



# Reports from NASA Program Analysis Groups AAS 223rd Meeting Washington, DC

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# Outline

- Purpose of the Program Analysis Groups (PAGs)
- PAG input and analysis information flow
  - Executive Committee
  - Community membership
- Overview of 3 PAGs
  - Terms of Reference (TOR)
    - Set processes and objectives
    - Science Analysis Groups (SAGs) vs. Science Interest Groups (SIGs)
  - Cosmic Origins (COPAG)
  - Physics of the Cosmos (PhysPAG)
  - Exoplanet Exploration (ExoPAG)

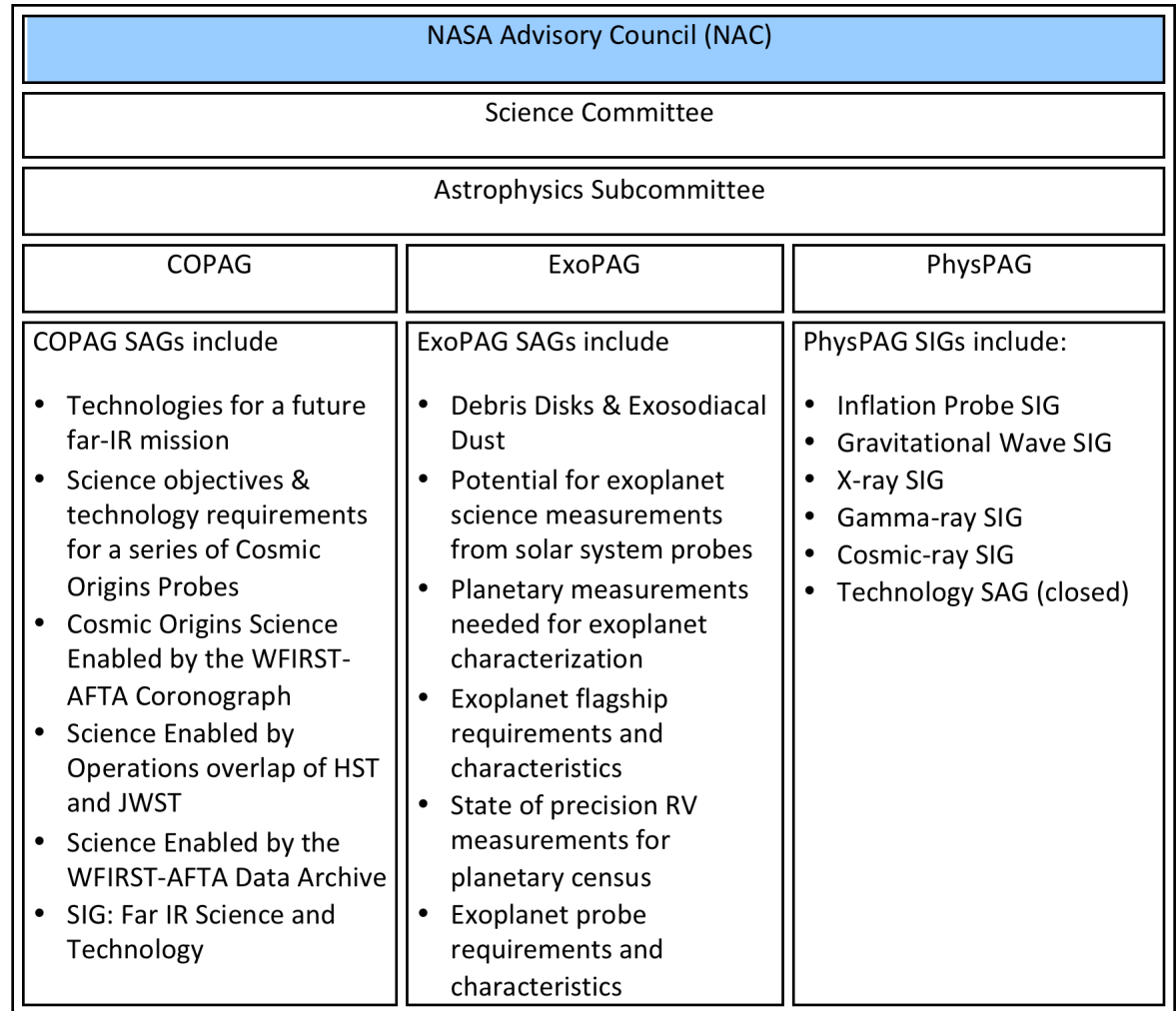


# Purpose of Program Analysis Groups

- Provide open forum for community input
  - Solicit and coordinate
- Provide input into development and execution of NASA programs
  - In support of each of the three Astrophysics Division themes (Cosmic Origins, Physics of the Cosmos, ExoPlanet Exploration)
  - Enable direct, regular communication
  - New-ish for Astrophysics (2009/2010) but 10+ years in other NASA science Directorates (MEPAG, VEXAG, LEXAG)
- Provide analysis to inform planning and prioritization
  - Articulate and prioritize key science drivers
- Possible additional tasks as described in Terms of Reference (ToR)



# Community Input and Analysis Information Flow



Input and Analysis Flow

From Community To NASA





# PAG Executive Committee

- Executive Committee (EC)
  - Collects and summarize community input
  - Reports to NASA Astrophysics Division via the Astrophysics Subcommittee of the NASA Advisory Council (APS/NAC)
  - Typically bi-weekly telecons, but each PAG sets its own schedule
- Executive Committee Assignment process
  - Members solicited by 'Dear Colleague' letter from HQ
  - Appointments by Astrophysics Division Director with concurrence of Science Mission Directory Associate Administrator, consultation with APS chair
- Typical three year term
  - Some staggered and/or extended for continuity
- 7 to 10 members typical
- Chair of Executive Committee must be APS member
  - appointed by Science Mission Division Associate Administrator, after consultation with Astrophysics Division Director and APS chair



