Finn, Rose: 137.03, **346.09**, 346.10
Finner, Kyle: **426.01**
Finzell, Thomas: 215.07
Firebaugh, Ariel: 335.09
Fischer, Debra: **126.04**, 155.02, 318.03D, 405.04, 425.04
Fischer, Jacqueline: 250.12
Fischer, Travis C.: **250.53**, 250.54, 302.04, 402.05
Fischer, William J.: **212.02**, 212.06D
Fish, Vincent L.: 247.01
Fisher, Callum: 333.03
Fisher, David B.: 132.01
Fisher, Robert: **308.02**
Fisher, Robert Scott.: 347.26
Fissel, Laura M.: 133.05D, **133.06**, **332.01**
Fitzgerald, Michael P.: 146.01, 146.04, 146.05, 435.02
Fitzgibbon, Kathleen: **145.13**
Fitzpatrick, M. Ryleigh: 335.04
Fitzpatrick, Michael J.: 154.25
Fix, Mees B.: 244.06, 250.28
Fix, Mees Bernard.: **436.04**
Fixsen, Dale J.: 430.04
Flagey, Nicolas: 106.02
Flaherty, Kevin M.: **327.07**
Flanagan, Kathryn: 342.01
Flasar, F. Michael.: 112.05
Fleming, Brian: 249.06
Fleming, David P.: 120.03
Fletcher, Leigh N.: 112.05, 424.06
Flewelling, Heather: **157.02**, **237.07**
Flores, Anel: 238.20
Flores, Jose Antonio.: **347.36**
Flores Rivera, Lizxandra: **345.19**
Flores-Rivera, Lizxandra: 153.05
Flory, Oscar: 347.39
Flowers, Erin Elise.: **245.07**
Flude, Karen: 411.05
Fluxa, Pedro: 323.03D
Flynn, Zoey: **347.02**
Fogarty, Kevin: **105.02D**, 206.03, 404.03
Foley, Michael: **341.12**
Foley, Ryan: 115.03D, 308.03, 341.12, 410.01
Foley, Ryan J.: **406.07**
Follette, Katherine B.: 146.04, 213.01
Fong, Matthew: **231.01**
Fong, Wen-fai: 410.06
Fontana, Adriano: 347.15, 438.06
Foote, Gregory: 346.01
Forbes, Terry G.: **300.01**
Ford, Eric B.: 327.04, 425.04
Ford, Saavik: 336.02
Forman, William R.: 404.03, 404.04, 404.07, 404.08
Formanek, Martin: 213.01, 213.04, **213.05**, 213.06
Forrest, Ben: **347.11**
Fortenberry, Alexander: 436.01
Fortney, Jonathan J.: 120.01, 219.08, 301.03, 301.07, 401.01, 425.08
Fouchez, Dominique: 341.05
Fouesneau, Morgan: 154.26
Fowler, Lucas: **236.10**
Fox, Andrew: 145.06, 145.07, 216.08, 436.04
Fox, Ori Dosovitz.: 152.06, 341.12, 341.15, 342.07
Fragile, P. Christopher Christopher.: 428.06, **431.05**
Fragos, Tassos: 249.05, 326.04, 344.06
Frail, Dale A.: 242.05
Fraine, Jonathan: 301.07
Fraknoi, Andrew: **335.07**
France, Kevin: 206.01D, **209.04**, 240.10, 240.11, 249.06
Francis, Lennox: **156.02**
Frank, Juhán: 326.01, 433.14
Frank, Kari A.: 148.01, **148.03**
Frank, Koby Alexander.: 414.05
Fransson, Claes: 410.06
Frayar, Cren: 347.54
Frayar, David T.: 132.02, 153.07
Frebel, Anna: 145.17, 232.03
Frederick, Sara: **250.43**
Freedman, Wendy L.: **234.01**
Freeman, William R.: **229.04D**
Freire, Paulo: 228.06D
Frenk, Carlos S.: 416.03
Frew, David: 148.10
Frey, Lucille: 434.03
Friedman, Andrew S.: 410.02
Fries, Kelly E.: 428.03
Friesen, Brian: 236.12
Frinchaboy, Peter M.: 123.04, 124.03D, 221.03, 343.01, **343.02**, 343.03
Froning, Cynthia S.: 344.01
Frostig, Danielle: **155.20**
Fruchter, Andrew S.: 341.08, 342.07
Frye, Brenda L.: 438.04

AUTHORS INDEX

- Fryer, Chris: 341.21, 434.03, 434.08
Fu, Guangwei: **345.07**
Fu, Hai: **222.07**, 249.08, 250.11
Fu, Jianning: **305.02**
Fu, Wanying: **145.20**
Fuchs, Joshua T.: 228.01, **228.05D**
Fuentes, Gabriel Alejandro.: **152.01**
Fuhrman, Joshua: **247.06**
Fukazawa, Yasushi: 208.04
Fukui, Yasuo: 133.05D, 133.06
Fullard, Andrew: 344.02, **344.21**
Fuller, Jim: 410.08, 433.12
Fullerton, Alexander W.: 232.05D
Fulmer, Leah: **154.05**
Fulton, Benjamin James.: 104.02
Furlan, Elise: 212.06D, 320.04, 403.06
Furlanetto, Steven R.: 306.04
Fusco, Michael: 144.14, **144.15**
Fuse, Christopher R.: 143.01, **143.03**
Gaensicke, Boris T.: 215.05, 310.07
Gaensler, Bryan M.: 340.05, 340.35
Gagne, Jonathan: 230.04D, 320.04, 403.06, 420.01
Gaidos, Eric: 104.06
Gaier, todd: 153.07
Gajjar, Vishal: 116.04
Gal-Yam, Avishay: 155.06, **313.03**, 313.04, 328.04
Galametz, Audrey: 347.15
Galera Rosillo, Rebeca: 148.09
Galitzki, Nicholas: 133.05D, 133.06
Gallagher, John S.: 143.02, 154.05
Gallagher, Sarah: 250.17
Gallardo, Samavarti: **145.26**
Gallo, Elena: 207.08, 245.25, 245.26, 245.27, 319.04D
Galvan-Madrid, Roberto: 340.31
Galvez, Richard: **306.07**
Galvin, Michael: 155.10
Gammie, Charles F.: 107.03
Gandhi, Poshak: 121.04, 429.08
Gandilo, Natalie: 133.05D, **430.04**
Ganel, Opher: 238.01
Gangler, Emmanuel: 341.05
Ganguly, Rajib: 113.03, 302.07D
Gao, Jiansong: 133.06
Gao, Peter: 202.02, **202.03**, 320.04, 403.06
Gao, Yu: **324.01**
Garani, Jasmine: **146.19**
Garcia, Eugenio: 303.04
Garcia, Noel Anthony.: **246.03**
García Pérez, Ana: 343.02, 343.04
Garcia-Burillo, Santiago: 222.03
Garcia-Hernandez, D: 221.03
Garcia-Mejia, Juliana: **155.19**
Gardner, Jonathan P.: 347.08, 347.20
Garhart, Emily: 219.04
Garimella, Karthik: **236.02**
Garling, Christopher: **311.03**
Garmany, Catharine D.: **329.03**
Garnavich, Peter M.: 115.04, **243.06**, 434.02
Garofali, Kristen: 335.11
Garofalo, Alessia: 130.07
Garraffo, Cecilia: 243.01
Garrett, Daniel: **146.12**, 238.15
Garrett, Michael A.: 116.04
Garrison, David: 140.02, 339.07, 424.01
Garrison, Lehman H.: 240.32, 243.07
Garrison-Kimmel, Shea: 418.06
Garsden, Hugh: 236.05
Garza, Dionicio: 154.06
Garza, Jessica: 154.06
Garza, Sergio: **120.05**, 120.06
Gaskell, Martin: 250.50
Gaskin, Jessica: 238.32
Gaspar, Andras: 310.03
Gasparrini, Dario: 402.06
Gaudi, B. Scott.: **104.07**, 106.05, 401.05, **405.02**
Gautam, Abhimat: 142.01
Gawiser, Eric J.: 128.04, 214.04, 347.22
Gay, Pamela L.: 334.11
Ge, Jian: 205.02D, **403.01**
Geballe, Thomas R.: 237.12
Gebhardt, Henry: 229.03D
Gebhardt, Karl: 107.05
Geha, Marla C.: 145.17, 154.16
Gehrels, Neil: 203.02D, 402.05
Gehrz, Robert D.: 341.15
Geisler, Douglas: 221.03, 433.19
Gelderman, Richard: 140.02, 339.07, **411.09**, 424.01
Gelino, Christopher R.: 230.04D, 408.05
Gelino, Dawn M.: 203.02D, **227.02**
Geller, Aaron M.: 247.06, 344.11
Geller, Margaret J.: 346.03
Gendre, Bruce: 436.01
Gendreau, Keith: **309.03**, 309.04
Gendron Marsolais, Marie-Lou: 404.08
Geneser, Claire: 146.14
Genovese, Taylor Fay.: 335.04
Georganopoulos, Markos: 250.30, 250.35, 250.44, 302.02
George, Sebastian: 139.02
Gerber, Stefan: 241.10
Gerhartz, Cody: 151.06, 151.07, 151.08
Gerosa, Davide: 122.06
Gezari, Suvii: **126.02**, 126.03, **225.04**, 250.23, 328.04
Ghavamian, Parviz: 410.04
Ghez, Andrea M.: 107.03, 124.01D, 142.01, 142.02
Ghosh, Pranab: 433.05
Ghosh, Tapasi: 137.06, 137.07
Giacintucci, Simona: 106.04
Giallongo, Emanuele: 438.06
Gialvalisco, Mauro: 347.25
Gibbs, John: 241.11
Gibson, Neale: 301.03
Gibson, Steven J.: 340.36, 435.03
Giddens, Frank: 146.14, 320.04
Giersz, Mirek: 343.17
Gies, Douglas R.: 344.13, 433.12
Gilbertson, Christian: **149.02**, 406.03
Giles, Tucker: 147.05
Gilhool, Steven: **240.22**
Gill, Jake: 250.50
Gillet, Nicolas: 342.03
Gillon, Michaël: 219.07D
Gingerich, Lydia: **154.22**
Giovannelli, Riccardo: 132.03, 132.06D, 145.09, 145.10, 145.11, 145.12, 239.05, 346.12, 437.01
Girardi, Leo: 154.26

AUTHORS INDEX

- Girart, Josep Miquel: 153.01
Girma, Eden: **154.13**
Giroletti, Marcello: 250.41
Gizis, John: 408.01, 408.04
Glaccum, William J.: 107.03
Gladders, Michael: 341.08
Glaser, Joseph Paul.: **425.12**
Glazebrook, Karl: 132.01, 229.02, 347.18
Glazer, Stuart D.: 238.14
Glendenning, Brian: 348.06
Glushko, Anna: 334.11
Göck, Jürgen: 139.02
Godfrey, Leith: 144.18
Godfrey, Paige A.: **408.03D**
Godwin, Caleb: 347.48
Goh, Tze: **342.12**
Gohil, Raj: **250.49**
Goldfinger, David: **309.01**, 309.02
Goldsmith, Paul: 153.07, 238.30, **311.05**
Goldstein, Adam: 406.08
Golimowski, David A.: 435.02
Golkhou, V. Zach: **407.01D**
Golovich, Nathan: 404.03, 426.01
Golshan, Milena S.: 128.01
Gomez, Sebastian: 207.05, 240.32, 243.07, **247.02**
Gomez Leal, Illeana: 245.20
Gomez-Ruiz, Arturo: 153.08
Gonzalez, Anthony H.: 205.02D, 341.08
GONZALEZ CASANOVA, DIEGO: 419.06, 435.05
Gonzalez Ortiz, Andrea: **347.34**
González-Alfonso, Eduardo: 222.03
Gonzalez-Lopez, Jorge: 231.06
Goobar, Ariel: 341.08
Good, Gregory: 335.06
Good, John: 236.09
Goodman, Alyssa A.: 153.01
Goodman, Irene: 411.04
Goodwin, Simon: 230.03D
Gopalswamy, N.: **325.03**
Gopu, Arvind: 240.36
Gordon, Alex Jonah Robert.: **340.02**
Gordon, Karl D.: 133.04
Gordon, Kenneth Everett.: **436.03**
Gordon, Sam: 133.06
Gorjian, Varoujan: 206.05, 207.03, **250.24**, 250.37, 328.04, 334.02, 334.03
Gorski, Mark: **304.04D**
Gorti, Uma: 152.12, 215.04, 345.06, 420.05
Gosmeyer, Catherine: 347.25
Gosnell, Natalie M.: 154.21, **344.11**
Goss, Miller: 204.02D, 340.31
Gossan, Sarah: **410.08**
Gostisha, Martin: 340.13
Gottloeber, Stefan: 342.03
Goulding, Andy D.: **319.05**, 429.08
Goullaud, Charles: 143.04
Governato, Fabio: 134.07
Grace, Emily: 323.01
Grady, C. A.: 345.11, **345.12**
Grady, Carol A.: 345.10, 345.14
Graham, James R.: 146.01, 146.02
Graham, John: **103.05**
Graham, Matthew J.: 225.03, 429.02, 430.02
Graham, Melissa: 341.14
Gralla, Megan: 132.02
Grammer, Wes: 348.01, 348.02
Graninger, Dawn: 139.03
Grantham, Jim: 403.01
Grasha, Kathryn: **124.05**, **127.05**
Graus, Andrew: 145.03
Gray, Andrew: 340.05
Gray, Christopher R.: 433.09
Grazian, Andrea: 438.06
Greco, Johnny: 319.05
Green, Andrew W.: 304.01
Green, Joel D.: 335.11, **411.06**, **420.04**
Green, Paul J.: 156.04, **225.03**, 250.24
Green, Richard F.: 220.01D, 220.02D
Greenbaum, Alexandra: 146.04, **310.02D**
Greenberg, Adam: 333.03
Greene, Christopher: **250.21**
Greene, Jenny E.: 143.04, 207.04, 307.06, 319.04D, 319.05
Greene, Thomas P.: 241.12
Greene, W. M.: 411.04
Greenhill, Lincoln J.: 236.05
Gregg, Michael: 105.04, **427.07**
Greiner, Jochen: 220.05
Grier, Catherine: **414.01**
Grieser, Manfred: 139.02
Grieves, Nolan: 403.01
Griffith, Christopher: 309.04
Griffith, Emily: 250.01, 250.02, **250.03**, 250.04, 250.05, 250.06, 250.07
Griffith, John: **245.28**
Griffith, Phillip: 420.01
Grin, Daniel: 248.04, **323.04**, **411.05**
Grindlay, Jonathan: 142.09, 228.06D
Grindlay, Jonathan E.: **207.05**, **225.06**, 243.02, 247.02
Grocholski, Aaron J.: **154.16**
Groff, Tyler Dean.: **155.10**, 238.31
Grogin, Norman A.: 238.06, 342.01, 347.08, 347.15, 438.04
Gronke, Max: 428.08
Gronwall, Caryl: 222.01D, 229.03D, 347.08, 419.05D
Groppi, Christopher E.: 133.06, 343.24
Groves, Brent: 304.01, 340.14
Gruen, Daniel: 426.01
Grussie, Florian: 139.02
Guedel, Manuel: 241.09
Guerin, Elisabeth: 139.02
Guerreo-Miller, Alma: 242.16
Gugliucci, Nicole E.: **337.03**
Guhathakurta, Puragra: 142.19, 154.02, 154.03, **232.06**, 347.23, 347.50
Guillemot, Lucas: 242.07
Guillochon, James: 154.13
Guinan, Edward F.: **120.04**, 230.06, 344.08
Guinness, Joe: 409.03
Gull, Theodore R.: 209.03
Gulledge, Deborah Jean.: **244.06**, 250.28
Gultekin, Kayhan: 107.05
Gundersen, Joshua O.: 153.07
Gunning, Heather C.: 342.01

AUTHORS INDEX

- Guo, Joyce: 107.07, **247.05**, 250.26
Guo, Rachel: **341.20**
Guo, Xueying: **425.03**
Guo, Yicheng: **231.07**, 347.15, 347.38
Guo, Zhao: **433.12**
Gupta, Anshu: **321.04D**
Gupta, Arvind: **145.21**
Gupta, Ravi: 341.11
Gurule, Isaiah: 334.01
Gurwell, Mark A.: 107.03
Gusbar, Courtney: 427.01
Gusdorf, Antoine: 432.01
Gutermuth, Robert A.: 153.08, **153.13**
Guth, Giora: 437.02
Güth, Tina: **151.01**
Gutierrez, Elizabeth: **154.20**
Guyon, Olivier: 155.10, 206.07, 303.04
Gyalay, Szilard: 333.03
Ha, Ji-Hoon: 150.02
Habas, Rebecca: 346.15
Hadden, Sam: **401.03D**
Haffner, L. Matthew.: 145.04, 145.05, 145.06,
145.08, **340.13**, 340.21
Hagen, Alex: **229.03D**
Hagen, Cedric: 245.27
Hagen, Lea M Z.: **419.05D**
Haggard, Daryl: 107.03, 250.40
Hahn, Changhoon: **321.02D**
Hahn, Gerhard: 112.07
Hailey, Charles James.: 207.05, 429.08
Hailey-Dunsheath, Steve: 125.01
Hain, Roger: 156.03
Hainaut, Olivier: 112.07
Hales, Antonio: 230.03D, 345.05, 345.06
Hales, Christopher A.: 142.05, 222.06
Halevi, Goni: **341.22**
Hall, Agnar: **105.01**
Hall, Jeffrey C.: **126.01**
Hall, Kirsten: 128.02D, 132.02
Hall, Ryan: **146.14**, 320.04
Hallenbeck, Gregory L.: 132.03, 137.03, 145.09,
145.10, **346.11**, 346.12, 347.40
Hallinan, Gregg: 116.05D, 250.11, 408.06D, 433.01
Hallum, Melissa: **236.17**
Halmrast, Daniel: **242.18**, 330.07
Halpern, Mark: 323.03D, 430.04
Hamaguchi, Kenji: 151.13, 209.03
Hamann, Fred: 250.20, 302.05
Hamann, Wolf-Rainer: 154.05
Hambleton, Kelly M.: 344.09
Hamers, Adrian: 326.05
Hamilton, Douglas P.: 219.07D
Hammel, Heidi B.: 438.04
Han, Daniel: **142.07**
Han, Eunkyuu: 126.07, 240.20
Han, Sang-Il: 343.06
Han, Wonyong: 340.03
Han, Xianming L.: 344.07
Hanawa, Tomoyuki: **102.02**
Hancock, Danielle: 335.09
Hand, Jared: **342.06**
Hanes, Richard: **151.04**
Hangard, Laura: 341.06
Hankins, Matthew: 151.14
Hanley, Jeffrey M.: 238.14
Hansen, Terese T.: 232.03
Hardcastle, Martin: 239.04
Hardegree-Ullman, Kevin: **126.08**, 336.07
Harding, Alice Kust.: 242.07
Harding, Paul: 144.20
Hare, Honor: 140.02, 339.07, 424.01
Hare, Tyson: 155.08
Haring, Ralf: 335.03
Harman, Pamela: 439.07
Harmon, Robert O.: **240.34**
Harness, Anthony: 146.28
Harrington, Kathleen: **342.14**
Harris, Andrew I.: 132.02, 153.07
Harris, Robert J.: 212.05, 345.03
Harris, William E.: 134.04D
Harrison, Amanda: **431.04**
Harrison, Brandon: 240.35
Harrison, Fiona: 121.03D, 402.05, 429.08
Harrison, Thomas E.: 245.15
Hart, Erica A.: 241.11
Hartley, William: 103.01D
Hartman, Joel: 104.01
Hartman, Zachary: **344.15**
Hartmann, Dieter: 220.05, 337.04, 419.01
Hartmann, Lee W.: 310.04D
Harvey, Paul M.: 230.03D, 345.05
Harvey, William: 250.03, 250.04, 250.05, 250.06
Harvey, William Bradford.: **250.01**, 250.02, 250.07
Harwit, Martin: **111.03**
Hasan, Mahmudul: **236.07**
Hashimoto, Amanda: **344.07**
Hashimoto, Jun: 345.14
Hasinger, Guenther: 107.07
Hasselfield, Matthew: 323.01
Hasselquist, Sten: **123.04**, 216.01
Hathi, Nimish P.: 347.08, 347.15, 438.04
Hattori, Kohei: 134.07
Haughwout, Christian: 328.02
Haurberg, Nathalie C.: 145.11, 145.12, 239.05
Hause, Connor: **344.08**
Haverkorn, Marijke: 340.05
Hawley, Suzanne L.: 230.05
Hay, Rebecca: 434.03
Hayashi, Masahiko: 155.10
Hayashi, Soichi: 240.36
Hayden, Brian: 341.05, **341.08**
Hayden, Michael R.: 343.02
Hayes, Christian Rochford.: 335.09, 343.04
Hayes, Matthew: 222.01D, 249.01, 249.02, 249.03,
249.04
Haynes, Martha P.: 132.03, 132.06D, 137.03, 145.09,
145.10, 145.11, 145.12, 239.05, 346.09, 346.10,
346.12, 347.40, 437.01
Hays, Aryn: 146.38
Hays, Elizabeth A.: **115.05**
Hays, Jon: 154.03, 232.06
Hayward, Christopher C.: 214.02
Haywood, Raphaelle: **320.06D**
Hazboun, Jeffrey Shafiq.: **122.03**
Haze Nunez, Evan: 250.01, 250.03, 250.04, 250.05,
250.06

