

Cosmic Origins Program Analysis Group Report
APAC
March 5 & 6, 2020

Margaret Meixner
(COPAG EC Chair)

COPAG EC Membership

Margaret Meixner (Chair)	STScI/Johns Hopkins University
Misty Bentz	Georgia State University
Steve Finkelstein	University of Texas
Alina Kiessling	Jet Propulsion Laboratory, Caltech
Janice Lee	Caltech/IPAC
Stephan McCandliss	Johns Hopkins University
Tom Megeath	University of Toledo
Alexandra Pope	University of Massachusetts
Claudia Scarlata	University of Minnesota
Jason Tumlinson	STScI
Sarah Tuttle	University of Washington
One additional	reviewing applications
Mario Perez → Kartik Sheth (COR PS)	NASA HQ
Eric Tollestrup (COR Deputy PS)	NASA HQ
Susan Neff (COR Program Office Chief Scientist) - GSFC recruiting new Chief Scientist	NASA/GSFC
Erin Smith (COR Program Office Dep. Chief Scientist)	NASA/GSFC

COPAG Activities Since October

- COPAG presentations at the AAS meeting
- 2 science interest groups (SIGs)
 - UVSIG - Jason Tumlinson - recruiting a co-chair
 - IRSIG - Meredith MacGregor & Michael Zemcov co-chairs
- Technology interest group (TIG) – Sarah Tuttle chair, recruiting members
- 2 science analysis groups (SAGs)
 - SAG10 – Great Observatories Report completed– Lee Armus & Tom Megeath
 - SAG11 - Cosmic Dawn starting– Claudia Scarlata & Steven Finkelstein - recruiting members

COPAG @ the AAS

Sat. Jan. 4

10 am - 12 noon UVSIG and TIG splinter, Hilton Hawaiian Village, Jason Tumlinson & Sarah Tuttle

1-3 pm NASA Joint PAG session, Coral Ballroom 1, Hilton Hawaiian Village,

3-6 pm COPAG splinter: Cosmic Origins Opportunities with JWST, Coral Ballroom 1, Hilton Hawaiian Village, - Margaret Meixner

Sunday Jan. 5

9:30–11:30 am SAG 10, Great Observatories: the Past & Future of Panchromatic Astrophysics, Room 323 A, Convention Center, Lee Armus & Tom Megeath

Tuesday, Jan. 7

9:30–11:30 am IRSIG splinter: The role of Infrared Astronomy in NASA's Strategic Vision to 2030, Room 304 AB Convention Center, Naseem Rangwala, Eric Murphy

2–3 pm Cosmic Dawn SAG11, Room 323 C Convention Center, Steven Finkelstein & Claudia Scarlata

Full details of all COPAG relevant events including dial-in information can be found online at:

https://cor.gsfc.nasa.gov/copag/AAS_Jan2020/COPAG_Activities_Jan2020AAS.php

AAS observations

- Technically minded people arrive the day early for AAS
- Joint UVSIG & TIG splinter was well attended with NASA and Industrial Technologists
- Perhaps having a broader technology interest group discussion before AAS would be useful for community as a whole
- Science focused JWST presentation for COPAG day before AAS was not well attended – need to improve communication/advertisement to AAS attendees
- Considering moving COPAG splinter onto a main AAS meeting day
- Cosmic Dawn splinter during AAS attendance good for kickoff
- Great Observatories splinter during AAS best attended; several participants want this effort/study to be sustained.

Infrared Science Interest Group – Activity Highlights

Meredith MacGregor & Michael Zemcov (Co-Chairs)

New IRSIG Newsletter Published (Jan 2020)

- Timed to coincide with AAS splinter session
- 16 Pages in total providing:
 - IR-related Science and Technical Highlights – contributions from grad students and postdocs
 - Mission Updates – EXCLAIM, ASTHROS, SPICA
 - News & Upcoming events/meetings

Splinter Session at 235th American Astronomical Society Meeting (Honolulu, HI)

- Titled “The Role of Infrared Astronomy in NASA's Strategic Vision to 2030”
- Invited talks presented updates on SPHEREx (Phil Korngut), ASTHROS (Paul Goldsmith), Origins(Tiffany Kataria), SOFIA (Hal Yorke), and SPICA (Matt Bradford)
- Panel discussion with Matt Bradford, Jessie Dotson, Margaret Meixner, Klaus Pontoppidan, and Jane Rigby
- Focused on addressing key questions facing the IR SIG community in the next decade