# PAG Community Membership

- FULL Community is part of PAG
  - Purpose is to solicit community input!
  - You do not need to be on EC to participate
  - All meetings are open
- Participate via yearly+ meetings
  - At AAS and/or DPS meeting
- Participate via Science Analysis or Science Interest Groups (SAGs and SIGs)
  - Schedules set by deliverables



# PAG Terms of Reference

- ExoPAG
  - ToR – signed 6/3/09, at <http://exep.jpl.nasa.gov/reportsAndDocuments/>
- COPAG
  - ToR signed 8/8/13, at <http://cor.gsfc.nasa.gov/copag/>
- PhysPAG
  - ToR signed 8/8/13, at <http://pcos.gsfc.nasa.gov/physpag/>
- Appendix – SAGs and SIGs
  - Science Analysis Groups: In order to address a specific issue, a SAG may be established in order to perform analysis and report findings to the PAG. Once the findings are reported, the SAG is closed out.
  - Science Interest Groups: In order to collect community input and address longer-term community interests, SIGs may be established. SIGs will have a single, well-defined area of interest (for example, a wavelength band or science topic).
  - SAGs/SIGs are established with approval of APD DD and concurrence of the PAG and APS chairs
  - Chair of SAG/SIG is either a member of EC or the wider PAG



# Cosmic Origins PAG

- Chair – Ken Sembach, STScI, July 2013
- HQ Program Scientist/Executive Secretary – Michael Garcia, Mario Perez
- Program Office Chief Scientist – Susan Neff, GSFC

Currently the COPAG has five active Science Analysis Groups:

- SAG #1: Science objectives for a 4m–8m UV/Optical mission, coordinated by Ken Sembach. (Closed)
- SAG #2: Technologies for a 4m-class monolithic telescope UV/Optical mission w/internal coronagraph, coordinated by Chuck Lillie. (Closed) [**Report**]
- SAG #3: Technologies for an 8m-class segmented telescope UV/Optical mission w/external occulter, coordinated by Jon Gardner. (Closed)
- SAG #4: Technologies for a future far-IR mission, coordinated by Paul Goldsmith and Dave Leisawitz. [**Report**]
- SAG #5: Science objectives & technology requirements for a series of Cosmic Origins Probes, coordinated by Chris Martin.
- **SAG #6: Cosmic Origins Science Enabled by the WFIRST-AFTA Coronagraph** (Approved November 2013)
- **SAG #7: Science Enabled by Operations Overlap of HST and JWST** (Approved November 2013)
- **SAG #8: Science Enabled by the WFIRST - AFTA Data Archive** (Approved November 2013)

Currently the COPAG has one Science Interest Group:

- **Science Interest Group (SIG) #1: Far Infrared Science and Technology** (Approved Nov 2013)





# Physics of the Cosmos PAG

- Chair – John Nousek, Penn State
- HQ Program Scientist/Executive Secretary – Rita Sambruna, Wilton Sanders
- Program Office Chief Scientist – Ann Hornschemeier, GSFC

A blue rectangular box with a white border containing a list of Science Interest Groups (SIGS). The background of the box is a dark blue gradient with a faint image of a galaxy or nebula on the left side.

**Science Interest Groups (SIGS)**

- IPSIG (Inflation Probe SIG)
- GWSIG (Gravitational Wave SIG)
- XRSIG (X-ray SIG)
- GammaSIG (Gamma ray SIG)
- CosmicSIG (Cosmic Ray SIG)
- TechSAG (Technology, no longer active as of January 2012)



# ExoPlanet Exploration PAG

- Chair – Scott Gaudi, Ohio State University
- HQ Program Scientist/Executive Secretary – Doug Hudgins, Larry Petro
- Program Office Chief Scientist – Wes Traub, JPL

SAG	Topic	Leads	Status	Products
1	Debris Disks & Exozodiacal Dust	Aki Roberge	Report completed; paper published in PASP, 2012, 124, 799-808	"The Exozodiacal Dust Problem for Direct Observations of Exo-Earths" <a href="http://adsabs.harvard.edu/abs/2012PASP..124..799R">http://adsabs.harvard.edu/abs/2012PASP..124..799R</a>
2	Potential for Exoplanet Science Measurements from Solar System Probes	Dave Bennett, Dan Coulter	Completed. Topic explored in detail at Kavli Institute workshop, Santa Barbara CA, May 2010	"KISS/KITP Workshop: Exoplanet Science Measurements from Solar System Probes" <a href="http://online.kitp.ucsb.edu/online/exoplanets_m10/">http://online.kitp.ucsb.edu/online/exoplanets_m10/</a>
4	Planetary Measurements Needed for Exoplanet Characterization	Lisa Kaltenegger	Draft report complete	
5	Exoplanet Flagship Requirements and Characteristics	Charley Noecker, Tom Greene	Report completed; posted on ArXiv:1303.6707, March 26, 2013	"Flagship Exoplanet Imaging Mission Science Goals and Requirements Report" <a href="http://arxiv.org/abs/1303.6707">http://arxiv.org/abs/1303.6707</a>
8	Requirements and Limits of Future Precision Radial Velocity Measurements	Dave Latham, Peter Plavchan	Report in progress	
9	Exoplanet Probe to Medium Scale Direct-Imaging Mission Requirements and Characteristics	Rémi Soummer	Seeking members from community	
10	Characterizing the Atmospheres of Transiting Planets with JWST and Beyond	Nick Cowan	Seeking members from community	
11	Preparing for the WFIRST Microlensing Survey	Jennifer Yee	Seeking members from community	