AUTHORS INDEX

- He, Shiyuan: 128.05D, 433.18
He, Yifan: 334.09
Heald, George: 204.04D
Healy, Brian: 126.07, **339.01**
Heap, Sara R.: **238.27**
Hearthy, Fred R.: 343.02
Hebb, Leslie: 230.05
Heber, Oded: 139.02
Hébrard, Eric: 202.05
Heckman, Timothy M.: 121.04, 249.06
Hedberg, James: 335.10
Hedlund, Audrey R.: 241.11
Hees, Aurelien: 142.02
Hegde, Sahil: **247.12**
Heiles, Carl E.: 102.01, 204.02D, 311.02D, 340.36, 435.03
Heilmann, Ralf K.: **238.32**
Heine, Sarah N.: 309.01, 309.02
Heinke, Craig O.: 228.06D
Heinze, Aren: **223.02**
Heitsch, Fabian: 222.04
Hellbourg, Greg: 116.04
Helmboldt, Joseph F.: 106.04
Helou, George: 347.54
Helton, L. Andrew.: 152.12, 215.04
Hemmati, Shoubaneh: **347.41**
Henderson, Calen B.: **303.05**
Henderson, Cassandra Starr.: **425.08**
Henderson, Morgan: 146.08, **345.06**
Hendrix, Landon: 146.38
Heng, Kevin: 202.07D
Hennawi, Joseph F.: 222.07, 250.27, 302.03D
Henning, Patricia A.: **137.08**, 347.32
Henrici, Andrew Scott.: **340.12**
Henriksen, Richard N.: 250.58
Henry, Alaina L.: 249.05, 347.20
Henry, Todd J.: 154.12, 240.13, **240.21**, 240.30, 344.12, 344.13, 403.06
Henschel, Robert: 240.36
Hensler, Gerhard: **127.10**
Henze, Christopher: 146.22
Herbst, Ashley: 148.04
Herbst, Hanna: **302.05**
Herbst, William: 129.02
Herczeg, Aleczaender: 403.01
Herczeg, Gregory: 327.06
Hermes, J. J.: 228.01, 228.02D
Hermes, JJ: **228.04**
Hernandez, Betsy: **250.23**
Hernandez, Jesus: 154.18, 241.08
Hernandez, Michael: **145.05**, 145.08
Hernquist, Lars: 153.01, 430.05
Hernquist, Lars E.: 347.37
Herrmann, Kimberly A.: **145.22**
Herter, Terry: 241.12
Herter, Terry L.: 437.01
Hesman, Brigette E.: 112.05
Hess, Kelley M.: 324.02, 347.32
Hessel, Jason: 128.07
Hessels, Jason: **109.02**, 242.09, 330.01, 330.03, 330.08
Hettinger, Paul T.: 152.03
Hewitt, Paul C.: 302.03D
Hewitt, John W.: 410.04
Heyer, Mark H.: 153.08, 153.13, 311.05
Heyrovsky, David: **425.02**
Hibon, Pascale: 347.08
Hickish, Jack: 116.04
Hickox, Ryan C.: 207.04
Hicks, Brian: 106.04
Hicks, Erin K.: 250.52
Hicks, Logan: 152.08
Hicks, Sean: 334.09
Hicks, Stacy: **147.06**
Higdon, James L.: 214.06
Higdon, Sarah: 214.06
Hilbert, Bryan: 342.01
Hildebrandt, Hendrik: 341.08
Hilfer, Shannon L.: 241.11
Hill, Alex S.: 145.06, **340.05**, 340.35
Hill, Grant M.: 151.13
Hill, Steele: 422.01
Hillbrand, Seth: 133.06
Hille, Bruce: 403.01
Hillebrandt, Wolfgang: 341.05
Hillenbrand, Lynne: 120.08, 241.05, 435.01
Hillwig, Todd C.: **148.10**
Hilton, Gene: 133.06, 309.01, 309.02, 323.03D, 430.04
Hilton, James Lindsay.: 128.03
Hilton, Matt: 341.08
Hines, Dean C.: 435.02
Hinkle, Kenneth H.: **154.11**, 240.36
Hinkley, Sasha: 120.08, 435.02
Hinshaw, Gary F.: 323.03D, 430.04
Hintz, Eric G.: **154.15**, 237.05, 250.32, 343.09, 343.10
Hintz, Maureen: 343.09
Hirata, Christopher M.: 202.07D, 224.05
Hiriart, R.: 324.04, 348.06
Hirsch, Lea: **219.06**
Hlavacek-Larrondo, Julie: 404.08
Hlozek, Renée: **323.01**, 323.04
Ho, I-Ting: 304.01
Ho, Luis: 114.06, 250.24
Ho, Shirley: 337.04
Ho, Wynn: 233.05
Hoadley, Keri: **206.01D**
Hockey, Thomas A.: **90.01**
Hodge, Jacqueline: 348.12
Hodges-Kluck, Edmund J.: 144.11, 340.10
Hoekstra, Henk: 341.08
Hoenig, Sebastian: 429.08
Hoette, Vivian L.: 334.08
Hoffman, G. Lyle.: 137.03, 346.10
Hoffman, Jennifer L.: 151.11, **344.02**, 344.21
Hoffman, Lyle: 346.12
Hoffman, Melissa: **154.27**
Hoffman, Yehuda: 342.03
Hogg, David W.: 240.08, **312.07**
Hogg, J. Drew: **247.11**
Holden, Marcus: 250.32
Hole, Tabetha: 151.12
Hollenbach, David J.: 420.05
Holley-Bockelmann, Kelly: 237.13, 321.01, 333.01, 336.04, **336.05**
Holman, Derek: **246.05**

AUTHORS INDEX

- Holmbeck, Erika M.: 232.03
Holoien, Thomas Warren-Son.: **223.04D**, 237.10
Holtzman, Jon A.: 123.04, **216.01**, 336.04, 343.02
Holwerda, Benne: 144.17
Hom, Justin: 146.05
Homan, Jeroen: 238.16
Honeycutt, R. K.: 243.03, 243.08
Hong, JaeSub: 142.09, 207.05, 233.05, 243.02
Hong, Jongsuk: 343.17
Hong, Seungsoo: **343.06**
Hong, Seungyeong: 340.28
Hood, Callie: 237.02, **245.09**
Hook, Isobel: 341.08
Hoover, Corwin: 240.24
Hopkins, Philip F.: 142.16, **331.01**, 343.23, 347.15
Hoppe, Daniel: 348.05
Hora, Joseph L.: **107.03**, 241.14
Horch, Elliott: 126.09, 155.02, 245.04, 344.12
Horenstein, Daniel: **345.01**
Horiuchi, Shinji: 242.08
Horiuchi, Shunsaku: 418.06
Horn, Madeline: 145.08
Horne, Keith D.: 250.24
Horner, Jonathan: 320.07
Hornschemeier, Ann E.: 247.09, 249.05, 326.04, 344.06, 347.46, 419.02
Hornstein, Seth D.: 213.03
Horton, Daniel Ethan.: 245.29
Horton, Savannah: 250.37
Horvat, Martin: 344.22, **344.23**
Hoscheidt, Joseph: 403.01
Hoscheit, Benjamin L.: **342.11**
Hosseinzadeh, Griffin: **308.06**
Houghton, Audrey: **146.08**
Hounsell, Rebekah: 406.07
Houston, Gordon L.: **129.07**
Hoversten, Erik A.: 128.02D, 419.05D
Howard, Andrew: 219.06, 403.02, 413.03
Howard, Brittany: **142.09**
Howell, Dale Andrew.: 308.06, **341.10**
Howell, Steve B.: 104.04, 203.02D, **245.04**, 337.04
Howk, J. Christopher.: 113.05, 145.08
Hoyer, Sergio: 202.06
Hristov, Viktor: 238.10
Hsiang-Yi, Karen: 427.04
Hsieh, Henry H.: 112.04
Hsu, Li-Yen: **231.05D**
Hu, Mia: 146.28
Hu, Renyu: **202.01**
Huang, Chelsea: 104.01
Huang, Chenliang: **301.01D**
Huang, Jane: 240.32, 243.07
Huang, Jianhua: 128.05D, 433.18
Huang, Shan: 145.11, 145.12, 239.05
Huang, Song: **226.07**
Huang, Xiaosheng: **341.05**, 341.08
Huard, Tracy L.: 311.03
Hubbard, Antonia: 309.01, **309.02**
Huber, Daniel: 219.05
Huber, Joe: 320.04
Huber, Mark: **237.06**
Hubmayr, Hannes: 133.06
Hubmayr, Johannes: 323.03D
Hucka, Michael: **312.04**
Huertas-Company, Marc: 347.38
Huey-You, Cannan: **347.57**
Hughes, A. Meredith.: 327.07, 345.06, 435.02
Hughes, Annie: 340.14
Hughes, David: 132.02, 427.05
Hughes, James Marcus.: **340.36**
Hughes, John A.: 114.01D
Hughes, John Patrick.: 132.02, 208.04
Huk, Leah N.: **308.07D**
Hull, Anthony B.: **238.33**
Hull, Charles L. H.: **153.01**, 348.11
Hummels, Cameron: 145.27
Hummels, Cameron B.: 150.03, 335.11
Hunacek, Jonathon: 125.01
Hung, Chao-Ling: **214.02**, 246.05, 249.08, 348.09
Hung, Li-Wei: 146.04
Hung, Tiara: 126.02, 126.03
Hunt, Lucas: **132.04D**
Hunter, Deidre Ann.: 145.22, 145.26
Hunter, Todd R.: 340.06
Husemann, Bernd: 107.05, 319.03D
Hut, Boudewijn: 324.02
Hutchinson-Smith, Tenley: **427.08**
Huterer, Dragan: 341.08
Hutyra, Taylor: **326.07**
Hwang, Eunsook: 338.01
Hyde, Truell: 340.22, 345.20
Hyman, Scott D.: 106.04
Hyogo, Michiharu: 420.01
Iacchetta, Alexander: 155.13
Ianna, Philip A.: 240.13
Ibañez-Mejía, Juan: 153.02
Ieva, Simone: 112.07
Ignace, Richard: 151.11, 151.12, **232.07**
Iguina, Ashley Ann.: **137.04**
Ilango, Anita: 154.02
Ilango, Megha: **154.02**
Iliev, Ilian T.: 342.03
Illingworth, Garth D.: **227.05**, **400.01**
Imara, Nia: **113.01**
Immler, Stefan: 419.05D
Impey, Chris David.: 213.01, 213.02, **213.04**, 213.05, 213.06, 335.04, 411.02
Inami, Hanae: 132.01
Indebetouw, Remy: 212.04, 340.06
Indriolo, Nick: 432.02, 436.04
Ingalls, James G.: 107.03, 408.05
Ingber, Jenny: 335.08
Inglis, Andrew: 339.02
Ingraham, Patrick: 146.04
Ireland, Michael: 104.05, 131.05D, 146.31, 219.05
Irwin, Jonathan: 131.03, 230.02, 240.21, 301.04, 415.01
Irwin, Judith: 250.58, 419.03D
Irwin, Kent: 133.06, 430.04
Irwin, Patrick GJ.: 112.05, 202.05
Isaac, Rohan: 237.01
Isaacson, Howard T.: 104.02, 116.04, 433.12
Isbell, Jacob: **250.11**
Isberner, Fred: 140.02, 339.07, 424.01

AUTHORS INDEX

- Isella, Andrea: 327.01, **348.11**
Ishak, Mustapha: 125.07
Ishak-Boushaki, Mustapha B.: 125.06, **306.06**
Ishida, Manabu: 208.04
Iuliano, Jeffrey: 323.03D
Ivanova, Natalia: 228.06D
Ivans, Inese I.: 123.04
Ivezic, Zeljko: 220.03D
Iverson, Rob: 348.12
Ivory, Joyce: 336.03
Ivory, KeShawn: **340.16**
Iyer, Kartheik: **347.22**
Izumi, Takuma: 222.03
Jackiewicz, Jason: 344.20, 413.05
Jacklin, Savannah: 425.01
Jackson, Alan Patrick.: 230.03D, 345.05
Jackson, Brian K.: **104.03**
Jackson, Jim: 348.04
Jacobs, Adam: 236.12
Jacobs, Daniel: **125.03**
Jacobson, Jeffery D.: 347.54
Jacoby, George H.: 148.09, **155.02**
Jaffe, Daniel Thomas.: 241.12, 311.06D, 344.01
Jaffé, Yara: 347.43
James, Bethan: 347.42, 436.04
James, David: 115.04, 240.03
James, Olivia: 347.55, 347.56
Jameson, Katherine: 133.04, 435.05
Janesh, William: 145.09, 145.10
Jang, Byoungchan: 417.04
Jang, Hyerin: 347.23
Jang, Sohee: **221.04**
Janowiecki, Steven: 145.09, 145.10, 145.11, 145.12, **231.02**, 239.05
Jansen, Rolf: 154.01
Jansen, Rolf A.: **438.04**, 438.06
Janusz, Robert: 142.10
Janzen, Andrew: 348.05
Jao, Wei-Chun: 154.12, 240.13, 240.21, 240.30, 344.12, 344.13
Jaskot, Anne: 347.42
Jayasinghe, Tharindu: 340.09
Jayasinghe, Tharindu K.: **340.08**
Jedrzejewski, Robert I.: 436.04
Jee, James: 341.08, 346.04, 426.01
Jeffery, C. Simon.: 152.02
Jeffery, Elizabeth: 250.32, 343.16
Jefferys, William H.: 232.02D
Jehin, Emmanuel: 219.07D
Jencson, Jacob: 341.15
Jenet, Fredrick: 242.16
Jenkins, Edward B.: 216.08
Jenks, Leah: 250.34, 347.27
Jenks, Malia: **341.17**
Jennings, Derrick H.: 314.04
Jennings, Ross: 245.20
Jensen, Adam G.: **245.06**, 245.14
Jensen, Eric L. N.: 241.01, 345.04
Jensen, Joseph: 143.05
Jensen, Joseph B.: **143.04**
Jensen, Logan: 140.02, 339.07, 424.01
Jensen-Clem, Rebecca M.: **120.07D**
Jeon, Yiseul: 429.04
Jeram, Sarik: 403.01
Jerjen, Helmut: 145.17
Jermyn, Adam: 128.06
Jessup, Cody: 330.07
Jewell, April: 328.04
Jewell, Jeff: **409.03**
Jha, Saurabh W.: 341.01, 341.12, **410.01**
Jhabvala, Christine: 430.04
Ji, Tuo: 205.02D
Jiang, Linhua: 220.01D, 220.02D, 250.24, 347.09
Jirdeh, Hussein: 411.06
Jo, Young-soo: **340.03**
Joasil, Arielle: **433.20**
Johansen, Sommer: 151.15
Johansson, Joel: 341.15
Johnson, Chelen H.: **241.11**
Johnson, Christian I.: **221.05**
Johnson, Cory: 132.03, 347.40
Johnson, Elizabeth: **152.06**
Johnson, Jennifer: 216.01, **305.01**, 305.07, 343.02, **413.06**
Johnson, Jessica M.: 240.24
Johnson, John A.: 146.09, 146.29, 146.33, 154.14, 244.03, 245.21, 320.02, 320.04, 403.06, 425.03
Johnson, Kelsey E.: 123.02, 207.04, 335.09
Johnson, L. C.: 154.26, **221.06**
Johnson, Louis: **246.02**
Johnson, Megan C.: 123.05
Johnson, Michael: 236.21
Johnson, Milton: 241.10, 334.04
Johnson, Samson: 146.08, 320.02
Johnson, Sean: 319.05
Johnson, Traci: 404.01
Johnson, Tyrel J.: 326.08
Johnston, Kathryn V.: 142.20
Joner, Michael D.: 154.15, 237.05, 250.32, **343.09**, 343.10
Joner, Micheal: 236.17
Jones, Amy: 237.13, 336.05
Jones, Andrea: 140.01
Jones, Christine: 404.01, 404.03, 404.04, 404.07, 404.08
Jones, Dana: 250.37
Jones, David: **115.03D**, 148.10, 341.09
Jones, Dayton L.: 306.04
Jones, Gabrielle: 152.13, 425.05
Jones, Glenn: 330.07
Jones, H.R.A.: 320.07
Jones, Hugh: **403.07**
Jones, Jeremy: **131.05D**
Jones, Kaytlyn: 250.37
Jones, Kristen M.: **137.07**
Jones, Logan: 114.01D
Jones, Michael G.: 132.03, 346.12, 347.40
Jones, Olivia: 130.06, **324.06**
Jones, Paul: 133.06
Jones, Samuel: 341.21
Jordan, Andres: 301.07
Jordan, Christopher: 340.26
Jordan, Riley: **343.11**
Jorgenson, Regina: 243.08, 250.31, 343.14, 347.12, 347.14
Joseph, Emily: 140.01

AUTHORS INDEX

- Joshi, Bhavin: 347.08, 438.04
Jovanovic, Nemanja: 155.10, 303.04
Joyce, Quianah T.: **436.01**
Joyce, Richard R.: 154.11
Jozsa, Gyula: 145.09, 145.10, 145.11, 145.12, 239.05
Juanola-Parramon, Roser: **155.13**, 155.14
Jumper, Kenneth A.: **154.23**
Jun, Hyunsung David: **429.02**
Juneau, Stephanie: 144.21
Jung, DooSeok: **428.07**
Jung, Intae: 347.05
Jurgenson, Colby: 126.04
Justin, Finke: 203.01, 233.04D
Jørgensen, Inger: 347.26
Kaaret, Philip: 222.02, **328.03**
Kacprzak, Glenn: 150.06, 229.02, 321.03, 347.18
Kadam, Kundan: 326.01, **433.14**
Kadowaki, Kevin: 246.03
Kafka, Stella: 243.08
Kafle, Prajwal R.: **105.03**
Kahre, Lauren: **127.08**
Kaib, Nathan A.: 112.02, 326.06
Kaichi, Carolyn: 334.05
Kains, Noé: **134.05**
Kaippacheri, Nirmal: 238.11
Kakauridze, George: 437.05
Kalas, Paul: 146.01, 146.05, 435.02
Kaleida, Catherine: 154.01
Kalirai, Jason S.: 433.19
Kallivayalil, Nitya: 123.02
Kalogera, Vassiliki: 154.24, 228.03, 247.07, 326.04, 344.06, 407.06
Kaltcheva, Nadia: 343.08
Kaltenegger, Lisa: 245.20
Kalyaan, Anusha: **345.17**
Kamann, Sebastian: 431.08
Kamath, Anika: **154.03**, 232.06
Kamble, Atish: 410.06
Kamdar, Harshil: 240.32
Kamenetzky, Julia R.: 213.03
Kamieneski, Patrick: 304.05, **347.49**
Kamionkowski, Marc: 205.04D
Kamon, Saki: **146.31**
Kamp, Inga: 345.12
Kanbur, Shashi: 433.18
Kane, Stephen R.: 146.10, 320.04, 403.06
Kang, Hyesung: 150.02, 404.03
Kang, Ji-hyun: 340.36, 435.03
Kangaslahti, Pekka: 153.07
Kannappan, Sheila: 128.02D, 237.01, **237.02**, 237.03
Kantorski, Patrick: 344.16
Kao, Melodie: **408.06D**
Kaplan, David LA.: 242.04, 242.17
Kaplan, George H.: 158.04
Kaplan, Kyle: **311.06D**, 344.01
Kaplighat, Manoj: 122.04, 418.02D
Kara, Erin: 238.16, 250.43
Karakla, John: 323.03D
Karalidi, Theodora: 408.01
Kareta, Theodore R.: **147.09**
Karim, Alexander: 342.02, 347.10
Karim, Md. Tanveer: **216.08**, 243.08
Karkare, Kirit: **323.02D**
Karnes, Katherine L.: 250.34
Karovska, Margarita: 250.55
Karr, Jennifer: 345.07
Karska, Agata: 432.02
Kartaltepe, Jeyhan S.: 347.15
Karthein, Jonas: 139.02
Kasdin, Jeremy: 146.28, 155.10
Kasdin, N. Jeremy.: 146.24, 238.31
Kasen, Daniel: 115.04, 207.02, 434.07
Kashlinsky, Alexander: 107.07
Kashur, Lane: **346.01**
Kashyap, Rahul: 308.02
Kasliwal, Mansi M.: 215.06, **223.01**, **225.05**, 237.08, 341.03, 341.06, 341.15, 428.05
Kasliwal, Vishal P.: 250.36, **414.05**
Kasper, Justin: 306.04
Kaspi, Victoria M.: **225.02**, 242.09, **242.19**, 330.01, 330.03
Kassim, Namir E.: **106.04**
Kastner, Joel H.: 154.22, 230.01, 241.07
Kataria, Tiffany: 301.03, 401.01
Katona, Anthony: 427.01
Katsuda, Satoru: 208.04
Katz, Maximilian P.: 154.27, 236.12
Katz, Michael L.: **141.02**
Katz, Neal: 113.04D
Kaufman, Michele: 144.21
Kaur, A.: **220.05**
Kautsch, Stefan J.: 156.02
Kaviraj, Sugata: 103.01D
Kawinwanichakij, Lalitwadee: **231.08**, 347.25
Kayitesi, Bridget: **127.06**
Kazlauskas, Algirdas: 142.10
Keane, James Tuttle.: 420.05
Kee, Nathaniel: 151.09
Keel, William C.: **144.17**
Keenan, Ryan P.: **347.42**
Keeton, Charles R.: 132.02
Keil, Marcus: 344.21
Kelarek, Bethany: 240.31
Kellar, J. A.: 133.04
Keller, Benjamin W.: 347.53
Keller, Luke D.: 241.12
Kellermann, Kenneth I.: **129.03**
Kelley, Luke Zoltan.: **430.05**
Kelley, Richard L.: 309.01, 309.02
Kellog, James: 238.20
Kellogg, Kendra: **408.02D**
Kelly, Patrick: **434.04**
Kemball, Athol J.: 152.14
Kempton, Eliza: 245.07, 245.23, **301.06**
Kennedy, Mark: 243.06
Kennefick, Daniel: 114.03D, **129.04**, 144.07, 144.14
Kennefick, Julia D.: 114.01D, 114.03D, 144.07, **144.14**, 144.15
Kenney, Jessica: 334.08
Kent, Brian R.: **236.14**
Kenworthy, William D'Arcy.: **434.05**
Kepko, Larry: 339.09
Kepley, Amanda A.: **348.10**
Keres, Dusan: 222.07, 229.04D, 331.01