Infrared Science Interest Group

Newsletter | Number 3 | January 2020

CONTENTS

1 From the SIG Leadership

SCIENCE HIGHLIGHTS:

- 2 How Massive Galaxy Progenitors Evolved
- 4 Hot Cores with SOFIA
- 5 Massive Star Formation in W51A

TECHNICAL HIGHLIGHTS:

- 6 HgCdTe Detector Development

MISSION UPDATES:

- 8 EXCLAIM
- 10 ASTHROS
- 12 SPICA

OTHER NEWS:

- 14 Upcoming Events
- 16 FIR SIG Leadership
- 16 Recruiting New Members!

Follow us on Twitter!



Letter from the SIG Leadership Council

We are delighted to share with you the third newsletter from the Infrared Science Interest Group (IR SIG).

Welcome to a new year and new edition of the IR SIG newsletter! We are excited to kick-off another year of SIG activities with an active presence at this year's winter AAS meeting in Honolulu, Hawaii. Make sure to stop by the IR SIG splinter session on Tuesday, January 7th from 9:30 to 11:30am, which will feature invited talks and a panel discussion to consider topics such as

- What science themes will drive IR science in the next decade?
- How do we keep IR science in the forefront of the community's mind? How do we best engage the community?
- What are the 'unexpected surprises' we might look forward to seeing in IR science and technology in the next 5-10 years?
- What technology development investments should we pursue in the mid-term, with an eye out to 2030 and beyond?

But, don't forget that there are many other sessions throughout the week highlighting IR science (a full schedule is at the end of this newsletter).

As always, the key objective of our SIG is to collect community input and help shape the long-term goals of IR astrophysics. Our main priorities for this new year are (1) to ensure we are reaching out to a healthy and diverse fraction of the community (i.e., improving our mailing list and subscription), and (2) reaching out to this community for input on what types of activities they would like IR SIG LC to organize or help organize. This newsletter series is a part of this effort, and will continue to be published semi-annually. We want to highlight results, technological developments, and events from the IR community. To that end, please send us your updates! These can be submitted to irsiglc@gmail.com or via http://bit.ly/irsig_newsletter.

Throughout the year, we will continue our previous activities, including hosting our monthly webinar series (see our website for the schedule and recordings of past webinars: <https://fir-sig.ipac.caltech.edu>). In all of our efforts, we are keen to increase the participation of early-career scientists of diverse backgrounds. Reach out to the IR SIG leadership council to get involved yourself or to suggest possible webinar speakers. In addition, we will be recruiting up to three new SIG members this year (see last page of this newsletter for additional details).

Sincerely,
Meredith MacGregor (newsletter editor)
and the entire IR SIG Leadership Council

