

Cosmic Origins Program Analysis
Group Report
NAC Astrophysics Subcommittee
Meeting – July 2016

Paul Scowen
(COPAG EC Chair)

COPAG EC Membership

Paul Scowen (Chair, APS Member)

Lee Armus

Daniela Calzetti ~

Dennis Ebbetts ~

Suvi Gezari

James Green ~

Matt Greenhouse

Sara Heap ~

Chris Howk

Mary Elizabeth Kaiser

Joseph Lazio

Pam Marcum

Mario Perez (Executive Secretary, Ex-Officio)

Kartik Sheth (Ex-Officio)

Susan Neff (COR Program Office, Ex-Officio)

Deborah Padgett (COR Program Office, Ex-Officio)

Arizona State University

Caltech

University of Massachusetts

Ball Aerospace

University of Maryland

University of Colorado

NASA/Goddard Space Flight Center

NASA/Goddard Space Flight Center

University of Notre Dame

Johns Hopkins

NASA/JPL

NASA/Ames

NASA HQ

NASA HQ

NASA/GSFC

NASA/GSFC

~ Members rotating off in Nov 2016

COPAG Activities Since March

- Possible JWST SAG:
 - discussions with members of the JWST enterprise
 - it was decided that there simply isn't a need right now
 - will revisit the idea periodically as the community ramps up their preparations for use of JWST
- Reopening of SAG 8
 - proposal made to consider reopening this SAG to further consider how the WFIRST archive could be optimized
 - the original report focused only on initial planning and ideas
 - the proposal was to continue the work now that WFIRST has entered Phase A
 - after discussion with the WFIRST program it was decided that it was best to leave this work to the SIT formed by the project itself to tackle the issue

COPAG Activities

- All three SIG reports are included later.
- SPIE meeting of SIG2 on June 28, Edinburgh – Well attended meeting with an enthusiastic discussion about technology needs, funding cycles, and terminology (e.g., state-of-the-art, proper use of references, assessments and reviews, etc).

COPAG Activities

- The COPAG EC has membership on the FIR (Lee Armus), HabEx (Paul Scowen) and LUVOIR (Daniela Calzetti) STDTs
- We tasked two EC members to tag team to cover the activities of the X-ray Surveyor STDT – Joe Lazio and Suvi Gezari
- The COPAG EC wrote to all 4 STDTs expressing support and a desire to help (when appropriate) with their efforts to formulate Cosmic Origins science as part of their portfolios
- We have received reports on progress at each EC Telecon since the STDTs were formed
- There was some discussion about concerns expressed about the initial lack of emphasis on Cosmic Origins general astrophysics on the LUVOIR STDT
- After some discussion with members of the HQ study team, we decided it was only appropriate to express our concern to them and not the STDTs themselves
- Since that time the GA members of the LUVOIR team have rallied to better foster the interests of Cosmic Origins in the science plan development

COPAG Activities

- The annual PATR exercise was initiated with the Technology Office within Cosmic Origins
- There was a real desire on the part of the EC to make this process as transparent as possible this year, since it shapes priorities for APRA & SAT funding in the next FY
- The Cosmic Origins community was actively solicited to give their individual input to the process by the deadline of June 1
- Thai Pham delivered a compendium document of the Technology Gaps previously identified (2015) along with the newly submitted material, for COPAG consideration and return before June 30
- The COPAG actively asked the SIGs to review the material to ensure that the concerns of each community were being met
- The resulting document was delivered to Thai by June 30
- Concern was expressed by several parties and groups that the process appears to be vulnerable to factual errors and it was suggested that the COPAG establish a TIG – a Technology Interest Group – to review the Technology Gaps document each year to ensure claims and priorities were in fact truthful and reflective of community needs, rather than the interests of individual research groups

**NASA COPAG Far-Infrared
Science Interest Group
(aka FIR SIG or SIGA 1)
Recent Activities**

Paul Goldsmith & David Leisawitz
FIR-SIG co-leads

FIR SIG – New Organizational Structure

Leadership Council + 2 Co-Chairs (April 2016)