AUTHORS INDEX

- Kern, Jeffrey S.: **348.06**
Kern, Joshua: 130.05
Kesden, Michael: 141.04
Kesden, Michael H.: 122.06, 407.02, **407.04**
Keski-Kuha, Ritva A.: 238.14
Kesseli, Aurora: 126.07, **240.35**
Kessler, Richard: 115.03D, 434.05
Ketzler, Laura: 130.05
Kewley, Lisa J.: 229.02, 321.04D
Khan, Aliyah: 152.11
Khan, Islam: **438.07**
Khandrika, Harish G.: 342.01
Kharb, Preeti: 239.01
Khatami, David: 144.19
Khutsishvili, David: 437.05
Khutsishvili, Eldar: 437.05
Kieffer, Thomas: 216.04
Kilbinger, Martin: 430.01
Kilbourne, Caroline: 309.01, 309.02
Kilgard, Roy E.: **129.02**
Kilosanidze, Barbara: 437.05
Kilts, Kelly: **250.37**, 334.03
Kim, Agnes: **130.04**
Kim, Alex G.: 341.05, 341.08
Kim, Dongwon: **145.17**
Kim, Duho: 438.04
Kim, Hwiyun: 127.03, 344.01
Kim, Jaeyeon: **343.20**
Kim, Jinhyub: **346.04**
Kim, Sam: 231.06
Kim, Sug-Whan: 413.07
Kim, Woong-Tae: **144.05**
Kim, Yunjong: **146.28**
Kimball, Amy E.: 324.03, 324.04
Kimball, Mark: 430.04
Kimble, Randy A.: 238.12, **238.14**
Kimock, Benjamin: 403.01
Kinemuchi, Karen: 152.08, 417.04
King, Jeremy R.: 337.04
King, Lindsay: **406.01**, 406.02, 426.04
King, Lindsay J.: 231.01, 404.02, 407.02
Kipping, David M.: 104.01, **104.08**, 131.04, 415.04
Kirby, Evan N.: 341.20, **416.08**
Kirk, Jeffrey R.: 238.14
Kirkpatrick, J. Davy.: 408.05
Kirkpatrick, Liam: 147.04
Kirschbaum, Asher: **244.01**
Kirshner, Robert: 308.03, 341.12, 410.02, 410.06
Kirshner, Robert P.: 115.03D
Kirwan, Sean Matthew.: **140.05**
Klein, Jeffrey: 133.05D, 133.06
Klein, Richard I.: 102.06D
Klement, Robert: 151.08
Klenke, Christopher: 146.14, 320.04
Klink, Douglas: 240.20
Knapp, Gillian R.: 155.10
Knapp, Tori: 154.22
Knebe, Alexander: 342.03
Kneissl, Ruediger: 231.06
Knierman, Karen A.: **343.24**
Knigge, Christian: 344.11
Knight, J. Scott.: 238.14
Knowles, Ben: 413.05
Knutson, Heather: 146.18, 146.32, 209.06, 219.03, 219.07D, 245.05, 318.07, 401.01
Ko, Jongwan: 346.04
Kober, Gladys V.: 151.02
Kobulnicky, Henry A.: 151.10, 153.12, 250.01, 250.02, 250.03, 250.04, 250.05, 250.06, 250.07, 417.04
Kocevski, Dale: 347.15
kocz, jonathan: 242.08
Kodilkar, Jitendra: 415.02
Kodra, Dritan: 347.15
Koekemoer, Anton M.: **342.01**, 347.08, 347.15, 438.04
Kogut, Alan J.: 430.04
Koh, Daegene: **205.06D**
Kohrs, Russell: 250.37, **334.03**
Kojima, Tomoya: 238.10
Koljonen, Karri: 344.03
Kolodziejczak, Jeffery: 238.32
Kolokolova, Ludmilla: 435.02
Komossa, S.: 144.06
Konchady, Tarini: 243.08, **347.14**
Konopacky, Quinn M.: 146.01, 146.02, 146.03, 146.04, **227.01**, 344.16
Koo, Bon-Chul: 340.36, **434.12**, 435.03
Koo, David C.: 231.07, 347.15, 347.38
Kooi, Jason E.: **325.04D**
Koopman, Brian: **437.01**
Koopmann, Rebecca A.: 132.03, 137.03, 346.09, **346.10**, 346.11, 346.12, 347.40
Kopon, Derek: 155.20
Kopparapu, Ravi Kumar: 202.05
Koribalski, Baerbel: 137.08
Korngut, Phillip: 238.10
Korotkov, Andrei: 133.05D
Korpela, Eric J.: 340.36, 435.03
Koschny, Detlef: 112.07
Kosmo, Kelly: **142.02**
Koss, Michael: 247.10, **402.05**, 429.08
Kossakowski, Diana: **238.06**
Kotak, Rubina: 215.06
Kotulla, Ralf C.: 143.02
Kotze, Marissa: 106.01
Kounkel, Marina: 212.06D
Kourkchi, Ehsan: **346.02**
Kovac, Sarah: 140.02, 339.07, 424.01
Kovacs, Eve: 341.11
Kovetz, Ely: 205.04D
Kowalski, Adam: **339.02**
Kowalski, Marek: 341.05, 341.08
Kozhurina-Platais, Vera: 238.05
Kozlowski, Szymon: 207.07
Kraemer, Steven: 250.53, 402.04D
Kraemer, Steven B.: **250.57**, 302.04
Kraft, Ralph P.: 404.03, **404.08**
Krantz, Claude: 139.02
Kratzer, Kaitlin M.: 212.05, 219.01, 318.02, 327.06, 345.03
Kraus, Adam L.: 104.05, 104.06, 146.25, 146.31, 219.01, **219.05**, 327.06, 425.03
Krawczynski, Henric: 402.01
Krcro, Marko: **311.01**
Kreckel, Holger: **139.02**
Kreckel, Kathryn: **340.14**

AUTHORS INDEX

- Kreidberg, Laura: 301.05
Kremer, Kyle: **228.03**, **411.08**
Krichbaum, Thomas: 144.06
Krieger, Nico: 216.06
Kriek, Mariska T.: 229.04D
Krisciunas, Kevin: **240.31**
Krishnarao, Dhanesh: 145.04, **340.21**
Kriss, Gerard A.: **209.01**, **239.04**
Krochmal, Mark: 140.05
Krolik, Julian H.: 207.03
Kroon, John J.: **233.04D**
Kruczek, Nicholas: **240.10**
Kruczek, Nick E.: 240.11
Kruehler, Thomas: 103.05
Kruger, Andrew: 424.02
Kruk, Jeffrey W.: 328.04
Krumholz, Mark: 102.06D
Kuchner, Marc J.: 420.01, 420.02D
Kudo, Tomoyuki: 303.04
Kudoh, Takahiro: 102.02
Kuehn, Charles A.: **130.01**
Kuehne, John W.: 340.30
Kuhlmann, Stephen: 341.11
Kuhn, Olga: **250.46**
Kulesa, Craig: 230.03D
Kulijanishvili, Vazha: 437.05
Kulkarni, Shrinivas R.: 313.01, 313.02, 313.06, 328.04
Kumar, Sahana: **341.14**
Kuminski, Evan: 236.04
Kundu, Arunav: 247.03, 326.03
Kunneriath, Devaky: 102.07
Kuntz, K. D.: 144.18
Kupfer, Thomas: 242.17, 243.05, **313.06**
Kurczynski, Peter: 128.04, **214.04**
Kurkhuli, George: 437.05
Kurtz, Heather: 238.05
Kusakabe, Nobuhiko: 345.11
Kutyrev, Alexander: 155.02
Kuzio de Naray, Rachel: 144.01, **144.02**, 144.03
Kvernadze, Teimuraz: **437.05**
Kwa, Anna: **418.02D**
Kwak, Kyujin: **340.28**
Kwitter, Karen B.: 148.09
La Mura, Giovanni: 250.41
La Parola, Valentina: 121.01
Labbe, Ivo: 132.01, 229.02, 347.18
Lacey, Christina K.: **428.03**
Lacher, Thomas: 241.11
Lacy, Mark: 249.13, **324.03**, 324.04, 428.06
Lada, Elizabeth A.: 340.18
Lagos, Claudia: 105.03, 128.02D
Laher, Russ: 242.17, 313.06
Lai, Shih-Ping: 153.01
Laine, Seppo J.: **144.06**
Lainez, Sergio: 342.04
Lal, Bhavya: **328.01**
Lal, Dharam V.: 404.03
Lam, Christopher: **415.04**
Lam, Michael T.: **233.06D**, 242.18, 330.07
LaMassa, Stephanie M.: **121.04**, 335.11, 429.08
Lambros, Scott: 238.14
Lamperti, Isabella: 402.05
Landecker, Tom: 340.05
Lander, Juli A.: 238.14
Landers, Rachel: 434.03
Landsberg, Randall H.: 411.05
Lane, Richard: 123.04
Laney, David: 152.06
Lang, Cornelia C.: 216.05D, 336.08
Lang, Meagan: 321.01
Lansbury, George B.: 247.15, 429.08
Lanusse, Francois: **342.05**, 430.01
Lanz, Alicia E.: **238.10**
Laos, Stefan: **345.04**
Laporte, Nicolas: 231.06
Larsen, Kris-tine: **158.02**, **158.03**, **240.24**, **337.01**, **411.01**
Larson, Rebecca L.: **347.05**
Larson, Shane L.: **108.03**, 141.05, **141.06**, 228.03, 247.07
Lascelles, Alex: **243.01**
Latham, David W.: 425.03
Lau, Ryan M.: **151.14**, 153.12, 341.15
Lauer, Tod R.: 346.13
Law, Casey J.: 242.09, 324.04, 330.01, **330.02**, 330.03
Law, Charles: **151.15**
Law, David R.: 342.07
Law-Smith, Jamie: 223.06
Lawler, James E.: **139.01**, 154.17
Lawler, Samantha: 435.02
Lawrence, Yousef: 240.20
Laws, Anna: **241.14**
Lawton, Brandon L.: 411.06
Laycock, Silas: 233.05
Lazarian, Alex: **419.06**, 435.04
Lazio, Joseph: 307.06, 330.02
Lazio, T. Joseph W.: **348.05**
Leach, Christopher P.: 144.20
Leahy, Denis A.: **333.05**, **410.05**
Leahy, John Patrick: 340.05
Leauthaud, Alexie: **226.03**, 236.18
Lebofsky, Matt: 116.04
Lebron, Mayra E.: 137.03
Lee, Brandyn: 406.01
Lee, Brandyn E.: **406.02**, 426.04
Lee, Christoph: 342.12
Lee, Dae Hee: 238.10
Lee, Daniel: 151.10, 250.01, 250.02, 250.03, 250.04, 250.05, 250.06, 250.07
Lee, Hyun-chul: **154.06**
Lee, Jae-Joon: 344.01
Lee, Janice C.: 127.03, 127.06
Lee, Julia C.: 239.04
Lee, Kevin M.: **314.07**
Lee, Lin: **429.07**
Lee, M. James: 404.03
Lee, Seong-Kook: 347.15
Lee, Young Sun: 232.04
Lee, Young-Wook: 124.04D, 142.07, **216.03**, 221.02, 221.04, 343.06, 343.20
Leeuw, Lerothodi: **438.03**
Lefevre, Charlene: 345.13
Leget, Pierre-Francois: 341.05
Lehmer, Bret: 247.09, 249.05, **326.04**, 344.06, 419.02

AUTHORS INDEX

- Lehner, Nicolas: 113.05, 145.06, 145.08
Leigh, Nathan: 343.13, 344.11
Leighly, Karen: 250.14, 250.15, **250.16**, 250.17
Leiner, Emily: 344.11
Leisawitz, David: 155.13, 238.20
Leising, Mark D.: 337.04, 434.09
Leisman, Luke: **132.06D**, 145.09, 145.10, 145.11, 145.12, 239.05
Leistedt, Boris: 236.18
Leitherer, Claus: 249.06, 428.08
Lellouch, Emmanuel: 112.05
Leloudas, Giorgos: 313.04
Lemaire, Robert: 347.48
Lemaux, Brian: 426.01
Lemson, Gerard: 236.15
Lentner, Geoffrey: **142.17**
León-Tavares, Jonathan: 250.29
Leonard, Adrienne: 430.01
Lepine, Sebastien: 141.01, **156.01**, 240.27, 344.15, 345.01
Leroy, Adam: 340.06, 348.10
Lesniak, Michael V.: 140.03, 236.01, 335.05
Lesser, David: 238.30
Lestition, Kathleen: 411.04
Lesyna, Larry: **333.03**
Leung, Tsz Kuk Daisy: **347.31**
Leutenegger, Maurice A.: 232.05D
Levenson, Nancy A.: 121.04
Levesque, Emily M.: 149.03, **333.02**
Lewandowska, Natalia: **242.14**
Lewis, Elaine: 422.01
Lewis, James: **150.06**
Lewis, John: 240.32, 243.07
Lewis, John Arban.: **244.03**
Lewis, Nikole K.: 120.02, 202.03, 219.07D, 301.07, 401.01, 413.05
Lewis, Tiffany: **203.01**
Li, Aigen: 133.04
Li, Baojiu: 406.01
Li, Bohua: **418.04D**
Li, Chao-Te: 125.01
Li, Chengyuan: 154.09
li, dale: 133.06
Li, Dan: 420.03
Li, Di: **102.01**, 311.01, 311.02D
Li, Hui: 302.01
Li, Miao: **311.04D**
Li, Xiangdong: 344.04
Li, Yanxia: 107.07, **125.02D**, 247.05, 250.26
Li, Yuan: 335.11
Li, Yunyang: **340.10**
Li, Zhi-Yun: 133.05D, 133.06, 153.01, 212.05, 301.01D, 345.03
Libby, Kaitlin: 335.04
Lichtenberg, Jacob: **144.08**
Lidman, Chris: 341.08
Lidz, Adam: 414.05
Lien, Amy Y.: 115.02D
Lifset, Noah: **428.04**
Lim, Dongwook: 343.06
Lin, Chieh-An: 430.01
Lin, Huan: 250.28
Lin, Weikang: **125.06**, 125.07
Lin, Yen-Ting: **226.05**
Linahan, Marcella: 241.11
Lincowski, Andrew: 120.03
Lind, Frank: 238.35
Lindberg, Johan: 212.04
Linden, Sean: 153.09, 335.09
Linder, Eric: 341.08
Linder, Tyler R.: **147.05**, **334.08**
Lindner, Robert: 204.02D
Line, Michael R.: 301.05
Linford, Justin D.: **215.07**
Linsky, Jeffrey: 340.34
Lintott, Chris: 112.04
Lipnicky, Andrew: **123.07**
lippuner, Jonas: 242.08
Liske, Jochen: 144.17
Liss, Sandra: 123.02, 335.09
Lister, Matthew L.: 239.01
Lithwick, Yoram: 401.03D
Littlefair, Stuart: 433.01
Littlefield, Colin: 243.06
Littlejohns, Owen: 407.01D
Liu, Allen: 347.55, 347.56
Liu, Charles: 336.05, 347.55, 347.56
Liu, Jian: 403.01
Liu, Lunjun: **139.04**
Liu, Mengyao: 153.06
Liu, Michael C.: 120.08, 146.19, 240.01, 240.02
Liu, Tingting: 126.02, 250.23
Livas, Jeffrey C.: **238.17**
Livermore, Rachael C.: 132.01, **141.09**, **335.11**, 347.04, 347.08, 347.25
Lo, Tak M.: 347.54
Lockhart, Kelly: **124.01D**
Lockman, Felix J.: **142.04**, 340.35
Lockwood, Sean A.: 238.03
Loeb, Abraham: 113.01, 207.01, 306.04, 306.05, 342.02
Loebman, Sarah: **134.07**
Loerincs, Jacqueline: **154.18**
Lofthouse, Emma: **103.01D**
Loftus, Kaitlyn: **339.06**
Logsdon, Sarah E.: **106.03D**, 408.05
Lomax, Jamie R.: 151.06, 151.07, 344.02, 344.21
Lombardo, Simona: 341.05
Long, Ezra: 348.05
Long, James: 128.05D, 152.07, 347.25, 433.18
Long, Joseph D.: **238.13**
Long, Knox S.: 144.18
Long, Stacy Scott.: **433.15**
Long, Zachary: 345.10, 345.11, **345.14**
Longstaff, Francis: 144.15
Loomis, Craig: 155.10
Looney, Leslie: 212.05, 345.03
Lopez, Eric: 401.01, 403.01
Lopez, Laura A.: **117.01**, 148.07
Lopez-Cruz, Omar: 346.01
Lopez-Hernandez, J.: 133.04
Lopez-Morales, Mercedes: 202.06, 245.09, 301.07
Lopez-Rodriguez, Enrique: 250.29
Lorimer, Duncan: 242.04, 330.08
Lothringer, Joshua: 209.06
Lotz, Jennifer M.: 141.09, 342.01, 347.15, 347.25