IR SIG Newsletter | Number 3 | January 2020 | 1



235



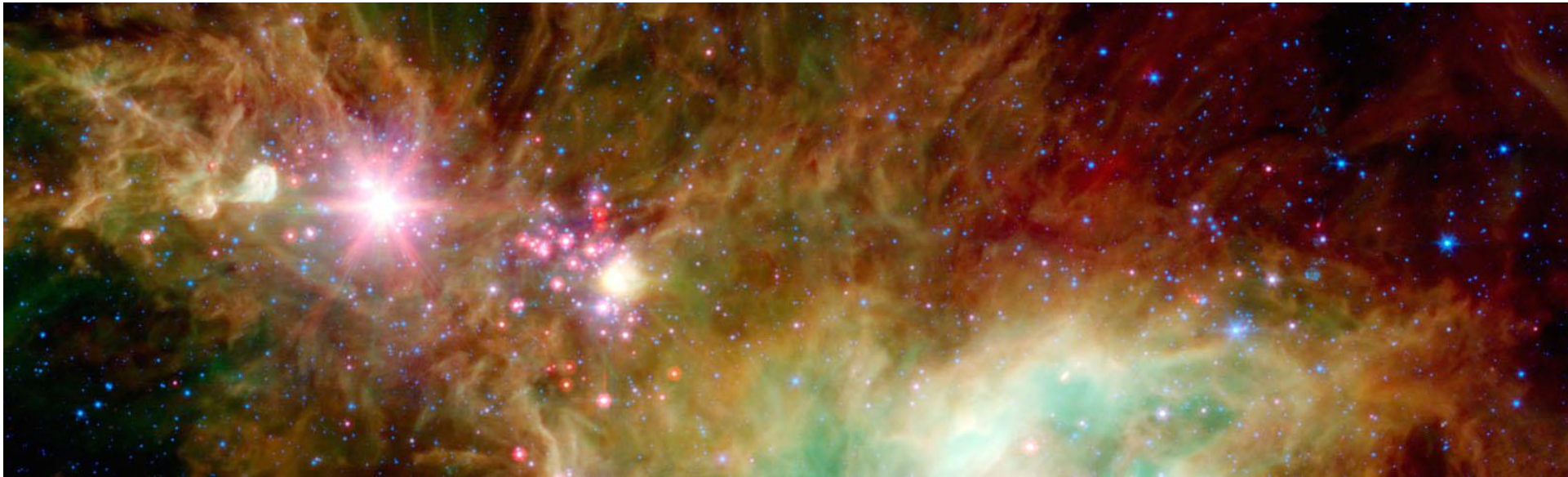
HONOLULU, HAWAII
4-8 JANUARY 2020

Infrared Science Interest Group – Driving Questions

Meredith MacGregor & Michael Zemcov (Co-Chairs)

These questions provided the basis for the panel discussion at the AAS splinter session and will continue to be driving questions for SIG activities this year

1. What science themes will drive the IR science of the next decade?
2. How might we keep IR science in the forefront of the community's mind? How do we best engage the community to make our science visible?
3. What are the "best kept secrets" or "unexpected surprises" we might look forward to seeing in IR science and technology in the next 5-10 years?
4. What technology development investments should we pursue in the mid-term, with an eye out to 2030 and beyond?



Infrared Science Interest Group – Goals for 2020

Meredith MacGregor & Michael Zemcov (Co-Chairs)

SIG Leadership Council membership changes

- New co-chairs: Meredith MacGregor and Michael Zemcov
- Currently recruiting 3 or more new members
- Recruit from JWST and WFIRST communities to support expansion in activities from FIR to IR

Continuing to reach out to early career IR scientists

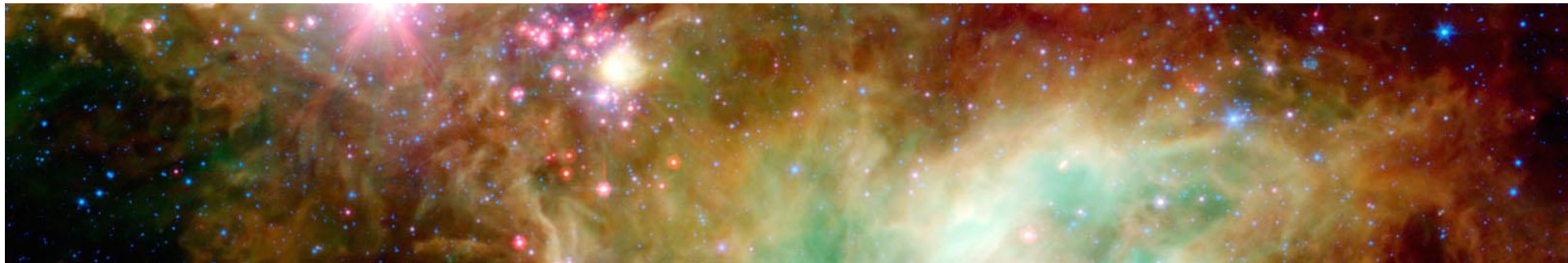
- Coordinating efforts to expand our mailing list and make it easier to subscribe
- Updates to website
- Solicit newsletter content and webinar talks from early career scientists

Special topic newsletter on “Spitzer’s Legacy from the Solar System to the Edge of the Universe” planned for May 2020

- Continuum to publish two newsletters per year (roughly every summer and winter)

Continuing the monthly webinar series

Understanding and digesting the outcomes of the Astro2020 Survey, and their implications for IR our community