- Jim Bartlett
- Duncan Farrah, **Chair Elect****
- Will Fischer
- Julia Kamenetzky
- Darek Lis
- Meredith MacGregor
- Eric Murphy
- Naseem Rangwala
- Dave Sanders
- Ravi Sankrit
- JD Smith, **Chair Elect****

** replaces Paul Goldsmith and Dave Leisawitz who have been Co-Chairs of FIR SIG since its inception (but will stay on through 2016 for continuity)

FIR SIG – Webinar Series

first Friday of each month

10 am PDT/1 pm EDT

<https://ac.arc.nasa.gov/firsig/>

- engages the astronomical community in discussions about the Far-IR Surveyor
- will feature talks that highlight the science potential of far-IR observations, the exciting new technologies that will enable substantial improvements in instruments, and the science potential of current and future missions that will provide synergy across time with the Far-IR Surveyor
- Dr. Margaret Meixner (STScI), Co-Chair of the Far-IR Surveyor Science and Technology Definition Team, will be the first speaker in this series. Her hour-long webinar will update the community on the Far-IR Surveyor mission concept study. **10 am PDT/1 pm EDT on Friday, July 15.** The webinar will be broadcast using Adobe Connect at the address <https://ac.arc.nasa.gov/firsig/>

SIG 2 – UV-Visible Science and Technology (Paul Scowen, ASU, Chair)

- The membership were solicited to give input to the annual PATR exercise with a deadline of June 1
- The membership were actively encouraged to engage with the ongoing STDT studies for both HabEx and LUVOIR, when possible, through involvement in SWGs or open meetings
- An informal session was held at the SPIE Edinburgh meeting to allow open discussion of areas of interest or concern – about 25 people attended
- Concerns were expressed about the PATR process and the ability to inject information that had not been fact-checked
- There was also discussion about the merits of getting statements about “state of the art” technologies right
- There was discussion about the need for a TIG to help review PATR material each year to ensure accuracy for the subsequent year’s proposals and development



Jet Propulsion Laboratory
California Institute of Technology

Cosmic Dawn Science Interest Group

Joseph Lazio

on behalf of the COPAG EC

Cosmic Dawn SIG

Primary Activities – Past 6 Months

Engagement with the Flagship STDTs

- **Membership on the Far IR Surveyor**
- **Invited all Chairs of STDTs to make presentations to SIG**
Presentations deferred until STDTs are further in their work
- **Observing X-ray Surveyor activities**
Also as part of larger COPAG engagement

Assessment of technology gaps as part of annual COR Program Annual Technical Report

- **Primary gaps identified in the far-IR and radio**
- **Question of how to support gaps identified in the PCOS PATR:**
Is it necessary to submit an identical gap to the COR PATR?
- **Possible focus of SIG meeting at 229th AAS Meeting (2017 January)**

Cosmic Dawn SIG

Cosmic Origins PAG

“We have learned much in recent years about the history of the universe, from the big bang to the present day. A great mystery now confronts us: When and how did the first galaxies form out of cold clumps of hydrogen gas and start to shine --- when was our ‘cosmic dawn’?”

New Worlds, New Horizons

SIG focuses on science cases, observations, and technology development needed to address this "great mystery" of Cosmic Origins.

- **Membership is open to all.**

To be added to the mailing list, please contact Joseph Lazio (Joseph.Lazio@jpl.nasa.gov)

- **Website: <http://cd-sig.jpl.nasa.gov/>**

- No APS actions being requested by the COPAG at this meeting

COPAG Future Activities

- Bi-weekly EC telecons will continue
- Planning for next steps workshops for all 3 SIGs during the next year
- Need to solicit replacement EC members to replace the 4 rotating off in November 2016
- Will plan for active COPAG community engagement at the January 2017 AAS meeting
- Continued dialogue and support of ongoing STDT activities