AUTHORS INDEX

- Louie, Dana: **245.02**
Louis, Thibaut: 323.01
lourie, nathan: 133.06
Lovell, Mark: 416.03
Lovisari, Lorenzo: 404.04, **404.07**
Lowe, Ian: 133.06
Lowe, Luke: 430.04
Lowe, Stuart R.: 335.03
Lowell, Beverly: **147.01**
Lowrance, Patrick: 408.05
Loyd, R. O. Parke: 209.04, 240.10
Lozi, Julien: 155.10, 303.04
Lu, Hongpeng: 344.07
Lu, Jessica: 120.08, 124.01D
Lu, Jessica R.: 142.01, **207.07**
Lu, Yu: 231.07
Lubar, Emily: **137.01**
Lucas, Ray A.: 342.01, 347.15
Lucatello, Sara: 237.13, 336.05
Lucero, Danielle M.: 324.02
Luchsinger, Kristen: **245.14**
Ludovici, Dominic: **216.05D, 336.08**
Ludwig, Bethany Ann.: **241.13**
Luger, Rodrigo: 120.03
Lugger, Phyllis M.: 228.06D
Lughinbuhl, Christian: 236.20
Luhman, Kevin: 212.03D, 240.03, 344.14
Luhn, Jacob K.: **146.30**, 403.02
Luna, Abraham: 153.08
Lund, Kelsey: **142.05**
Lund, Michael: **425.01**
Lundgren, Britt: 205.02D, 250.20
Lundquist, Michael J.: **153.12**, 237.12
Lungu, Marius: 323.01
Lunine, Jonathan I.: 138.04
Lunnan, Ragnhild: **313.04**, 341.03, **341.06**
Lunsford, Leanne T.: 433.02
Luo, Yifei: **347.38**
Lurie, John C.: 240.13
Lusk, Jeremy A.: **341.16**
Lustig-Yaeger, Jacob A.: 120.03
Luther, Kyle: 341.08
Lyke, Bradley: 250.01, 250.02, 250.03, 250.04, **250.05**, 250.06, 250.07
Lynch, Ryan S.: 242.03, 242.14, 330.08
Lyne, Andrew: 330.07
Lyra, Wladimir: 420.02D
Ma, Bo: 403.01
Ma, Chung-Pei: 143.04, 307.06
Ma, Jingzhe: **205.02D**
Mac Low, Mordecai-Mark: 153.02, 336.02, 340.31
Macaluso, Joseph Nicholas.: **341.11**
Maccagni, Filippo: 324.02
Maccarone, Thomas J.: 247.03, 326.03, 431.08
Maccarone, Tom: 309.04, 344.05
MacDougall, Mason: **347.19**
Mace, Gregory N.: 104.06, 120.08, 155.02, 344.01
MacGregor, Meredith A.: **327.03D**, 327.06
Machuca, Camilo: 250.53, **250.54**
Macinnis, Francis: 250.14, 250.15, 250.16
Macintosh, Bruce: 146.01, 146.02, 146.04, 146.06, 146.19
MacIntosh, Lupe: **237.04**
Mack, Jennifer: 342.01
Mackey, Dougal: 145.17
MacLeod, Chelsea: 225.03
MacLeod, Morgan: **225.01**
MacMahon, David: 116.04
Macomb, Daryl J.: 250.42
MacPherson, Stuart: 334.10
Macri, Lucas M.: 128.05D, 433.18
Madau, Piero: 342.10
Madden, Suzanne C.: 133.04
Maddox, Larry A.: 144.18
Maddox, Natasha: 347.32
Madejski, Greg: 208.04
Mader, Jared: 241.10
Madhusudhan, Nikku: 219.07D, 401.05
Madore, Barry: 144.19, 347.54
Madore, Barry F.: 427.01
Madsen, Gregory J.: 145.06
Madura, Thomas: 209.03
Mager, Violet: **427.01**
Magnier, Eugene A.: 240.01, 240.02
Mahabal, Ashish A.: **409.04**, 429.02
Mahaffey, Bradley: 434.10
Maher, Stephen F.: 155.13
Maier, Erin R.: **155.12**
Mainzer, Amy: 429.02
Maire, Jerome: 146.04
Maithil, Jaya: 203.04
Majewski, Steven R.: 123.04, 124.03D, 145.21, 216.01, 221.03, 343.01, 343.02, 343.03, 343.04, 344.18, 417.01D
Majid, Walid A.: **242.08**, 431.03
Makela, Pertti: 325.03
Maksym, W. Peter.: **250.55**
Malatesta, Michael A.: 344.21
Malespina, Alysa: 143.03
Malhotra, Sangeeta: 347.05, 347.08, 426.05, 428.08
Malkan, Matthew Arnold.: 250.52, **427.02**, 429.06
Malo, Lison: 120.08
Malone, Christopher: 236.12
Maloney, Erin: 347.39
Mamajek, Eric E.: **240.03**, 343.18, 344.14
Mandel, Kaisey: **308.03**, 410.02
Mandelbaum, Rachel: 125.08, 224.04D, **226.02**, 342.05
Mandell, Avi: 120.02, 202.05, 219.04, 219.07D, 245.03, 401.01
Mangedarage, Mithila: 145.19
Mani, Hamdi: 133.06, 348.03
Mann, Andrew: 104.05, **104.06**, 219.05
Mann, Andrew W.: 245.08, 425.03, 425.07
Mann, Justin: 347.35
Manne-Nicholas, Emily: 319.01
Manning, Sinclair: **222.06**
Mantha, Kameswara Bharadwaj: **347.15**
Manulis, Ilan: 155.06
Manzagol, Renée: 309.01, 309.02
Mao, Sui Ann: 340.05, 340.35
Maps, Amethyst D.: **146.35**
Marcello, Dominic: 433.14
Marchesi, Stefano: **121.01**

AUTHORS INDEX

- Marchesini, Danilo: 427.03
Marchis, Franck: 120.01, 146.01, 146.02, 146.04, 146.19
Marcum, Pamela M.: 114.05, 143.01
Marengo, Amelia: 241.10
Marengo, Massimo: 154.19, 406.04D
Margheim, Steven J.: 115.04
Margot, Jean-Luc: 333.03
Margutti, Raffaella: 410.06
Marinan, Anne: 146.23
Markevitch, Maxim L.: **208.02**
Markwardt, Larissa: 326.04, **344.06**
Marleau, Francine: 346.15
Marley, Mark S.: 120.01, 146.01, 202.03, 240.07, 413.05
Marois, Christian: 146.01, 146.02, 146.04
Marquette, Melissa: **250.52**
Marriage, Tobias: 132.02, 323.03D
Marrone, Daniel P.: 107.03, 229.05
Marrs, Adam: **250.14**, 250.15, 250.16
Marsan, Zehra Cemile: **427.03**
Marsh, David: 323.04
Marshall, Francis E.: **242.07**
Marshall, Herman L.: 239.01, 239.04, **247.08**
Marshall, Jennifer L.: 152.07
Martel, Andre: 250.47
Martell, Sarah L.: 154.10
Martens, Sarah Katherine.: **250.22**
Martin, Charles: **134.02D**, 142.15
Martin, Christopher D.: 347.24
Martin, Emily: **408.05**
Martin, Peter G.: 133.05D, 133.06
Martin, Pierrick: 242.07
Martin, Rebecca G.: 245.10
Martin-navarro, Ignacio: 145.25
Martinez, Gregory: 142.02
Martinez, Raquel: **146.17**, 335.11
Martinez-Galarza, Juan Rafael: 347.33
Martini, Paul: 429.05
martizzi, davide: 229.02, 321.04D
Martlin, Catherine: 238.05, 342.01
Masafumi, Yagi: 341.06
Masci, Frank J.: 242.17, 313.06, 341.15
Maseda, Michael: 347.07
Masini, Alberto: 429.08
Maskoliunas, Marius: 142.10
Mason, Brian S.: **348.07**
Mason, Paul A.: **116.03**, 336.05, 424.05, 433.10, 433.21
Mason, Peter: 238.10
Mason, Rachel: 237.12
Massey, Philip: 154.04, 155.02, 433.04
Masters, Daniel C.: 236.18
Masters, Karen: 237.13, 336.05
Mateo, Mario L.: 154.18, 221.05, 403.03D
Mathes, Nigel: **113.02D**
Matheson, Thomas: 154.11
Mathew, Elijah: 346.01
Mathew, Joice: 238.11
Mathews, Geoffrey: **334.05**
Mathews, Robert: 148.04
Mathias, Donovan: 147.08
Mathieu, Philip Englund.: **155.07**
Mathieu, Robert D.: 344.11
Mathioudakis, Mihalis: 339.02
Matijevic, Gal: 344.08
Matsumoto, Toshio: 238.10
Matsuoka, Yoshiki: **226.08**
Matsuura, Shuji: 238.10
Matt, Kyle: **433.02**
Matthews, Allison: 335.09
Matthews, Brandon: **438.05**
Matthews, Brenda C.: 435.02
Matthews, Keith: 124.01D
Matthews, Lorin: 340.22, 345.20
Matthews, Tristan: 133.05D
Mauerhan, Jon: 434.09
Maurin, Loic: 323.01
Mauro, Francesco: 433.19
Mauskopf, Philip: 133.06
Mawet, Dimitri: 120.08, 245.05
Mayo, Andrew: **146.32**, 240.32, 243.07
Mayo, Louis: 422.01
Mayorga, Laura: **413.05**
Mazoyer, Johan: **206.03**, 435.02
Mazzarella, Joseph M.: **347.54**
Mazzei, Renato: **249.10**
Mazzotta Epifani, Elena: 112.07
Mbarek, Rostom: 301.06
McAdams, Jesse: 241.10
McArthur, Barbara E.: 245.15
McCaffrey, Vanessa: 138.01
McCammon, Dan: 309.01, 309.02
McCandliss, Stephan R.: 238.08, 249.06, **347.16**
McCarthy, Don: 213.01
McCarthy, Donald W.: 230.03D
McCarthy, Ian: 406.02, 426.04
McCaw, Galen: 335.04
McClure-Griffiths, Naomi: 142.04, 340.05
McClure-Griffiths, Naomi M.: 340.26, 340.35
McCollough, Michael L.: 344.03
McConnachie, Alan: 106.02
McConnell, Adam: 347.35
McConnell, Nicholas J.: 143.04
McCoy, Jake: 309.05
McCracken, Tyler: 126.04
McCrary, Nate: 146.08, 320.02
McCullough, Julie A.: 338.01
McCullough, Peter R.: 219.07D
McCully, Curtis: 308.06, 410.01
McDonald, Michael: 404.09
McDowell, Austin: **434.07**
McElroy, Rebecca: **319.03D**
McElwain, Michael W.: **238.12**
McEnery, Julie E.: 407.03
McEntaffer, Randall: 309.05
McEwen, Joseph: 224.05
McGaugh, Stacy S.: 343.22
McGilvray, Anna: **145.14**
McGreer, Ian D.: 220.01D, 220.02D, 220.03D, 250.24, 347.09
McGruder, Charles H.: **334.10**
McGruder, Chima: **344.24**
McGuffey, Douglas B.: 238.14

AUTHORS INDEX

- McIntosh, Daniel H.: **214.05, 314.04**, 347.15, 347.35
McIntosh, Missy: 243.07, **250.59**
McIntyre, Travis: 137.08
McKay, Myles: **140.02**, 339.07, 424.01
McKee, Christopher F.: 102.06D, **135.01**
McKenney, Christopher: 133.06
McKernan, John T.: 241.11
McKibbin, William: 333.03
McKinnon, Mark M.: 348.01, **348.02**
McLane, Jacob: 120.08
McLaughlin, Maura: 128.07, 242.04, 242.09, 242.18, 330.01, 330.03, 330.07
McLean, Ian S.: 408.05
McLeod, Brian A.: 155.20
McLeod, Kim K.: **146.36**
McMahon, Jeff: 323.03D, 430.04
McMillan, Stephen L W.: 153.02, 425.12
McNair, Shunlante: 335.09
McNamara, Brian R.: 406.01
McNichols, Andrew: 145.11, 145.12, 145.13, 239.05
McQuillan, Maria: **339.08**
McQuinn, Kristen B.: 145.11, 145.12, 145.14, 145.15, 145.16, **209.02**, 239.05, **419.04**
McSwain, M. Virginia.: 151.04
McWilliam, Andrew: 123.04
Mead, Lawrence R.: 306.02
Meade, Marilyn: 344.02, 344.21
Meadows, Victoria: **120.03**
Mechtley, Matt: 438.04
Medan, Ilija: 133.02
Medeiros, Emma M.: 241.11
Medezinski, Elinor: **125.08**, 319.05
Medina, Amber: **146.29**
Medina, Jennifer Vanessa.: **245.08**
Medlin, Drew: 324.04
Medling, Anne: **304.01**
Megeath, S. Thomas: 212.06D
Mehalick, Kimberly I.: 238.14
Meidt, Sharon: 340.14
Meier, David S.: 216.06, **249.07**, 304.04D
Meinke, Bonnie K.: 411.06
Meisenheimer, Klaus: 250.47
Meixner, Margaret: 102.05, 130.06, 133.04, **238.20**
Melendez, Matthew: 124.03D, 343.01, 343.02, **343.03**
Melinder, Jens: 222.01D, 249.01, 249.02, 249.03, 249.04
Melis, Carl: 154.22, 212.05, 230.01, 240.12, 345.03
Melnick, Gary J.: 238.20
Melo, Theresa: 340.31
Melton, Casey: 146.36
Menanteau, Felipe: 132.02
Menard, Francois: 230.03D, 345.05, 345.13
Mendoza Davila, Cesar I.: **249.01**, 249.02
Meng, Huan: **310.03**
Menesson, Bertrand: 403.06
Mercado, Francisco Javier.: **145.18**
Merck, John: 146.23
Merriot, Ivy: **129.08**
Merritt, Allison T.: **304.02D**
Merritt, David: **307.02**, 307.04D
Meszaros, Szabolcs: 343.02
Metchev, Stanimir A.: 240.03, 408.02D, 435.02
Meyer, Christian: 139.02
Meyer, David M.: 340.27, 340.32
Meyer, Eileen T.: 250.30, 250.35, 250.44, 250.58, **302.02**
Meyer, Leo: 107.03
Meyer, Martin J.: 432.03
Meyers, Joshua: 341.08
Meza, Jesus: 228.05D
Miao, Connie: **347.23**
Miazzo, Masao: **145.11**, 145.12, 145.13
Michael, Scott: 345.16
Michalowski, Michal: 427.05
Micheli, Marco: **112.07**
Michilli, Daniele: 128.07
Mies, Regan: 344.10
Mighell, Kenneth J.: 154.25
Mihos, Chris: 144.20, 326.03, 343.22
Milam, Stefanie N.: 438.04
Miles, Brittany E.: 333.03
Miles, Drew: **309.05**
Milisavljevic, Dan: 151.15, **410.06**
Millar-Blanchaer, Max: 146.04, 146.05, 435.02
Miller, Adam: **338.03**
Miller, Alexandra: 241.10, 334.04
Miller, Brendan P.: 137.03, 207.08, 245.25, 245.26, **245.27**, 346.10
Miller, Bryan: 343.22
Miller, Bryan W.: **236.11**
Miller, Eric D.: 404.09
Miller, Jeff: **240.33**
Miller, Jon M.: 207.04, 238.16, 431.07
Miller, Matthew J.: 144.11
Miller, Michelle: **155.05**
Miller, Nathan: 323.03D
Miller, Timothy: 430.04
Miller, Timothy R.: **115.06D**
Miller-Jones, James: 431.08
Mills, Elisabeth AC.: 216.05D
Mills, Frank: 334.08
Milne, Peter: 341.04, 434.09
Milone, Antonino: 145.17
Min, Kyoung-wook: 340.03
Minchin, Robert F.: **109.04**, 137.04, 137.06, 137.08, **246.04**
Mingarelli, Chiara M F.: **108.02, 307.06**
Mink, Jessica D.: 131.03, 236.13
Minor, Quinn: **122.04**
Minter, Anthony Howard.: **142.12**
Minto, Stefenie Nicolet.: **425.11**
Mioduszewski, Amy J.: 215.07
Mirel, Paul: 430.04
Mirocha, Jordan: 306.04, 347.01
Misawa, Toru: 302.07D
Mishra, Bhupendra: 431.05
Mishra, Ishan: 112.04
Mishra, Preeti: 139.02
Mitchell, Adriana: 140.02, **339.07**, 424.01
Mitchell, Noah P.: 419.04
Mitchell-Wynne, Ketron: 250.51
Mitchiner, Casey: 143.04
Mitra, Dipanjan: 431.02

AUTHORS INDEX

- Mittal, Rupal: 250.45
Miyatake, Hironao: 125.08, **226.04**
Moak, Sandy: **144.19**
Mobasher, Bahram: 229.04D, 347.24
Mocz, Philip: 153.01
Moczygamba, Mitchell: 334.09
Moesta, Philipp: 341.22
Moffat, Anthony F J.: 151.13, 151.14, 209.03
Moffett, Amanda J.: 128.02D, 237.03
Mohr, Joseph J.: 404.09
Mok, Angus: **427.06**
Moller, Spencer: **245.26**
Molnar, Lawrence A.: **417.04**
Momcheva, Ivelina G.: **238.04**, **312.02**, 347.25
Momjian, Emmanuel: 137.06, 137.08, 144.06, 148.11, 236.02, 304.04D, 419.07
Moncada, Roberto Jose.: **155.21**
Moncelsi, Lorenzo: 133.05D
Mondrik, Nicholas: **230.02**
Monkiewicz, Jacqueline: 157.01
Monkiewicz, Jacqueline A.: **437.06**
Monnier, John D.: 212.01
Monroe, Ryan: 116.05D
Monroe, TalaWanda R.: 238.03
Monsalve, Raul A.: **238.28**, 306.04, 347.01
Monson, Erik: 144.07
Montana, Alfredo: 132.02
Montano, Wendy: 154.06
Montes, Gabriela: 216.02
Montet, Benjamin: 146.33, 154.14
Montez, Rodolfo: 434.11
Montez Jr., Rodolfo: **148.08**, 152.10
Montgomery, Michael H.: 228.02D
Montgomery, Sharon Lynn.: 310.06, **340.30**
Montiel, Edward: 152.02, 432.02
Montufar, Cassandra: 241.10
Moody, J. Ward.: **237.05**, 250.32
Moolekamp, Fred: 240.03
Mooley, Kunal P.: 250.11
Moon, Sanghyuk: 144.05
Mooney, Tom: 238.34
Moorman, Sarah: **433.23**
Mora Partiarroyo, Silvia Carolina: 419.03D
Moraitis, Christina D.: 439.04
Morandi, Andrea: 105.05D
More, Anupreeta: **226.06**
More, Surhud: 250.59
Morello, Claudia: 152.11
Moreno, Jackeline: **250.36**
Moreno, Jorge: 343.23, 347.36, 347.37
Moreno Hilario, Elizabeth: **240.19**
Morganti, Raffaella: 324.02
Mori, Johanna: 153.11
Mori, Kaya: 207.05
Morley, Caroline: 301.07, 425.08
Moro-Martin, Amaya: 435.02
Morris, Brett: **230.05**, 335.11
Morris, Carolyn: 250.34
Morris, Evan: **146.15**
Morris, Margaret: 434.11
Morris, Mark: 107.03, 142.01, 216.05D, 428.01
Morris, Melissa Elizabeth.: **145.16**
Morris, Nathan: **425.07**
Morris, Theodore Brough: 347.39
Morrison, Nancy D.: 151.08
Morrison, Sarah J.: **318.02**, 335.11
Morsony, Brian: 426.03
Mortlock, Alice: 103.01D
Mortlock, Daniel: 236.18
Moseley, Samuel H.: 323.03D, 430.04
Moskalik, Pawel: 130.01
Moss, Adam: 152.11
Motl, Patrick M.: **326.01**, 433.14
Moulet, Arielle: 348.11
Mountain, Matt: 342.01
Mudd, Dale: **429.05**
Mueller Sanchez, Francisco: 250.52
Mühleisen, Marc: **341.13**
Muirhead, Philip Steven.: 126.05, **126.07**, 126.08, 240.20
Mukadam, Anjum S.: 215.05
Mukai, Koji: 215.07
Mullally, Fergal: 146.13
Mullarkey, Christopher: 250.45
Muller, Sebastien: 222.03
Mulligan, Brian W.: **308.05D**
Munari, Ulisse: 142.10
Mundy, Carl: 205.01
Mundy, Lee G.: 155.14
Munera, Hector A.: **140.06**
Muñoz Arancibia, Alejandra: 231.06
Muratov, Alexander: 229.04D
Murawski, Krzysztof: 325.01
Murphy, Brian W.: 152.03
Murphy, Eric J.: 231.05D, 340.24, 348.07, **348.08**, 348.09, 348.10, 348.12
Murphy, Jeremiah W.: 417.03
Murphy, Michael: 113.02D
Murphy, Nicholas Arnold.: 157.01, 339.03
Murphy, Simon: 344.14
Murray, Claire: **204.02D**
Murray, Norman W.: 331.01, 437.01
Murray, Stephen S.: 429.08
Murthy, Jayant: 238.11
Mushotzky, Richard: 203.02D, **208.03**, 328.04, 402.05
Musielak, Zdzislaw E.: 120.05, 120.06, 245.28, **325.01**, 415.02
Mutel, Robert Lucien.: 216.05D, 222.07, 336.08
Muterspaugh, Matthew W.: 403.01
Mutlu Pakdil, Burcin: **107.01D**, 145.19
Muto, Takayuki: 345.14
Muzahid, Sowgat: 302.07D, 321.03
Muzzin, Adam: 341.08, 427.03
Muzzio, Ryan: 241.02, **241.03**, 241.04, 241.06
Myers, Adam D.: 250.01, 250.02, 250.03, 250.04, 250.05, 250.06, 250.07, 430.02
Myers, Philip C.: 102.03
Myers, Steven T.: 324.03, **324.04**
Myhrvold, Nathan P.: **112.06**
Myles, Justin: **147.03**
N'Diaye, Mamadou: 206.03
Nafria, Amritpal Singh.: 415.07
Nagasaki, Shigehiro: 149.02, 406.03
Nagy, Zsafia: 212.06D