Infrared Science Interest Group – Current SIG Leadership

Meredith MacGregor & Michael Zemcov (Co-Chairs)

Meredith MacGregor (Co-Chair, Univ. of Colorado Boulder)

Mike Zemcov (Co-Chair, RIT)

Duncan Farrah (Univ. of Hawaii)

Jeyhan Kartaltepe (RIT)

Tiffany Kataria (JPL)

Jens Kauffmann (MIT)

Lisa Locke (JPL)

Enrique Lopez Rodriguez (SOFIA)

Elizabeth Mills (Univ. of Kansas)

Eric Murphy (NRAO)

Omid Noroozian (NRAO)

Naseem Rangwala (NASA/Ames)

Dave Sanders (Univ. of Hawaii)

JD Smith (Univ. of Toledo)

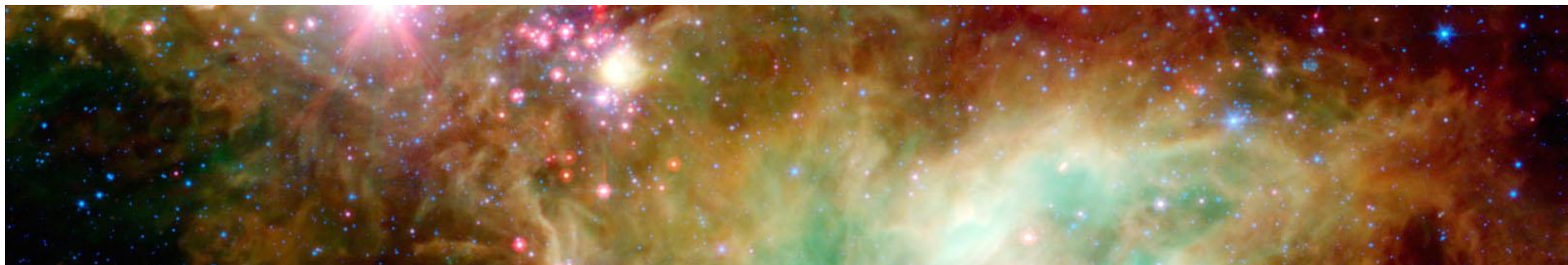
Johannes Staguhn (JHU/NASA GSFC)