AUTHORS INDEX

- Naidu, Rohan Potham: **249.09**
Naiman, Jill: 343.23
nakamura, fumitaka: 133.05D
Nanayakkara, Themiya: 229.02
Nance, Sarafina: 433.06, 434.06
Narayan, Gautham: 335.11
Narayanan, Desika: 348.09, 348.12
Narayanan, Desika T.: **347.17**
Nascimbeni, Valerio: **301.02**
Nasipak, Zachary: 128.02D
Nassir, Michael A.: 334.05
Nati, Federico: 133.06
Nattinger, Michael: **347.51**
Navarro, Julio F.: 416.03
Nave, Gillian: 139.01
Nayyeri, Hooshang: 236.19, **249.11**, 250.51, 340.20, 347.15
Neal, Stephen: 335.06
Neeley, Jillian R.: **406.04D**
Neiberding, Megan: 213.01
Nelson, Samantha Brooks.: 241.11
Nelson, Thomas: 215.07
Nemanich, Robert: 238.34
Nemiroff, Robert J.: **141.07**, 236.13, **248.05**, **335.03**, 342.09, **421.01**
Nestingen-Palm, David: **435.05**
Nesvold, Erika: 435.02
Nesvorny, David: 104.01
Netterfield, Calvin Barth: 133.05D
Neufeld, David A.: 432.02
Neustadt, Jack: **148.06**
Newberg, Heidi Jo.: 134.02D, 142.14, 142.15
Newell, David: 238.28
Newman, Andrew: 347.19
Newman, Jeffrey: 347.15
Newman, Patrick: **146.10**
Newton, Elisabeth R.: 104.06, **131.03**, 146.33, 219.03, 230.02, 301.04, 415.01
Newton, Jonathan: 340.36
Newton, William: **233.02**, 242.13
Ng, Carolyn: 422.01
Ng, Kwan Yeung: 430.07
Ngeow, Chow-Choong: 433.18
Ngo, Henry: 120.08, **303.01D**
Nguyen, Chi: 238.10
Nguyen, Dan: 156.03
Nguyen, Donald: 333.03
Nguyen, Duy: **344.18**
Nguyen, Hoang: 426.04
Nguyen, Khai: **414.06**
Nguyen, Pham: **138.02**
Nhan, Bang: 238.28
Nice, David J.: **137.02**
Nichols, Joy S.: 209.03
Nidever, David L.: 145.06, 154.25, 343.02, 343.04, 347.57, **416.04**, 416.05
Niedner, Malcolm B.: 238.12
Nielsen, Chandler: **152.07**
Nielsen, Eric: 146.02
Nielsen, Eric L.: **146.01**, 146.04, 146.19, 344.16
Nielsen, Joseph: 239.04
Nielsen, Krister E.: 151.02
Nielsen, Nikole M.: 150.06, 321.03
Nielson, Hilding R.: 151.11
Nielson, Jennifer L.: 347.35
Niemack, Michael D.: 437.01
Nikola, Thomas: 155.17, 214.06
Nikolov, Nikolay: **301.03**, 401.01
Nikzad, Shouleh: 328.04
Nilsson, Ricky: **245.05**
Nir, Guy: **155.06**
Nishimoto, America: 320.04, 403.06
Nixon, Conor A.: 112.05
Nizami, Asra: 145.13
Noel-Storr, Jacob: **250.45**, **334.01**
Nogueira, Natasha: **241.01**
Nonaka, Andrew: 236.12
Nord, Brian: **122.05**
Nordhaus, Jason: 157.01, 244.01
Nordin, Jakob: 341.05, 341.08
Nordsieck, Kenneth H.: 344.02, 344.21
Noriega-Crespo, Alberto: 340.36
Norman, Colin Arthur.: 206.03
Norman, Michael L.: 205.03
Norris, Mark A.: 128.02D
Norris, Ryan P.: **232.01**
Noterdaeme, Pasquier: 205.02D
Novak, Giles: 133.05D, 133.06
Novotny, Oldrich: 139.02
Nowak, Michael: 239.04, 402.02
Noyola, Joaquin: 245.28, 415.02
Nugent, Peter E.: 313.02
Nulsen, Paul: 404.08
Núñez, Alejandro: **131.01D**
Nunez, Arturo: 236.11
Nunez, Evan Haze.: 250.02, **250.07**
Nunez, Luis Ernesto.: **245.21**
Nusdeo, Daniel Anthony.: **344.12**, 344.13
Nyland, Kristina: 249.13, **324.05**
O'Brien, Jack: 250.36
O'Brien, Mariel: 335.08
O'Brien, Patrick C.: 228.01
O'Brient, Roger: 125.01
O'Connell, Julia: **124.03D**, 343.01, 343.02, 343.03
O'Connell, Robert W.: 347.08, 438.06
O'Connor, Aodh: 139.02
O'Connor, Christopher: **142.01**
O'Dea, Christopher: 239.01, 250.45
O'Dea, Christopher P.: 250.47
O'Dell, Stephen L.: 238.32
O'Donoghue, Aileen A.: 132.03, 137.03, 346.10, **346.12**
O'Dougherty, Stephan: 238.30
O'Dowd, Matthew: 150.05
O'Keefe, Brendon Andrew.: **236.21**
O'Leary, Harrison: 241.11
O'Meara, John: 113.05
O'Neill, Aaron: 339.02
O'Neill, Kathleen: 147.04, 240.20
O'Neill, Katie: **155.03**
O'Shea, Brian W.: 205.03
O'Shea, Kyle: 139.04
Oakes, Andrew Ihor.: **129.01**
Oberg, Karin I.: 139.03, **315.01**, 345.18

AUTHORS INDEX

- Oberhelman, Lindsey: 347.26
Ochsendorf, Bram: **102.05**
Ocvirk, Pierre: 342.03
Odenwald, Sten: 422.01
Oesch, Pascal: 249.09
Oey, M. S.: **133.04**, 347.42
Ofek, Eran Oded.: 155.06, 207.07, 328.04
Offner, Stella: 153.08, 153.13
Ogaz, Sara: 342.01
Ogle, Patrick M.: 347.54
Ogrean, Georgiana: 404.03, **438.08**
Oguri, Masamune: 125.08, 404.02
Oh, Kyuseok: 247.10, 402.05
Ohl, Raymond George.: 238.14
Ojanen, Winonah: **245.25**
Ojha, Roopesh: 402.06
Okajima, Takashi: 309.01, 309.02
Oklopčic, Antonija: **202.07D**
Olachea, Priscila Camacho.: **223.06**
Oldak, Katarzyna: 150.01
Oliveira, Cristina M.: 436.04
Olling, Robert: 115.04
Olmedo, Alexander N.: 335.04
Olowin, Ronald Paul.: 137.03
Olsen, Amber: 433.13
Olsen, Charlotte Alexandra.: **347.46**
Olsen, Knut A.: **154.25**, 416.05
Olson, Kristen: 335.08
Olszewski, Edward W.: 221.05
Omelian, Eric B.: **152.12**, 215.04
Omodei, Nicola: 407.03, 419.01
Onken, Christopher A.: 319.01
Oon, Jner Tzern: 344.16
Oosterloo, Tom: 324.02
Oppenheimer, Rebecca: 146.01
Orchard, Alexander: 340.13
Ordoñez, Antonio J.: **130.03D**
Ornelas, Jose L.: 344.02
Orr, Laura: **241.10**, **334.04**
Orr, Quinton: 241.10
Ortega, Carolyn: 115.03D
Ortiz, Jose: 154.06
Orton, Glenn S.: 424.06
Osborn, Hugh P.: 310.01
Osborn, Wayne: 334.08
Osborne, McKay: 250.32
Osip, David: 301.07
Oskinova, Lida: 151.12, 154.05
Osten, Rachel A.: 240.09
Östlin, Göran: 222.01D, 249.01, 249.02, 249.03, 249.04, 347.08
Ostriker, Eve C.: 204.05D
Ostriker, Jeremiah P.: 311.04D, 347.52
Oswalt, Terry D.: 152.11, **240.26**
Otani, Tomomi: **152.11**, 240.26
Ott, Juergen: 145.11, 145.12, 216.05D, 216.06, 239.05, 249.07, 304.04D
Ousley, Wes: 238.14
Overholt, Andrew: **138.06**
Owocki, Stanley P.: 151.09
Paardekooper, Jan-Pieter: 347.04
Pablo, Herbert: 151.13, 209.03
Pacifici, Camilla: 347.20
Padgett, Deborah: 212.02, 435.02
Paegert, Martin: 152.08
Pagano, Isabella: 301.02
Paggi, Alessandro: 250.55
Paglione, Timothy: **336.02**
Pahl, Anthony: **347.20**
Pain, Reynald: 341.05, 341.08
Pajkos, Michael A.: **343.12**
Paliya, Vaidehi: 220.05, 402.06
Palle, Enric: 104.02
Palma, Christopher: 439.02
Palma, Gonzalo: 323.03D
Palser, Sage: 334.08
Pan, Yen-Chen: 341.12
Pando, Jesus: 246.03, 336.05
Pando Zayas, Leopoldo: 430.06
Panero, Wendy: 413.06
Pankow, Chris: 407.06
Pankratius, Victor: 238.35
Pannuti, Thomas: 428.03, **434.10**
Pantin, Eric: 420.03
Pantoja, Carmen: 137.03
Panurach, Teresa: **150.05**
Papastergis, Emmanouil: 145.11, 145.12, 239.05
Papovich, Casey J.: **132.01**, 229.02, 231.08, 347.25
Pardy, Stephen: 249.01, 249.02, 249.03, 249.04
Pare, Dylan: **304.05**, 347.49
Paredes-Alvarez, Leonardo: 344.12, **344.13**
Paris, Diego: 438.06
Pâris, Isabelle: 246.02, 302.05
Park, Changbom: 434.12
Park, Geumsook: 340.36, **435.03**
Park, Hyunbae: 342.03
Park, KwangHo: **107.06**, 247.14, 346.14
Park, Sangwook: 148.04, 148.05
Park, Songyoun: **429.04**
Parker, Lucas: 323.03D
Parker, Richard J.: 230.03D
Parmentier, Vivien: 202.02
Parrent, Jerod: 308.04, 341.06, 410.06
Parsons, Steven: 310.07
Parsons, Zackary: **155.16**
Parziale, Ryan: 237.08, 250.01, 250.02, 250.03, 250.04, 250.05, 250.06, 250.07
Pasachoff, Jay M.: **325.02**, **411.03**
Pascale, Enzo: 133.05D, 133.06
Pascucci, Ilaria: **327.02**, 420.05
Pasha, Imad: **346.05**
Pasham, Dheeraj: 238.16
Past, Matthew: **347.44**
Pat, Terrance: 238.30
Paterno-Mahler, Rachel: 346.06, 404.01
Patience, Jennifer: 241.06, 344.16
Patience, Jenny: 146.01, 230.03D, **345.05**, 435.02
Patil, Pallavi: **249.13**
Patiño-Álvarez, Victor: 250.29
Patnaude, Daniel: 151.15, 410.06
Patton, David R.: 123.02
Paul, Demorest: 128.07, 242.09, 330.01, 330.02, 330.07
Paul, Manuel Pasqual.: **238.35**

AUTHORS INDEX

- Paust, Nathaniel: 154.08, 343.11, **343.19**
Pavesi, Riccardo: **347.10**, 347.31
Pawelski, Peter: 250.37
Pawlyk, Samuel: 430.04
Paxton, Bill: 308.01
Payne, Matthew J.: 327.04
Payne, Matthew John.: 433.20
Peacock, Mark: 247.03
Pearce, Sean: **343.16**
Pearl, Alan: **142.14**
Pearlman, Aaron: 242.08
Pearson, Sarah: 123.02
Pecaut, Mark: 240.03, 343.18
Pecontal, Emmanuel: 341.05
Peek, Joshua Eli Goldston.: 204.01, 340.36, 435.03
Peel, Austin: **430.01**
Pegues, Hope: **146.33**
Peiris, Hiranya: 124.01D, 236.18
Pellegrini, E. W.: 133.04
Pellegrino, Andrew: 153.02
Pellerin, Anne: **432.03**
Pelton, Russell: 238.08
Peña, Nicholas D.: 241.11
Peng, Eric W.: 142.19, 347.50
Penn, Matt: 140.02, 339.07
Penn, Matthew J.: 424.01
Pennucci, Timothy: 242.18
Penprase, Bryan Edward.: **314.02**, **340.01**
Penton, Steven V.: 436.04
Pepper, Joshua: 152.08, 344.24, 425.01, 433.16
Pereira, Rui: 341.05
Pereira Santos, Fábio: 133.06
Perera, Thushara: 139.04
Perez, Adrianna: **343.23**
Perez, Laura M.: 212.05, 345.03
Perez, Manuel Joe.: **347.30**
Perez, Mario R.: **129.06**
Perez Sarmiento, Karen: 249.01, **249.02**
Perez-Gonzalez, Pablo: 347.15
Peris, Charith: 344.03
Perkins, Jeremy S.: 437.04
Perley, Daniel A.: **149.01**, 313.04, 319.06, 341.15
Perley, Richard A.: **319.06**
Perlman, Eric S.: 250.47, **250.58**, 302.02
Perlmutter, Saul: 341.05, 341.08, 342.07
Perozzi, Ettore: 112.07
Perrin, Marshall D.: 146.01, **146.04**, 206.03, 238.13, 435.02
Persson, Heather: 434.03
Persson, Magnus: 212.05
Pesce, Dom: 250.56
Peter, Annika: 145.23, 418.02D
Petermann, Ilka: 308.01
Peters, Christina M.: **250.10**
Peters, Geraldine J.: **151.05**
Peters, Wendy M.: 106.04
Peters, Wesley: **144.03**
Petersen, Robert: 403.01
Peterson, Alexis: 241.11
Peterson, Bradley M.: **405.04**
Peth, Michael: 347.15
Petigura, Erik: 240.27
Petit, Veronique: 232.05D
Petkova, Maya: 241.12
Petre, Robert: 410.04
Petroff, Emily: **330.05**
Petroff, Matthew: 323.03D
Petz, Sydney: 335.03
Pevunova, Olga: 347.54
Pezzato, Jacklyn M.: **340.24**
Pflueger, Bryan James.: **250.13**
Pforr, Janine: 347.15
Pham, Bruce: 238.01
Pharo, John: 347.08
Phillips, David: **146.37**
Pierce, Michael: 140.02, 339.07, 424.01
Pignatari, Marco: 341.21
Pihlstrom, Ylva: 428.01
Pikhartova, Monika: **345.10**
Pilachowski, Catherine A.:
 140.04, **240.36**, **329.02**, **337.02**
Pilyavsky, Genady: 240.28
Pineda, J. Sebastian: 408.06D, **433.01**
Pineda, Jaime E.: 212.04
Pineda, Jorge L.: 311.05
Pingel, Nickolas: 132.05
Piniero, Fernanda: 420.01
Pino, Lorenzo: 301.02
Pinsonneault, Marc H.: 305.03, **305.05**, 343.01, 343.02, 343.03
Pinte, Christophe: 230.03D, 345.05
Piotto, Giampaolo: 301.02
Pipher, Judith: **111.01**
Pipkin, Ashley: **236.20**
Piro, Anthony: 328.04, 341.13
Pirzkal, Norbert: 250.12, 347.05, 347.08, 347.25
Pisano, Daniel J.: 132.04D, 132.05, 137.03
pisano, giampaolo: 133.06
Piwowar, Heather: **312.06**
Placco, Vinicius: 232.03, 404.03
Placco, Vinicius M.: 123.04, 134.03, 142.17, 142.18, 232.04
Plavchan, Peter: 146.09, 146.10, 146.14, 320.02, **320.04**, 403.06
Pleau, Mollie: **247.01**
Plesha, Rachel: 436.04
Plucinsky, Paul P.: 144.18
Pluzhnik, Eugene: 146.22, 206.07, 303.06
Pober, Jonathan: **125.04**
Poczos, Barnabas: 342.05
Pogge, Richard W.: 106.05, 401.05
Poidevin, Frédérick: 133.05D
Points, Sean: 340.02
Pokhrel, Nau Raj: 123.05
Pokhrel, Riway: 153.08
Polisensky, Emil: 106.04
Pontoppidan, Klaus: 120.02, **238.21**, 342.07
Pooley, David: 153.15
Pooley, David A.: **402.03**
Pope, Alexandra: **238.22**
Pope, Crystal L.: 250.53
Popinchalk, Mark: **240.06**, **335.08**
Poppenhaeger, Katja: 245.25, 245.26
Popping, Gergo: 348.09

AUTHORS INDEX

- Porras, Antonio J.: **153.09**
Portegies Zwart, Simon: 153.02, 326.05
Porter, Amber L.: **434.09**
Porter, Frederick Scott: 309.01, 309.02
Porterfield, Blair: 342.01
Pospieszalski, Marian: 348.02
Postman, Marc: 105.02D, 346.13
Postnikov, Sergey: 149.02, 406.03
Poteet, Charles A.: 212.06D
Potvin, Justin A.: **148.11**
Poulos, Parker: 434.10
Pour Imani, Hamed: 144.07, 144.14
Pour-Imani, Hamed: **114.03D**
Povich, Matthew S.: 151.10, 340.08, 340.09
Powell, Diana: **202.02**
Powell, Luke: 434.03
Powell, Scott: 403.01
Power, Conor: 333.03
Pradenas, Bastián: 323.03D
Prager, Brian: 335.09
Prager, Henry Alexander.: **154.19**
Prakash, Abhishek: **306.01**
Prasad MN, Srinivas: 333.03
Prather, Edward E.: 213.01, 213.03, **314.05**
Prato, Lisa A.: **126.06**, 155.02, 219.01, **241.02**,
241.03, 241.04, 241.06, **338.04**
Prescott, Moire: 105.01
Price, Danny C.: 116.04, 236.05
Price, Evander: 243.07
Price, Paul A.: 145.23
Price, Sedona: 229.04D
Prichard, Laura: 154.02
Primack, Joel R.: 247.12, 342.12, 347.15, 347.38
Prince, Thomas A.: 242.08, 242.17, 243.05, 313.06
Prince, Thomas Allen.: **313.07**, 341.15, 431.03
Principe, David: 241.07
Pritchard, Tyler A.: 144.18
Privitera, Paolo: 407.07D
Privon, George C.: 123.02, **222.03**
Prochaska, Jason X.: 113.04D, 113.05, 205.02D,
222.07, 302.03D, 340.17
Proffitt, Charles R.: 151.05
Proulx-Girardeau, Felix: 232.07
Prsa, Andrej: 344.08, **344.09**, 344.22, 344.23
Pryal, Matthew: 335.09
Ptak, Andrew: 121.04, 247.09, 249.05, 326.04, 344.06
Pueyo, Laurent: 146.02, 206.03, 344.16, 435.02
Punzi, Kristina: 154.22
Punzi, Kristina Marie.: **230.01**
Puravankara, Manoj: 212.06D
Purcell, William R.: 238.28
Putman, Mary E.: 123.02
Puzia, Thomas H.: 343.22
Qi, Yuewen: **145.03**
Qiu, Hao: **344.04**
Qiu, Yu: **346.14**
Quadri, Ryan: 132.01, 229.02, 231.08, 347.25
Quarles, Billy L.: **112.02**
Quataert, Eliot: 331.01
Querrard, Rodney: **437.04**
Quetschke, Volker: 242.16
Quick, Andrew: **434.01**
Quimby, Robert: 313.04
Quinn, Samuel N.: 131.05D, **245.18**
Quinn, Thomas R.: 120.03, 134.07, 326.06
Quintana, Elisa V.: 401.02
Quirk, Amanda: **347.52**
Rabinowitz, David L.: 341.05, 342.07
Rackham, Benjamin V.: 301.07
Racusin, Judith L.: 407.03
Raddick, Jordan: **236.15**
Radigan, Jacqueline: **240.07**
Rafelski, Marc: 214.04, 347.20, 436.04
Rages, Kathy: 413.05
Raha, Zachary: 341.05
Rahman, Mubdi: 205.04D
Raimundo, Sandra I.: 319.01
Raj, Anya Aditi.: **439.08**
Rajan, Abhijith: 146.04, 146.19, 230.03D
Ramachandran, Varsha: 154.05
Ramani, Namrata: 333.03
Ramatsoku, Mpati: 137.08
Rameau, Julien: 146.02, 146.04
Ramette, Joshua: 330.07
Ramiaramanantsoa, Tahina: 151.13
Ramirez, Ivan: 154.20
Ramirez, Solange: 146.16
Ramirez-Ruiz, Enrico: 102.06D, 216.02, 223.06,
343.23
Rampalli, Rayna: **245.22**
Ramsay, Gavin: 152.02
Ranasinghe, Sujith: 410.05
Rand, Richard J.: 304.04D, 419.03D
Randall, Scott W.: 346.06, 404.05, 404.08
Ranganathan, Nikhil: 146.06
Rangel, Miguel: 214.06
Ranjan, Sukrit: **116.02D**
Rankin, Joanna M.: **109.05**, 242.11, **431.01**, 431.02
Ransom, Scott M.: 242.02, 242.09, 330.01,
330.03, **330.08**
Rantakyro, Fredrik: 146.04, 435.02
Rapetti, David: 306.04, 347.01
Rappaport, Michael: 155.06
Rappaport, Saul A.: 153.15, 402.03
Rapson, Valerie: 241.07
Rasio, Frederic A.: 247.06, 247.07, 407.06
Raskin, Mark: 347.39
Rasmussen, Kaitlin: **134.03**
Rasskazov, Alexander: **307.04D**
Rau, Arne: 220.05
Rauscher, Bernard J.: **436.05**
Rauscher, Emily: 245.07, 245.19, 245.23
Ravanbakhsh, Siamak: 342.05
Raviprasad, Rashmi: 333.03
Rawls, Meredith L.: 344.20
Ray, Amy Elaine.: **240.15**
Ray, Paul S.: 106.04, 309.04
Raymond, John C.: 250.55, 410.06
Reader, Livia K.: 241.11
Readhead, Anthony C S.: 153.07
Rebull, Luisa M.: **154.07**, 241.05, 241.10, 241.11,
244.02, **334.02**, 334.04
Red, Wesley: **152.13**
Reddy, Naveen: 229.01D, 229.04D

AUTHORS INDEX

- Redfield, Seth: 129.02, 219.02, 245.06,
245.14, **310.07**, 340.04, 340.34
- Reding, Joshua S.: 250.34
- Redwine, Keith: 238.08, **249.06**
- Reed, Michael: **130.05**, 433.17
- Reed, Mike: 245.13
- Reed, Shannon: 422.01
- Rees, Richard F.: **343.07**
- Reich, Wolfgang: 340.05
- Reilly, Bridget: 145.13, 249.03, **249.04**
- Reimer, Rebecca: 347.48
- Reines, Amy E.: **207.04**, 319.04D
- Reintsema, Carl: 309.01, 309.02
- Reis, Carl A.: 238.14
- Reisinger, Tyler: 425.12
- Remillard, Ronald A.: **238.16**, 309.04
- Ren, Bin: 420.07
- Ressler, Michael E.: 151.14
- Rest, Armin: 115.03D, **115.04**, 152.06, 223.02,
341.09, 341.12
- Reustle, Alexander: **238.07**
- Revalski, Mitchell: 250.53, **302.04**
- Reynolds, Christopher S.: 247.11, 250.43, 402.02,
426.03
- Reynolds, Mark: 207.04
- Reynolds, Paul J.: 238.14
- Reynolds, Stephen P.: 410.04
- Rhoads, James E.: 347.05, 347.08, 428.08
- Rhode, Katherine L.: 145.09, 145.10, 145.11, 145.12,
239.05, 343.14
- Ribauda, Joseph: **137.03**
- Ricci, Claudio: 402.05, 429.08
- Ricci, Luca: 327.01, 327.06
- Rice, Emily L.: 240.04, 240.06, 240.16, 335.11, 336.05
- Rice, Malena: **146.05**
- Rich, Anthony Glenn.: **148.04**
- Rich, Evan: **240.29**, 345.10
- Rich, Robert Michael.: 124.01D, 142.09, 144.15,
221.05, 428.01
- Richard, Johan: 341.08
- Richards, Gordon T.: 250.10, 250.15, 250.17,
250.19, **250.27**, 250.36, 302.03D
- Richardson, Chris T.: **237.01**, 250.21
- Richardson, Matthew: **407.07D**
- Richardson, Noel: 151.06, 151.07, 151.08, **151.13**,
209.03, **336.07**, 344.02
- Richardson, Whitney: 335.09
- Richert, Alex JW.: **420.02D**
- Richey-Yowell, Tyler: **433.16**
- Richmond, Michael W.: **329.01**
- Richstein, Hannah: **237.03**, 340.29
- Richstone, Douglas O.: 107.05
- Richter, Matt: 432.02
- Ricker, George R.: **104.09**
- Ricker, Paul M.: 346.16
- Rickert, Matthew: **216.06**
- Riechers, Dominik: 249.10, 347.10, 347.31, 348.09,
437.01
- Riechers, Dominik A.: **348.12**
- Riedel, Adric R.: 154.12, 240.04, 240.13, 240.21
- Rieke, George: 310.03
- Riess, Adam G.: 115.03D, 341.12, 417.05
- Riffel, Rogemar A.: 250.53
- Rigault, Mickael: 341.05
- Rigby, Jane R.: 121.04
- Riggs, A J Eldorado: 238.31
- Rigliaco, Elisabetta: 420.05
- Riley, Alexander: 407.02, **420.06**
- Riley, Allyssa: **238.03**
- Rilinger, Anneliese: **148.09**, 250.34
- Rimple, Remington: **339.03**
- Rindler-Daller, Tanja: 418.04D
- Rinehart, Stephen: 155.13, 155.14
- Rines, Kenneth J.: 346.03
- Ringermacher, Harry I.: **306.02**
- Risaliti, Guido: 250.55, 429.08
- Ritter, Joshua: 335.04
- Rivera, Angelica: 250.27
- Rivera, Jesus: **132.02**
- Rivera, Noah Isaac.: **245.16**
- Rivera García, Kevin O.: **155.04**
- Rivera Sandoval, Lilliana: **228.06D**
- Rivest, L Joseph: **250.32**
- Riviere-Marichalar, Pablo: 345.12
- Rizzo, Maxime: 155.14
- Rizzuto, Aaron C.: **104.05**, 104.06, 146.31
- Robbeto, Massimo: 342.01
- Robbins, Dennis: 336.02
- Roberge, Aki: 345.12
- Roberts, Amber: 302.07D
- Roberts, Caroline Anna.: **414.03**
- Roberts, D. A.: 102.07
- Roberts, David H.: 247.08
- Roberts, Doug: 242.12
- Roberts, Luke: 410.08
- Roberts-Pierel, Justin: **112.05**
- Robertson, Brant E.: 342.10, 347.09
- Robertson, Jacob: **250.28**
- Robertson, Jacob M.: 244.06
- Robinson, Edward L.: **344.01**
- Robinson, Elliot: 232.02D
- Robinson, Tyler D.: **120.01**, 120.03, 202.03
- Robitaille, Thomas: 236.13
- Robotham, Aaron: 105.03, 144.17
- Rochais, Thomas Bernard.: 203.04
- Rodea, Uriel: **340.15**
- Rodigas, Timothy: 435.02
- Rodler, Florian: 301.07
- Rodney, Steven A.: 404.01, 438.04
- Rodrigues, Myriam: 250.12
- Rodriguez, Aldo: 247.12, 347.38
- Rodriguez, Carl L.: 247.06, 247.07, 407.06
- Rodriguez, David: 240.05
- Rodriguez, David R.: 240.08
- Rodriguez, Joseph: 152.08, 344.24
- Rodriguez, Joseph E.: **310.01**
- Rodriguez, Samelys: 430.04
- Rodriguez-Gomez, Vicente: 347.37
- Rodriguez-Martínez, Romy: **240.14**
- Rodruck, Michael: **113.03**
- Roe, Henry G.: 155.02
- Roederer, Ian U.: 154.17
- Roediger, Elke: 404.08
- Roegge, Alissa: **339.05**

AUTHORS INDEX

- Roellig, Thomas L.: 238.20
Roessler, Ryan: 433.17
Rogers, Leslie: 245.11, 245.24
Rojas, Areli: **347.37**
Roman-Duval, Julia: 102.05, 133.04, 436.04
Roman-Lopes, Alexandre: 123.04, 343.01, 343.02, 343.03
Román-Zúñiga, Carlos G.: 340.18
Romanishin, William: **424.03**
Romanowsky, Aaron J.: 145.23, 145.25, 428.02
Romero-colmenero, Encarni: 429.04
Romich, Kristine: **424.02**
Romine, James M.: 213.01
Roming, Peter: 237.05, **434.03**
rooney, kieran: 334.09
Ropinski, Brandi Lucia.: 241.11
Rosario, David J.: 429.08
Rosario Franco, Marialis: 120.05, 120.06
Rosario-Franco, Marialis: **415.02**
Rosati, Piero: 341.08
Rose, Benjamin: **434.02**
Rose, Caitlin: 250.34, **345.08**
Rose, Sanaea: 327.07
Rose, Sanaea Cooper.: **243.08**
Rosen, Anna: **102.06D**
Rosenbaum, Gary: 403.01
Rosenberg, Jessica L.: 132.03, 137.03, 137.08
Rosenfield, Philip: 154.03, **154.26**
Rosenwasser, Benjamin: **347.29**
Ross, Ashley: 237.13, 336.05
Rossi, Andrea: **407.05**
Rossi, Silvia: 142.17
Rostem, Karwan: 323.03D, 437.03
Roth, Nathaniel: **207.02**
Rothberg, Barry: **250.12**, 347.08, 429.03
Rothenberg, Marc: **90.02**
Rots, Arnold H.: **156.03**
Rotter, John P.: **151.12**
Rowland, Danielle: **347.06**
Roy, Arpita: **320.03D**
Royster, Marc: 102.07
Rozo, Eduardo: 341.08
Ruan, John J.: 225.03
Rubin, David: 341.05, 341.08, **342.07**
Rubio, Monica: 133.04
Rucas, Tyler: 144.09
Rude, Cody: 346.01
Rudnick, Gregory: **231.04**
Rudolph, Alexander L.: **336.01**
Rueff, Katherine Meredith.: 347.57
Ruffio, Jean-Baptise: 146.04, 146.06, 146.19
Ruiz-Lapuente, Pilar: 341.08
Ruiz-Rocha, Krystal: **216.02**
Rumstay, Kenneth S.: **158.07**
Runge, Karl: 341.05
Runnoe, Jessie C.: 225.03, 250.13, 414.06
Rupen, Michael P.: 215.07, 330.02
Rusin, Vojtech: 325.02
Russell, Christopher Michael Post.: 151.13, 209.03, **216.07**
Russell, Damon: 348.05
Russell, David: 248.05, 335.03
Russell, Helen: 404.02, 406.01
Russell, Neil: 152.08
Ruszkowski, Mateusz: 347.44, 427.04
Rutherford, Thomas: 250.37, 334.03
Rutkowski, Michael J.: 438.04, 438.06
Ruvolo, Elizabeth: 145.11, **145.12**, 145.13
Ryan, Dominic: 146.02
Ryan, Geoffrey: **122.01D**
Ryan, Russell E.: 347.04, 347.08
Rykoff, Eli S.: 341.08
Ryon, Jenna E.: 127.03
Ryu, Dongok: **413.07**
Ryu, Dongsu: **150.02**, 404.03
Saar, Steven H.: 339.06
Sabbì, Elena: 127.08, 238.05
Sabry, Ziad: 404.05
Saby, Linnea: **439.06**
Sabyr, Alina: 250.34
Sada, Pedro Valdés.: **245.01**
Sadavoy, Sarah: 212.05, 345.03
Safonova, Margarita: 238.11
Safsten, Emily: **146.07**
Sagliocca, Marco: 323.03D
Sahai, Arushi: **347.50**
SAHLMANN, JOHANNES: 230.04D
Sahnou, David J.: 436.04
Sahu, Kailash C.: 134.05, 142.09
Saintonge, Amelie: 145.11, 145.12, 239.05
Saio, Hideyuki: 152.02
Sakai, Shoko: 142.01
Sakamoto, Kazushi: 222.03
Sakari, Charli: **124.02**
Sako, Masao: 342.07
Sales, Alyssa: 154.03, 232.06
Salinas, Ricardo: 237.12, 343.12
Sallum, Stephanie: **303.03D**
Salmon, Brett W.: 347.25
Salter, Christopher J.: **137.06**, 137.07
Salvesen, Greg: **107.04**
Salvetti, David: 250.41
Salyk, Colette: 345.08, 345.09
Salzer, John Joseph.: 145.09, 145.10, 145.11, 145.12, 239.05
Samaniego, Alejandro: 145.18
Samec, Ronald G.: **433.09**, 433.13
Samoska, Lorene: 153.07, 348.05
Sampson, Kenneth: 152.11
Sampson, Laura: 122.07, 154.24
Samra, Jenna: 437.02
San Emeterio, Lis: 241.10
Sanchez, Rick: 147.05, 334.08
Sanchez-Barrantes, Monica: 137.08, **347.32**
Sanchez-Bermudez, Joel: 151.14
Sanchez-Gallego, Jose Ramon.: 237.13, 336.05
Sand, David J.: 145.23, **145.24**, 326.03, 326.08, 416.02
Sanders, David B.: 249.08
Sanders, Ryan: 229.04D
Sanderson, Robyn Ellyn.: **142.16**, 142.20
Sandford, Emily: **131.04**
Sandford, Nathan Ross.: **248.01**
Sands, Ashley E.: 128.01

AUTHORS INDEX

- Sankar, Shannon R.: 238.17
Sankrit, Ravi: 152.12, **215.04**
Santana, Jesse: 333.03
Santana, Joshua: **433.21**
Santana, Rebecca: 406.01
Santini, Paola: 347.15
Santos, Fabio P.: 133.05D
Santos, Felipe A.: 346.05
Santos, Joana: 341.08
Santucci, Rafael: 142.17, 404.03
Sarajedini, Ata: 130.02D, 130.03D, 152.01, 232.02D, 343.21
Sarazin, Craig L.: 346.16
Sardone, Amy: **132.05**
Sargent, Anneila I.: 327.01
Sargent, Benjamin A.: **130.06**
Sargent, Mark T.: 348.12
Sarma, Anuj Pratim.: 148.11, **419.07**
Sarpotdar, Mayuresh: 238.11
Sartori, Lia F.: 247.10
Sarukkai, Atmika: 154.03, 232.06
Sarzi, Marc: 247.13
Sasselov, Dimitar: 401.06
Satyal, Suman: 245.28, 415.02
Satyapal, Shobita: 429.03
Saumon, Didier: 240.07
Saunders, Clare: 341.05, 341.08, **341.19**
Saurabh, Sunny: 139.02
Savage, David: 403.01
Savini, Giorgio: 133.05D
Savransky, Dmitry: 146.04, 146.06, 146.12, 238.15
Sawala, Till: 416.03
Sawyer, David: 126.04
Saylor, Clint A.: 343.09
Saylor, Dicy Ann E.: **240.27**
Scandariato, Gaetano: 301.02
Scarlata, Claudia: 347.20, 438.06
Scarpa, Gabriella: 241.11
Schaan, Emmanuel: 105.07
Schady, Patricia: 103.05, 220.05
Schaefer, Gail: 131.05D, 241.02, 241.06
Schaefer, Laura: **401.06**
Schanche, Nicole: 339.06
scharwaechter, Julia: 237.12
Schattenburg, Mark: 238.32
Schawinski, Kevin: **103.06**, 236.10, 247.10, 402.05
Scheffler, Matt: 344.21
Schenck, Andrew: 148.04, 148.05
Schiavon, Ricardo P.: 221.03, 343.02
Schilke, Peter: 437.01
Schilling, Amanda: **114.01D**
Schiminovich, David: 146.15
Schinnerer, Eva: 304.04D, 340.14
Schinzel, Frank: 148.02, 236.05, 324.03, 324.04
Schippers, Stefan: 139.02
Schirmer, Mischa: 236.11, 237.12
Schlawin, Everett: 408.01
Schlegel, Eric M.: 144.09, 144.10, 144.12, 242.01, **243.03**, 250.29
Schlieder, Joshua: 146.16, 219.03
Schloerb, F. Peter.: 147.09
Schmelz, Joan T.: **109.01**, **323.05**, 323.06
Schmidt, Judy: 236.13
Schmidt, Luke M.: 155.12
Schmidt, Philip: 419.03D
Schmidt, Sarah J.: 230.04D, **237.13**, 240.16, 240.17, 240.18, 336.05, 433.03
Schmitt, Allan: 104.01
Schmitt, Henrique R.: 250.53, 302.04
Schmitt, Michael H.: 245.16
Schmitz, Marion: 347.54
Schneider, Christian: 209.04
Schneider, Donald P.: 250.24
Schneider, Evan: **222.05D**, 335.11
Schneider, Glenn: 435.02
Schneider, Jeff: 342.05
Schneider, Stephen E.: 137.08
Schnitzeler, Dominic: 340.05
Schoedel, R.: 102.07, 151.14
Schofield, Sidney: 403.01
Scholz, Paul: 128.07, 242.09, 330.01, 330.03
Schultheis, Mathias: 343.01, 343.02
Schultze, Kendra: 334.08
Schulz, Norbert S.: 247.08
Schumer, Clea F.: **240.32**
Schwab, Ellianna: 240.04, 240.08, **242.02**, **335.10**
Schwamb, Megan E.: **112.04**, 335.11
Schwieterman, Edward: 120.03, 245.03
Scibelli, Samantha: **142.06**
Scicluna, Peter: 345.07
Scolnic, Daniel: 115.03D, 308.03, **341.09**, 341.12, 342.06, 406.07, 434.05
Scott, Douglas: 133.05D, 133.06
Scott, Jennifer E.: 150.01, **150.04**
Scott, Nic: 245.04
Scoville, Nicholas: 347.10, 347.24, 348.12
Scowcroft, Victoria: 145.21
Scowen, Paul A.: **238.34**, 343.24
Seaton, Daniel: 325.02
Secunda, Amy: **142.20**
Seepersad, Austin: 152.11
Segreto, Alberto: 121.01
Segura-Cox, Dominique: 212.05, **327.05D**, 345.03
Seibel, Ed: **439.03**
Seibert, Mark: 427.01
Seifert, Richard: **154.21**
Seigar, Marc: **145.19**
Seigar, Marc S.: 107.01D
Selina, Robert: 348.01, 348.04
Sell, Paul: 326.03
Sembach, Kenneth: 342.01
Seon, Kwang-il: 340.03
Sergi, Anthony: 146.08
Serlemitsos, Peter J.: 309.01, 309.02
Serrano, Joshua: **424.06**
Servillat, Mathieu: 243.02
Servin, Juan Edgardo.: **141.04**
Sesana, Alberto: 307.06, 430.05
Seshadri, Anish: **145.25**
Setton, David: **145.27**
Sevrinsky, Raymond Andrew.: **153.03**
Sewilo, Marta M.: 212.02, 212.04
Seymour, Andrew: **128.07**, 137.05, 242.09, 330.01, 330.03