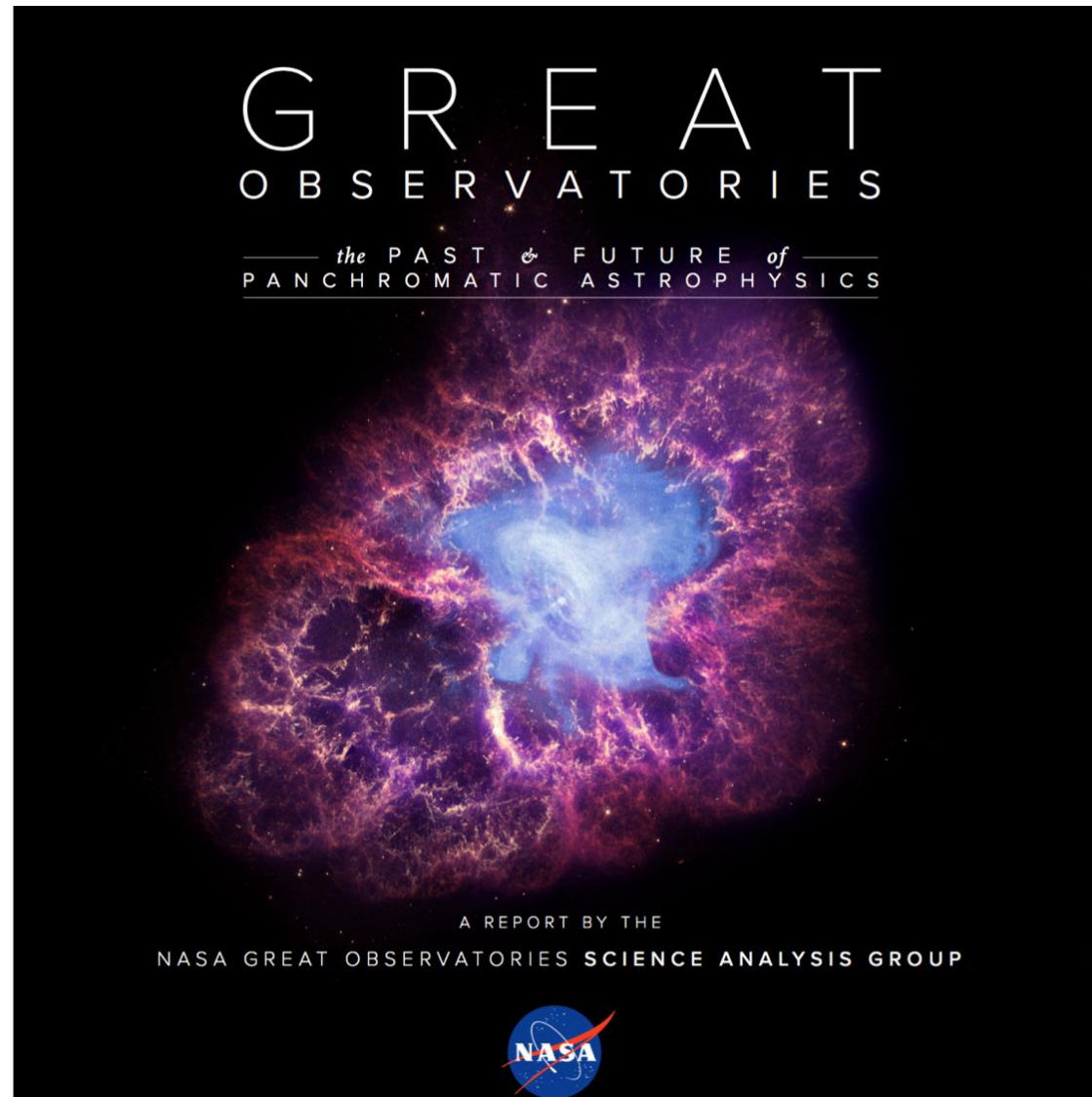
**Please join our mailing list by emailing us at
irsiglc@gmail.com**

or

meredith.macgregor@colorado.edu

Website: <https://fir-sig.ipac.caltech.edu/>





SAG10 report is published and posted on SAG10 site:

[https://cor.gsfc.nasa.gov/sags/sag10/Great Observatories sag-10 v31.pdf](https://cor.gsfc.nasa.gov/sags/sag10/Great%20Observatories%20sag-10%20v31.pdf)

Cosmic Dawn Science Analysis Group #11

- Two co-chairs: Claudia Scarlata, Steven Finkelstein
- Reionization and galaxy evolution in the very early universe
- What questions will remain after the JWST mission
- Explore what investigations can be done with current telescopes and archives
- Assess the potential for future NASA large missions or proposed probe-class missions to answer these questions
- Identify the need for coordinated multi-observatory programs and/or simulation efforts towards these goals.
- Joint with PhysPAG
- Report by end of 2020
- AAS Cosmic Dawn Splinter was a good kickoff and start of recruiting
- The group is being formed now, suggestions for additions are welcomed
 - <https://forms.gle/PmJfW4ULtYYwGRUD7>

TIG Recruiting

- Technology Interest Group – convened to address Technology Gaps
- Chair: Sarah Tuttle (U. Washington)
- Recruiting a broad array of career stages & topic areas for next gaps exercise
- Working to improve connection between community especially with changing Gaps exercise timeline
- Investigating possible modification of charge
- Please contact Sarah Tuttle with suggested additions via email:
tuttlese@uw.edu

Summary Information

- COPAG had an active presence at the AAS meeting.
- Final SAG-10 report is posted
[https://cor.gsfc.nasa.gov/sags/sag10/Great Observatories sag-10 v31.pdf](https://cor.gsfc.nasa.gov/sags/sag10/Great_Observatories_sag-10_v31.pdf)
- Community appeared interested in continued engagement of SAG-10 report
- SAG11 on Cosmic Dawn has been kicked off...

COPAG Future Activities

- Bi-weekly EC telecons will continue
- Cosmic Dawn Study Analysis Group will begin regular meetings soon.
- TIG is building its group
- IRSIG continues meetings
- UVSIG looking for a co-chair