AUTHORS INDEX

- Shaikh, Mehvesh: 152.11
Shaklan, Stuart: 146.28
Shameer Abdeen, Mohamed: 114.03D
Shamir, Lior: **236.04**, 236.13, **312.03**
Shan, Yutong: 240.20, **417.02**
Shanahan, Clare: 238.05
Shaner, Andy: 140.01
Shang, Zhaohui: 203.04
Shank, Derek: 240.34
Shao, Andrew: 347.50
Shapiro, Jacob: **146.06**
Shapiro, Paul R.: 342.03, 418.04D
Shapley, Alice E.: 229.04D
Shappee, Benjamin John.: 310.01
Shariff, Hikmatali: 308.03
Shariff, Jamil: 133.05D
Sharma, Sanjib: 142.16, 142.20, 305.07
Sharon, Chelsea E.: 249.10, 347.10
Sharon, Keren: 347.44, 404.01
Sharp, Elmer: 430.04
Shaw, Richard A.: 148.09
Shaya, Edward J.: 115.04
Shea, Jeanine: **340.26**
Shectman, Stephen A.: 403.03D
Sheehan, Patrick: **102.04D**
Shelton, Siddartha: 142.15
Shen, Chengcai: 339.03
Shen, Yue: 250.24
Shenar, Tomer: 151.13, 209.03
Sherstyuk, Andrei: 223.02
Sheth, Kartik: 144.21
Shetrone, Matthew D.: 123.04, 124.03D, **154.10**,
221.03, **305.07**, 343.01, 343.02, 343.03
Shi, Fang: **146.21**
Shi, Yuqi: 334.09
Shields, Doug: 144.14
Shields, Douglas: **114.02D**
Shields, Douglas W.: 144.07
Shields, Douglas W.: 114.03D
Shields, Joseph C.: 247.13
Shinde, Akshay: 333.03
Shirahata, Mai: 238.10
Shirley, Yancy L.: 340.12
Shirokoff, Erik: 125.01
Shirron, Peter: 430.04
Shishkovsky, Laura: 431.08
Shiu, Corwin: 125.01
Shivaei, Irene: **229.01D**, 229.04D
Shkolnik, Evgenya: 206.05
Shkolnik, Evgenya L.: 120.08
Shoemaker, Emileigh Suzanne.: **150.01**
Short, C. Ian: 221.01D
Shortridge, Keith: 236.13
Shporer, Avi: **104.02**, 433.12
Shrestha, Manisha: **151.11**, 344.02
Shupe, David L.: 242.17, 313.06
Shuping, Ralph: 241.07, **241.12**
Siana, Brian D.: 229.04D, 347.09
Siegel, Michael: 419.05D
Siegler, Nicholas: **303.07**, 415.06
Siegmund, Oswald: 106.01
Siemens, Xavier: **109.06**, 122.02, 242.16, **307.03**
Siemiginowska, Aneta: 250.46
Siemion, Andrew: 116.04
Sieth, Matthew: 153.07
Sigurdsson, Steinn: 250.13, 403.02, 414.06
Sigut, Aaron: 236.07
Sills, Alison: 344.11
silva, Karleyene: 237.12
Silverberg, Steven M.: **420.01**
Silverman, Jeffrey M.: 335.11
Silverman, John D.: 250.59
Silverstein, Michele L.: **154.12**
Silvia, Devin W.: **150.03**, 335.11
Simmons, Audrey: 237.13, 336.05
Simmons, Brooke: 347.28, 427.08
Simmons, Brooke D.: 347.15
Simon, Jacob B.: 107.04, **318.04**, 327.07
Simon, Joseph: 122.07, **307.05**
Simon, Joshua D.: 145.20, 232.03, 416.08
Simon, Michal: 241.02
Simon, Molly: **213.02**, **420.05**
Simonia, Irakli: 129.07
Simonnet, Aurore: 421.04
Simpson, Caroline E.: 123.05
Sinclair, Adrian: 133.06
Sinclair, James: 424.06
Sinclair, Kimberly Poppy.: **431.07**
Sing, David K.: 301.03, 401.01
Singer, Michael: 403.01
Singer, Quinton: 145.09, **145.10**, 145.13
Singh, Dana: 152.11
Singh, Japneet: **250.50**
Singh, Pranjali: 144.09
Singh, Shiwangi: **430.03**
Singh, Sukhdeep: **224.04D**
Singh, Vikram: 203.04
Sinha, Amlan: 238.15
Sinukoff, Evan: 207.07
Sion, Edward M.: 215.01
Sirbu, Dan: **146.22**, 146.28, 303.06
Sitarski, Breann: 142.01, 142.02
Sithajan, Sirinrat: 403.01
Sitko, Michael L.: 345.10, 345.11, 345.14
Sivakoff, Gregory R.: 207.04
Sivaramakrishnan, Anand: 310.02D
Siverd, Robert: 104.02, 344.24
Sjouwerman, Lorant: 242.12, 428.01
Skemer, Andrew: 425.08
Skillman, Evan D.: 145.11, 145.12, 145.14, 145.15,
145.16, 239.05, 419.04
Skinner, Julie N.: **126.05**
Skinner, Steve L.: **241.09**
Skipper, Joy Nicole.: **343.04**
Skrzypek, Nathalie: 230.04D
Slatten, Kenneth J.: 154.12
Slavin, Jonathan David.: **340.33**
Sliski, David: **146.09**, 155.15, 320.02
Sliwa, Kazimierz: 222.03
Sloan, Greg: 241.12
Sloane, Jonathan D.: **418.05D**
Smadja, Gerard: 341.05
Smail, Ian: 222.06
Smart, Brianna: **145.04**, 145.05

AUTHORS INDEX

- Smart, Richard L.: 408.05
Smartt, Steven: 223.02, 341.12
Smecker-Hane, Tammy A.: 336.01
Smith, Aaron: **306.05**
Smith, Britton: 150.03
Smith, Chris: 115.04, 340.02
Smith, Daniel: **146.20**
Smith, Daniel M.: 337.04
Smith, David A.: 242.07
Smith, Denise A.: **411.04**, 411.06
Smith, Horace A.: 152.08
Smith, Howard Alan.: 107.03, 142.08, 347.33
Smith, J. Allyn: **155.09**, 244.06, 250.28
Smith, Ken: 223.02
Smith, Krista Lynne.: **203.02D**
Smith, Madison: **341.07**
Smith, Martin: 305.02
Smith, Nathan: 341.04, 341.15
Smith, Paul S.: 434.09
Smith, R. Fiona.: 142.14
Smith, Rachel L.: 432.02
Smith, Rory: 343.22
Smith, Sergio Roi.: **242.03**
Smith, Skylar: 343.18
Smith, Stephen J.: 309.01, 309.02
Smith, Steve: 238.30
Smith, Tristan L.: **125.05**, 242.16, 248.04
Smith, Verne V.: 123.04, 343.02, 343.04
Smolcic, Vernesa: 347.10
Smolinski, Jason P.: 417.04
Snedden, Chris: 139.01, **154.17**, 154.21
Snell, Carly: **245.20**
Snell, Ronald L.: 311.05
Snyder, Elaine M.: 128.02D, 237.02, 436.04
Snyder, Gregory F.: 347.15
Sobeck, Jennifer: 123.04, 154.17, 343.02, 343.04
Sobral, David: 347.24, 404.03
Soderblom, David R.: **305.04**
Sofiatti, Caroline: 341.05, 341.08
Sohn, Young-Jong: 428.07
Sokal, Kimberly R.: 344.01
Sokol, Alyssa D.: **153.08**
Sokoloski, Jennifer L.: 215.07
Soler, Juan D.: 133.05D
Soler, Juan Diego Diego.: 133.06
Soliman, Ahmed: 348.03
Solis, Christina Oleander.: **433.10**
Somerville, Rachel S.: 347.15, 348.09
Sonam, Tenzin: 213.05, **411.02**
Song, Inseok: 146.01, 435.02
Sonnentrucker, Paule: 436.04
Soria, Roberto: 144.18
Soriano, Melissa: 348.05
Sosey, Megan L.: 238.05
Soto, Gabriel: **238.15**
Soummer, Remi: 206.03, 435.02
Souter, Barbara: 236.15
Souto, Diogo: 413.06
Spadafora, Anthony L.: 341.08
Spangler, Steven R.: 325.04D, **340.25**
Sparks, Warren M.: **215.01**
Sparks, William B.: 250.47, 302.02
Speagle, Josh S.: **236.18**
Spears, Brady: 137.08
Speights, Jason: 144.08, **347.48**
Spekkens, Kristine: 145.23
Spergel, David N.: 105.07, 125.08, 146.27
Speziali, Roberto: 112.07
Spicer, Sandy: 346.09
Spilker, Justin: 205.02D, **229.05**
Spitler, Laura: 128.07, 242.09, 330.01, 330.03
Spitler, Lee: 132.01, 229.02
Spolaor, Sarah: 128.07, 242.10, 330.03
Springel, Volker: 153.01
Springford, Aaron: 134.04D
Spruck, Kaija: 139.02
Spytek, Samantha: 335.06
Squires, Gordon K.: 334.02, 411.04
Sreekumar, Sushilkumar: **242.01**
Srikanth, Sivasankaran: 348.02
St-Jean, Lucas: 151.13
St. Louis, Nicole: 151.13, 232.07
Stacey, Gordon J.: 155.17, 214.06, 347.10, 437.01
Stadler, Joel Travis.: **143.02**
Staff, Jan E.: **153.06**
Stafford, Greg: 403.01
Stafford, Jennifer: **148.07**
Staguhn, Johannes: 238.20, 342.02, 430.04
Stahl, H. Philip.: **146.26**, 238.33
Stahl, Lucas: **152.09**
Stahlin, Ryan: 250.34
Stairs, Ingrid H.: 330.08
Stalder, Brian: 223.02
Stanford, S. Adam.: 341.08
Stanimirovic, Snezana: 204.02D, 435.05
Staniszewski, Zachary: 125.01
Stanley, Ethan: **239.01**
Stanley, Flora: 429.08
Stapelfeldt, Karl R.: 120.01, 212.02
Stappers, Benjamin: 330.07
Starck, Jean-Luc: 430.01
Stark, Chris: 146.10, 244.02, 435.02
Stark, Daniel: 347.09, 404.01
Stark, David: 128.02D, 237.02, 237.03
Stassun, Keivan G.: 106.05, 146.36, 152.10, 237.13, 240.17, 240.18, 336.05, 343.01, 343.02, 343.03, 344.22, 425.01, 434.11
Stauffer, John R.: 154.07, **241.05**
Staveley-Smith, Lister: 137.08, 324.02
Stawarz, Lukasz: 250.47
Stawinski, Stephanie: **426.05**
Steenwyk, Steven D.: 417.04
Steer, Ian: **224.03**, 347.54
Stefanon, Mauro: 347.15
Steffen, Jason H.: **425.10**
Steiman-Cameron, Thomas Y.: 345.16
Stein, Nathan: 232.02D
Stein, Yelena: 419.03D
Steiner, James F.: 238.16
Steinhardt, Charles L.: **128.06**, 342.02
Stello, Dennis: 305.03, 305.07
Stencel, Robert E.: **155.01**, 155.18
Stenning, David: 232.02D
Stenzel, Joshua: 240.31

AUTHORS INDEX

- Stephens, Andrew W.: 236.11
Stephens, Denise C.: 146.07, 433.02
Stephens, Ian: **102.03**
Stephenson, Bryan: 422.01
Stern, Daniel: **227.06**, 341.08, 402.05, 429.02, **429.08**
Stern, Eliyah: 241.10
Sternenberg, Leah: 334.09
Stevans, Matthew L.: 347.06
Stevens, Abigail: **207.06D**
Stevenson, David J.: 408.06D
Stevenson, Kevin B.: 301.05
Stevenson, Sarah Anne.: **155.11**
Stierwalt, Sabrina: **123.02**
Stinebring, Dan: 330.07
Stinson, Greg: 134.07
Stockdale, Christopher: 144.18, 428.03
Stocker, Andrew: 341.05
Stockton, Alan N.: 222.07
Stone, Maria Babakhanyan.: **428.02**
Stone, Nicholas: **414.08**
Stone, Robert Bernard.: **250.19**
Stone-Martinez, Alexander: 152.11
Storchi-Bergmann, Thaisa: 250.53, 250.55
Storment, Stephen: 144.15
Storrs, Alex: **342.04**
Stovall, Kevin: 242.16, 330.07
Stover, John: 146.20
Straatman, Caroline: 132.01, 229.02, 347.18
Strader, Jay: 145.23, 326.08, 343.12, 431.08
Straizys, Vytautas: 142.10
Strandet, Maria: 205.02D
Stranex, Timothy: 342.03
Straughn, Amber: 250.53, 347.08, 347.15
Strauss, Michael A.: 125.08, **226.01**, 319.05, 346.13
Strelnitski, Vladimir: 250.31
Strigari, Louis: 416.03, 420.06
Stroe, Andra: 404.03
Stroh, Michael: 428.01
Strolger, Louis-Gregory: 152.06, 404.01, 438.04
Strom, Allison L.: **214.03D**
Struck, Curtis: 114.04, 144.21
Sturgis, Silver: 348.02
Stutz, Amelia Marie.: 212.06D
Stutzki, Juergen: 437.01
Su, Kate YL.: 310.03
Su, Meng: 142.05
Su, Ting: 132.02
Su, Yuanyuan: 346.08, 404.08
Subasavage, John P.: 240.13, 240.21
Subedi, Hari: **146.24**
Suh, Hyewon: **103.04D**
Sullivan, Dan: 430.04
Sullivan, David: 342.03
Sullivan, James: 433.06, **434.06**
Sullivan, Kendall: 304.05, 347.49
Sultanova, Madina: 346.01
Sumpter, William: **112.01**, 326.07
Sun, Guochao: 125.01
Sun, He: **238.31**
Sun, Jing: **340.29**
Sun, Meng: **417.01D**
Sun, Ming: 105.05D
Sun, Xiaohui: 340.05
Sundeen, Kiera A.: 241.11
Sunil Kumar, S.: 139.02
Sunnquist, Ben: 342.01
Suntzeff, Nicholas B.: 240.31, 434.01
Suresh, Ambily: 238.11
Suri, Veenu: **245.19**
Sutter, Jessica: 203.04, 237.08, **428.05**
Sutton, Patrick: 141.03
Suwannajak, Chutipong: **343.21**
Suzuki, Nao: 341.05, 341.08
Svoboda, Brian E.: 340.12
Sweeney, Nicholas: 240.34
Swesty, F. Douglas.: 154.27
Swift, Brandon: 238.30
Swift, Jonathan: 147.04, 155.03, **240.20**
Swiggum, Joe K.: **242.04**
Swihart, Samuel: **326.08**
Swindle, Scott: 403.01
Switzer, Eric: 430.04
Symons, Teresa A.: **236.06**
Syphers, David: **426.02**
Szkody, Paula: **215.05**
Szymkowiak, Andrew E.: 126.04
Tafalla, Mario: 432.01
Taghizadeh-Popp, Manuchehr: 236.15
Tagore, Amitpal: 132.02
Takahashi, Aoi: 238.10
Takami, Michihiro: 345.07
Takara, Amber L.: 241.11
Takato, Naruhisa: 155.10
Tamburo, Patrick: **219.04**
Tamiya, Tomoki: 240.19
Tamura, Motohide: 303.04
Tan, Jonathan C.: 153.06, 403.01
Tanaka, Kei: 153.06
Tanakul, Nahathai: **130.02D**
Tang, Baitian: **221.03**
Tang, Ningyu: **311.02D**
Tang, Yuping: 132.02
Tangmatitham, Matipon:
248.05, **334.07**, **342.09**, **421.06**
Tanner, Angelle M.: 320.04, 403.06
Tanner, Ryan: **222.04**
Tao, Charling: 250.24, 341.05
Tapia, Amauri: **347.28**
Taraschi, Peter: 430.04
Tarter, Jill C.: **412.01**
Taubenberger, Stefan: 341.05
Tauscher, Keith: 238.28, 306.04
Tauscher, Keith A.: **347.01**
Tayar, Jamie: 237.13, 336.05
Taylor, Gregory B.: 236.05, 302.01
Taylor, Joanna M.: 436.04
Taylor, Matthew: 343.22
Taylor, Philip: 321.04D
Taylor, Stephen R.: **122.07**, 307.06
Taylor, Stuart F.: **318.06**
Tchernyshyov, Kirill: 204.01
Teachey, Alexander: **104.01**
Teal, Tracy: **312.01**
Teich, Yaron: 145.11, 145.12, 145.13, 239.05

AUTHORS INDEX

- Teklu, Abraham: **138.05**
Telesco, Charles M.: 420.03
Tellis, Nate: 116.04
Tendulkar, Shriharsh P.: 128.07, 242.09, 330.01, 330.03
Tenn, Joseph S.: **129.09**
Teodoro, Mairan: 209.03
Teplitz, Harry I.: 214.04
ter Veen, Sander: 116.04
Terebey, Susan: **153.05**, 345.19
Terek, Scott: 347.54
Terndrup, Donald M.: 243.06, **250.17**
Teske, Johanna: 413.06
Teske, Johanna K.: 240.17, 240.18, **403.04**, 408.01
Testa, Vincenzo: 438.06
Testi, Leonardo: 327.06
Teuben, Peter J.: 236.13
Teyssier, Romain: 342.03
Thakur, Neeharika: 325.03
Thao, Pa: 151.07
Thao, Pa Chia: **151.06**
Theissen, Christopher: 240.17, 240.18
Thiel, Theresa: 241.11
Thilker, David A.: 127.06, **127.07**, 144.15
Thomas, Allen: 241.06
Thomas, Brianna P.: **435.01**
Thomas, Jens: 143.04
Thomas, Nicholas: 133.05D
Thomas, Rollin: 341.05
Thomas, Sandrine: 146.22, 303.06, 344.16
Thomas-Osip, Joanna: 155.11
Thompson, Benjamin A.: 343.01, 343.02
Thompson, Briana: 334.08
Thompson, David John.: **250.41**
Thompson, Ian: 232.03
Thompson, Maggie April.: **146.27**
Thompson, Mark: 340.23
Thompson, Patricia: 140.02, 339.07, 424.01
Thompson, Robert: 347.17
Thompson, Susan E.: 146.13, 401.02
Thongkham, Paul: 148.04
Thoreen, Henry: **347.39**
Thorngren, Daniel: **219.08**
Thornton, Jonathan: 425.12
Thorp, Mallory: **149.03**
Thorpe, James: **238.09**
Thorpe, Rob: 434.03
Thronson, Harley A.: 129.06, **238.01**
Tidwell, Hannah: 214.06
Tielens, A. G. G. M.: 102.05, 133.04
Tilvi, Vithal: 347.05, **347.08**, 347.25
Timbie, Peter T.: 342.13
Timlin, John: **220.04D**
Timmes, Francis: 308.01, 308.02
Tinney, Christopher G.: 320.07, 408.05
Tinyanont, Samaporn: 245.05, **341.15**
Tirimba, Keith: **340.17**
Tobin, John J.: **212.05**, 212.06D, 345.03, 432.01
Tobin, Taylor: **152.14**
Toller, Justin: 105.04
Tolls, Volker: 142.06, **142.08**
Toloba, Elisa: 142.19, 347.50
Toloza, Odette: 215.05
Tombesi, Francesco: 250.57
Tomczak, Adam R.: 229.02
Tomisaka, Kohji: 102.02
Tompkins, Brittany: **347.27**
Tomsick, John: 207.05, 247.15
Tonnesen, Stephanie: 347.43
Tonry, John: 223.02
Toomey, James E.: 216.05D
Toonen, Silvia: **326.05**
Topasna, Gregory A.: **343.08**
Torrealba, Gabriel: 343.05
Torres, Guillermo: 104.01, 344.24
Torres Hernandez, Jose: 347.23
Tovar, Guadalupe: **154.14**
Towne, Linda: 158.04
Townesley, Dean: 244.05, 308.02
Toy, Vicki: 126.03
Trakhtenbrot, Benny: 402.05
Tran, Debby: **146.03**, 146.04
Tran, Kim-Vy: 132.01, **229.02**, 321.04D, 347.11, 347.18
Tran, Thanh: 334.09
Tranum, Haley: 250.37
Trapp, Adam: **428.01**
Traweek, Sharon: 128.01
Treister, Ezequiel: 222.03, 402.05
Tremaine, Scott D.: 124.01D, 318.05
Tremblay, Grant: 250.45, 333.02
Tremblay, Luke: **245.03**
Tremblay, Patrick: 232.07
Tremblay, Pier-Emmanuel: 244.06, 433.19
Tremblin, Pascal: 401.01
Tremou, Evangelina: 431.08
Trenti, Michele: 404.01
Treuthardt, Patrick M.: 107.01D, 145.19
Trierweiler, Isabella: **346.08**
Trimble, Virginia L.: **90.03**
Tripp, Todd M.: 113.04D
Tristan, Isaiah: 120.08, **245.17**, 347.06
Tritschler, Alexandra: 339.01
Troischt, Parker: 137.03, 346.10
Troja, Eleonora: 126.03
Trott, Emery: **248.04**
Troup, Nicholas William.: 335.09, 344.18, **344.19**, 417.01D
Troxel, Michael A.: 125.07
Truebenbach, Alexandra: **246.01**
Trueblood, Mark: 106.05
Trueblood, Patricia: 106.05
Truitt, Amanda: **433.08**
Trujillo, Chadwick A.: 438.04
Trump, Jonathan R.: 347.25
Tsiaras, Angelos: 401.05
Tsumurai, Kohji: 238.10
Tucker, Brad: 115.04
tucker, carole: 133.05D, 133.06, 430.04
Tucker, Douglas Lee.: 244.06, 250.28
Tucker, Gregory S.: 133.05D
Tudor, Vlad: 431.08
Tuffs, Richard: 144.17
Tully, R. Brent.: 346.02

AUTHORS INDEX

- Tumlinson, Jason: 113.04D
Turner, Jean: 249.07
Turner, Jordan: 237.08
Turner, Kevin: 144.10
Turner, Neal J.: 230.03D, 345.05
Turner, T. Jane: 402.04D
Tutt, James: 309.05
Tuttle, Sarah E.: 157.01
Tycner, Christopher: 236.07
Tzanavaris, Panayiotis: 326.04, 344.06
U, Vivian: **414.04**
Ubeda, Leonardo: 127.08
Uchiyama, Yasunobu: 250.47
Ud-Doula, Asif: **151.09**
Udalski, Andrzej: 207.07
Ueda, Yoshihiro: 402.05
Uitenbroek, Han: 339.02
Ulmer, Melville P.: 237.04
Umetsu, Keiichi: 125.08, 404.01
Underhill, Matthew: 133.06
Unternborn, Cayman T.: 413.06
Uomoto, Alan K.: 155.08
Urbain, Xavier: 139.02
Urbanowski, Vincent: 250.37, 334.03
Uribe, Ana: 425.05
Urquhart, James S.: 153.14, 340.23
Urry, C. Megan.: 107.07, 121.04, **248.02**, 250.26, 250.47
Ursache, Andrei: 140.02, 339.07, 424.01
Utomo, Dyas: **204.05D**
Uttley, Phil: 207.06D, 238.16
Uyama, Taichi: 303.04
Uzgil, Bade: 125.01
Vakili, Mohammadjavad: **224.02D**
Valdés, José: 250.29
Valente, Martin: 238.33
Valenti, Stefano: 308.06
Valle, Deniz: 323.03D
Vallerga, John: **106.01**
Valluri, Monica: 134.07, 144.04
Valsecchi, Giovanni B.: 112.07
van Belle, Gerard: **126.09**, **240.28**, 343.19
Van Den Berg, Maureen: 142.09, 228.06D, 243.02, 326.02D
van den Bosch, Remco: 107.05, 247.13
van der Hulst, Thijs: 324.02
Van Der Marel, Roeland P.: 154.16
van der Plas, Gerrit: 230.03D, 345.05
van der Werf, Paul: 222.03
van Driel, Wim: 137.08
van Dyk, David A.: 232.02D
Van Dyk, Schuyler D.: **127.09**, 341.15
Van Eyken, Julian C.: 146.16
Van Gorkom, Jacqueline H.: 347.32
Van Haaften, Lennart M.: **326.03**
Van Hamme, Walter V.: 433.09, 433.13
Van Linge, Russell: **240.12**
Van Moorsel, Gustaaf A.: 336.06
Van Noord, Daniel: 417.04
Van Rooy, Paula: **137.05**
Van Sistine, Angela: 145.11, 145.12, 237.08, 239.05
Van Velzen, Sjoert: **207.03**
- Van Vuuren, Gary Peter Janse.: 334.10
Van Weeren, Reinout J.: 346.05, **404.03**
van Zee, Liese: 145.14, 145.15, 145.16, 337.02
Vanderbei, Robert J.: 146.28, 238.31
Vanderburg, Andrew: 104.02, 104.06, 219.03, 240.32, 243.07, **415.05D**
Vannah, Sara: **345.09**
Vanyo, Michael: 151.09
Vargas, Angelica: 419.05D
Vargas, Carlos J.: **419.03D**
Vargas-Salazar, Irene: **153.10**
Varosi, Frank: 403.01
Varsik, John R.: 140.02, 339.07, 424.01
Vartanyan, David: **410.07**
Vasisht, Gautam: 403.06
Vats, Smriti: **326.02D**
Vazquez, Antonio: 238.35
Vega, Laura D.: **152.10**
Veilleux, Sylvain: 126.03, 402.05
Vejar, George: **434.11**
Velasco, Jose: 340.08
Velazco, Jose: 348.05
Venkatesan, Aparna: 132.03, 137.03
Venn, Kim: 106.02
Ventura, Jean-Paul: **240.16**
Veras, Dimitri: 433.20
Verheijen, Marc: 324.02
Verschuur, Gerrit L.: 137.01, 323.05, **323.06**
Verstappen, Joris: 324.02
Vesa, Oana: 240.34
Vesper, James: **424.05**
Vesperini, Enrico: **343.17**
Vestergaard, Marianne: 319.01
Veyette, Mark: 126.07, 240.35
Vezino, Beau: 213.01
Viall, Nicholeen: 339.08
Vianello, Giacomo: **407.03**, **438.01**
Vieira, Joaquin D.: 205.02D, **238.36**
Vietri, Giustina: **302.06**
Vigeland, Sarah: **122.02**
Vijayaraghavan, Rukmani: **346.16**
Vila, M. Begoña.: 238.14
Villadsen, Jacqueline: **116.05D**
Villanova, Sandro: 221.03
Villanueva, Steven: **106.05**
Villar, V. Ashley: **341.18**
Villard, Eric: 231.06
Villari, Joseph: 427.01
Villiger, Nathan J.: **152.03**
Vishwas, Amit: 155.17, 214.06
Vissapragada, Shreyas: **153.04**
Vissers, Michael: 133.06
Vithanage, Sandanuwa Kalawila.: 346.01
Vivas, Anna Katherina.: 343.05, 343.12
Vogel, Stephen: 139.02
Vogeley, Michael S.: 123.03D, 250.36
von Braun, Kaspar: 240.28, 320.04, 403.06
von Hahn, Robert: 139.02
von Hippel, Ted: 232.02D
Von Schill, Lyndele: **336.03**
Voyton, Mark: 238.14
Vreeswijk, Paul: 313.04

AUTHORS INDEX

- Vrtilek, Saeqa Dil.: 344.03
Vydra, Ekaterina: **433.11**
Wada, Katelyn R.: **250.42**
Wada, Takehiko: 238.10
Wade, Leslie: 242.16
Wade, Madeline: 242.16
Wafflard-Fernandez, Gaylor: 250.40
Wagner, Cassidy: 250.14, **250.15**, 250.16
Wagner, R. Mark: 152.12, 215.04
Wagner, Robert M.: **314.06**, **421.05**
Wagner-Kaiser, Rachel A.: **232.02D**
Wahl, Haley: **242.11**
Waidanz, Melanie: 403.01
Wakeford, Hannah R.: 219.07D, **401.01**
Wakker, Bart P.: 145.06
Waldman, Mark: 238.14
Walker, Allyson: 411.04
Walker, Christopher K.: 238.30
Walker, Daniel: 153.10
Walker, Gary E.: 243.08, 250.31
Walker, Matthew G.: 221.05
Walkowicz, Lucianne: 338.03
Wall, Joshua: **153.02**
Wallace, Colin Scott.: **213.03**, 314.05
Wallace, J. Kent: 403.06
Wallace, Joshua: **318.05**
Wallace, Rosa: **339.04**
Wallack, Nicole: 347.55
Wallack, Nicole Lisa.: 347.56
Wallin, John F.: 236.13
Wally, Muhammad: 347.55, **347.56**
Walp, Bernie: 403.06
Walsh, Catherine: 153.04
Walsh, J.: 347.08
Walsh, Jonelle: **107.05**, 114.06, 247.13
Walter, Donald: 339.07
Walter, Donald K.: 140.02, 152.13, 336.09, **337.04**, 424.01
Walter, Fabian: 304.04D, 348.09, 348.12
Walterbos, Rene AM.: 127.08, 419.03D
Wang, Carolyn: 145.25
Wang, Daimei: 344.07
Wang, Daniel: 113.04D, 250.58, 419.03D
Wang, Feige: **220.01D**, 220.02D
Wang, Jason: 146.02, 146.04, 146.19
Wang, Junfeng: 250.55
Wang, Lifan: 410.03D
Wang, Luqian: 151.08
Wang, Mei-Yu: **416.03**
Wang, Q. Daniel.: 216.07, 304.05, 347.49
Wang, Ran: 220.01D, 220.02D
Wang, Sharon: 144.02, 320.02
Wang, Sharon Xuesong: 144.01
Wang, Shiang-Yu: 112.04, 238.10
Wang, Xilu: **115.02D**
Wang, Zhaopeng: **413.04**
Ward-Duong, Kimberly: 146.04, **230.03D**, 345.05
Ward-Thompson, Derek: 133.05D
Wardle, M.: 102.07
Warmels, Rein: 236.13
Warren, Steven R.: 145.11, 145.12, 239.05
Warwick, Steve: 146.20
Watkins, Aaron Emery.: 144.20, **304.06D**
Watson, Chris: 433.01
Watson, Christer: 153.11
Watson, Dan M.: 212.06D
Watson, Kaycia: 334.09
Watson, Zachary: 140.02, 339.07, 424.01
Watts, Duncan: 323.03D
Waxman, Eli: 328.04
Weaver, Ian: 243.07
Weaver, John R.: **347.07**
Weaver, Olivia A.: **347.55**, 347.56
Weaver, Zachary R.: **250.33**, 250.34
Wechsler, Risa H.: 341.08
Weerasooriya, Sachithra: **145.02**
Wehrle, Ann E.: **250.38**
Weigand, Denise: 146.14, 320.04
Weigel, A. David: **439.04**
Weigel, Anna: 247.10
Weigel, Anna K. K.: 103.06
Weinberg, Nevin N.: 417.01D
Weinberger, Alycia J.: 435.02
Weiner, Aaron: 347.33
Weiner, Benjamin J.: 229.05, 347.25
Weinreb, Sander: **348.03**
Weinschenk, Sedrick: 152.03
Weisserman, Drew: 241.10
Weisz, Daniel R.: 154.26
Wellons, Sarah: **214.01D**, 347.37
Welsh, Barry: 106.01, **310.06**, 340.30, 345.12, 433.03
Wen, Fufang: 144.15
Wenger, Matthew: 140.01, 213.04, 213.05, **213.06**, 335.04
Wenger, Trey: 335.09, **340.07**, 340.26
Werk, Jessica: 113.04D
Werthimer, Dan: 116.04
West, Andrew A.: 126.05, 240.35
West, Lacey: **247.09**
West, Michael: **105.04**, 427.07
West, Robert A.: 413.05
Wester, William: 244.06
Westerhoff, Thomas: 238.33
Weston, Jennifer Helen Seng.: **215.03D**, 215.07
Weston, Madalyn: **347.35**
Wetzel, Andrew: 142.16
Wetzel, Andrew R.: 331.01
Whalen, Kelly: **138.04**, 346.09
Wharton, Robert: 242.09, 330.01, 330.03
Wheatley, Jonathan: **433.03**
Wheeler, Coral: 145.18
Wheeler, J. Craig.: 308.05D, **433.05**, 433.06, 434.06
Whitaker, Katherine E.: 229.05
White, Jacob: **327.04**, 406.01
White, James: 436.04
White, Russel: 240.30, 320.04, 344.13
White, Russel J.: 131.05D, 245.18, 403.03D, 403.06
White, Vivian: 140.01
Whitesides, Lindsey: **341.03**
Whitley, Kevin Michael.: **250.30**
Whitlow, Dana: 137.05
Whitman, Tony: 238.14
Whitmore, Bradley C.: 144.18
Whitten, Deven: 142.17

AUTHORS INDEX

- widmer, Nicole: 236.10
Widrow, Larry: 134.04D
Wiens, Christopher: **347.47**
Wiggins, Brandon Kerry.: 434.03
Wiita, Paul J.: 250.38
Wijnands, Rudy: 228.06D
Wik, Daniel R.: **105.06**, 247.09
Wikus, Patrick: 309.01, 309.02
Wilcots, Eric M.: 137.03, 204.04D, 250.22, 346.07
Wilhelm, Patrick: 139.02
Wilhelm, Ronald J.: 433.15
Wilkins, Ashlee N.: **219.07D**
Willacy, Karen: 153.05, 345.19
Willcox, Donald E.: 154.27, **244.05**
Willett, Benjamin A.: 142.15
Williams, Amrys: 129.02
Williams, Anna: **204.04D**
Williams, Benjamin F.: 145.14, 145.15, 145.16, 154.26
Williams, Brian J.: **410.04**
Williams, Christina C.: 229.05
Williams, Grant: 434.09
Williams, Jacqueline: 333.05
Williams, Paul: 133.06
Williams, Peter K G.: 240.08, 240.12, **408.04**
Williams, Robert E.: 341.15
Williams, Stephanie: 335.04
Williams, Steven: 341.08
Williamson, Michael W.: 403.01
Willingale, Richard: 149.02, 406.03
Willis, Jon: 341.08
Willman, Beth: 145.23
Willmer, Christopher: 113.04D, 438.04
Willner, Steven P.: 107.03
Willson, Lee Anne M.: 154.19
Wilner, David J.: **327.06**, 327.07, 340.31, 435.02
Wilson, Christine: 427.06
Wilson, Danielle: 343.19
Wilson, Derek: **340.20**
Wilson, Elin Deeb.: **244.02**
Wilson, Emily: **250.56**
Wilson, Gillian: 341.08
Wilson, Grant: 132.02, 153.08
Wilson, Linda: 152.11
Wilson, Maurice: **320.01**, 320.02
Wilson, Paul: 301.03
Wilson, Teresa: **128.03**, **158.01**, **334.12**, **421.03**
Wilson-Hodge, Colleen A.: **309.04**
Windemuth, Diana: 344.20
Windhorst, Rogier A.: 347.08, 427.01, 438.04, 438.06
Wingate, Lory Mitchell.: **338.05**
Winget, Donald E.: 228.02D
Winkler, P. Frank.: 144.18
Winters, Jennifer: 240.21, 344.12
Winters, Jennifer G.: 154.12, 240.13
Wise, John: 107.06, **205.03**, 205.06D, 406.05
Wiseman, Jennifer J.: **212.04**
Wisniewski, John P.: 151.06, 151.07, 240.29, 344.21, 345.10, 345.14, 420.01
Witherspoon, Catherine: 250.01, 250.02, 250.03, 250.04, 250.05, **250.06**, 250.07
Witry, Jason: **428.06**
Witt, Emily: 155.12
Witt, Matthew Charles.: **242.13**
Wittal, Matthew: 241.02, 241.03, **241.06**
Wittenmyer, Robert A.: 146.09, 320.02, **320.07**
Wittman, David M.: 404.03, 426.01
Witzel, Gunther: 107.03, 142.01, 142.02
Wofford, Aida: 249.06, 428.08
Wofford, Alia: **153.16**
Wold, Isak: 347.29
Wolf, Andreas: 139.02
Wolfe, Tristan: **155.18**
Wolff, Schulyer: 146.04
Wolff, Schuyler G.: **345.13**
Wollack, Edward: 306.04, 323.03D, 430.04, 437.03
Wollaeger, Ryan: 434.03
Wolleben, Maik: 340.05
Wong, Ivy: 103.06
Wong, Tony H.: 204.05D
Wong, Wang Kei: **430.07**
Woo, Jong-Hak: **429.01**, 429.04
Wood, Asher: 147.04
Wood, Kenneth: 241.12
Wood, Kent: 309.04
Woodrum, Charity: **347.26**
Wootten, Al: 102.07
Wordsworth, Robin: 401.06
Worrall, Diana M.: 250.45, 250.47
Worthey, Guy: **433.07**, 438.07
Wotta, Christopher: **113.05**
Wright, Duncan: 320.07
Wright, Edward L.: 238.20, **238.23**, 408.05
Wright, Ernest: 422.01
Wright, Jason: 146.30, 202.04D, 245.25, 245.26, 245.27, 320.02, 335.01, 403.02
Wright-Garba, Nuria Meilani Laure.: 241.03, 241.04
Wu, Hao-Yi: **224.01**
Wu, Jianfeng: **207.08**
Wu, John F.: 347.30
Wu, Xiaohan: 154.09
Wu, Xue-Bing: 220.01D, 220.02D
Wu, Yunyun: 246.03
Wuerker, Wolfgang: 147.05
Wuyts, Stijn: 347.15
Wylezalek, Dominika: **103.03**
Wyrowski, Friedrich: 153.14
Xhakaj, Enia: **243.05**
Xia, Junjie: 144.15, **429.06**
Xiang, Chuchu: **340.22**
Xie, Hong: 325.03
Xie, Justin Long.: 341.20
Xu, Hao: 205.03
Xu, Siyao: **435.04**
Xu, Xiaojie: 344.04
Xu, Zhilei: 323.03D
Yadlapalli, Nitika: 438.01
Yamaguchi, Hiroya: **208.04**, 410.04
Yan, Haojing: 438.04
Yan, Lin: 313.04
Yang, Huan: 347.08, **428.08**
Yang, Jinyi: 220.01D, **220.02D**
Yang, Jun: **233.05**
Yang, Qian: 220.01D, 220.02D
Yang, Yi: **410.03D**

AUTHORS INDEX

- Yao, Ji: **125.07**
Yaqoob, Tahir: 121.04
Yaron, Ofer: 341.06
Yashiro, Seiji: 325.03
Ybarra, Jason E.: 340.18
Yee, Jennifer C.: 417.02
Yen, Mike: 341.08
Yepes, Gustavo: 342.03
Yesuf, Hassen: **426.06**
Yesuf, Hassen Mohammed.: 429.07
Yi, Weimin: 220.02D
Yik, Henry: 250.39
Yildirim, Akin: 107.05
Yildiz, Umut: 311.05
Yin, Yao: 147.04, 155.03
Yoon, Jeongkwan: 340.28
Yoon, Jinmi: 134.03, 142.18, **232.04**
Yoon, Suk-Jin: 221.02
Yoon, Sung-Chul: 434.12
York, Brian Andrew.: 240.07
You, Ruiyang: 334.09
Young, Andrew J.: 239.04
Young, C. Alex: **422.01**
Young, David: 339.07, 424.01
Young, David T.: 140.02
Young, Eliot F.: **227.03**
Young, Jason: **144.01**, 144.02
Young, Michael: 240.36
Young, Mitchell: **221.01D**
Young, Patrick A.: 433.08, 434.03
Youngblood, Allison: 209.04, 240.10, 240.11, **413.01D**
Yu, Hongbin: 238.34
Yu, Weixiang: **438.02**
Yu, Wenfei: 344.04
Yuan, Qiang: 250.58
Yuan, Sihan: 240.32, 243.07
Yuan, Tiantian: 214.02, 229.02, 321.04D
Yuan, Wenlong: **128.05D**, **433.18**
YUEN, Ka Ho: 419.06
Yukita, Mihoko: 247.09, 249.05, 326.04
Yun, Min Su: 132.02
Yun, Yuqi: **154.24**
Yusef-Zadeh, Farhad: **102.07**, 216.06, 242.12
Zachary, Julia: **340.34**
Zackay, Barak: **330.06D**
Zagorac, Jovana: 250.34
Zahnle, Kevin: 202.03
Zajfman, Daniel: 139.02
Zakamska, Nadia L.: 103.03, 347.08
Zalesky, Joe: 146.04, 146.05
Zamora, Olga: 221.03
Zasowski, Gail: 123.04, 124.03D, **204.01**, 343.01, 343.02, 343.03
Zauderer, Ashley: 247.04, 410.06
Zavala, Jorge: **427.05**
Zavala, Robert T.: 236.07
Zdanavicius, Justas: 142.10
Zeimann, Gregory: 229.03D
Zellner, Nicolle: 138.01, 138.02
Zemcov, Michael B.: 125.01, 238.10
Zeng, Lingzhen: 323.03D
Zenteno, Alfredo: 115.04
Zentner, Andrew: 416.03
Zepf, Stephen: 326.03
Zepf, Steve E.: 247.03
Zevin, Michael: 154.24, **335.02**, **407.06**
Zezas, Andreas: 233.05, 239.03, 247.09, 249.05, 326.04, 344.06, 419.02
Zhang, Bing: 435.04
Zhang, Emily: 250.37
Zhang, Han: **420.03**
Zhang, Hao: **142.19**, 347.50
Zhang, Haocheng: **302.01**
Zhang, Hong-Xin: 145.22
Zhang, Jisheng: **245.23**
Zhang, Liyun: 344.07
Zhang, Qizhou: 153.10, 241.14
Zhang, Saiyang: 250.34
Zhang, Shaohua: 205.02D
Zhang, Shawn: 247.12
Zhang, Shuo: 207.05
Zhang, Weiqun: 236.12, 242.06
Zhang, William: 429.08
Zhang, Xi: 202.02
Zhang, Yichen: 153.06
Zhang, Zhi-Wei: 112.04
Zhang, Zhoujian: 240.01, **240.02**
Zhao, Bo: 403.01
Zhao, Ping: **243.02**
Zhao, Xinyu: **122.06**
Zhao, Yinan: 205.02D
Zheng, Zheng: 249.12
Zhong, Greta: **347.43**
Zhou, George: 104.02
Zhou, Ping: 344.04
Ziegler, Cross: 335.05
Zilberman, Perri: 320.04
Zimmerman, Neil T.: 238.13
Zingale, Michael: **236.12**, 242.06, 244.05
Zinn, Joel: **305.03**, 305.07
Zmuidzinas, Jonas: 238.20
Zoonematkermani, Saeid: 241.02
Zuckerman, Ben M.: 154.22, 230.01
Zurbuchen, Thomas H.: 328.01
Zurek, David: 343.13
Zweibel, Ellen Gould.: 204.04D, 427.04

MINERVA



EXOPLANET PROJECT

PROGRESS REPORT

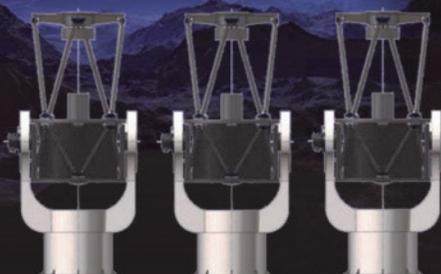
OPEN PUBLIC MEETING

Thursday January 5, 2017

Room: Appaloosa 4

Time: 9:30 AM -10:30 AM

SPONSORED BY





SBIG[®]

IMAGING SYSTEMS

For over 25 years SBIG has been making cooled CCD cameras for the astronomical community.

We offer a variety of sensors up to 16 megapixels, and filter wheels with built-in guiding CCDs, adaptive optics, and AllSky cameras.

New! SBIG is now offering the STX-16801 16 megapixel CCD camera. The STX-16801 Non Anti-Blooming camera is ideal for wide field photometry and astronomical surveys.

We can offer a complete package that includes all software and hardware required to meet your imaging needs.

Visit Tim Puckett in Booth 404 to find out more about our imaging solutions, and pick up your free poster.

