

Expanding Participation in NASA Astrophysics

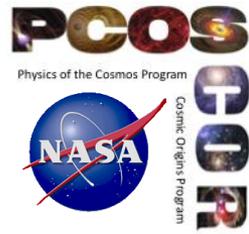


Image: NASA/JPL-Caltech

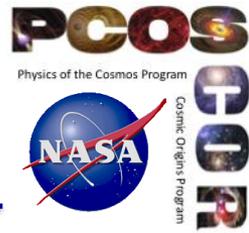
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On behalf of a Cross-PAG Initiative

Astrophysics Advisory Committee Meeting, 29 June 2021

Outline

- **Cross-PAG Initiative on Expanding Participation in NASA Astrophysics:**
 - Astrophysics with Equity: Surmounting Obstacles to Membership (AWESOM)
- **Response to APAC Recommendations**
- **Proposed Terms of Reference**
- **Outstanding questions and issues**

Cross-PAG initiative

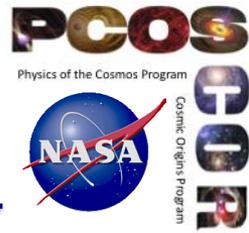


Focus on Expanding Participation in NASA Astrophysics.

Team has included:

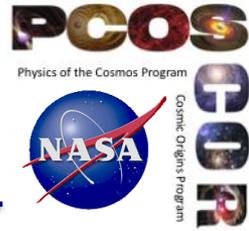
Name	Affiliation	PAG/Program
Jillian Bellovary (Lead)	Queensborough Comm Coll.	PhysPAG
Zaven Arzoumanian	GSFC	PCOS Program Office
Natasha Batalha	ARC	ExoPAG
Terri Brandt	GSFC	PCOS Program Office
Chris DePree	NRAO	COPAG
Justin Finke	NRL	PhysPAG
Ryan Hickox	Dartmouth College	PhysPAG
Peter Kurczynski	GSFC	COR Program Office
Janice Lee	NSF's OIRLab	COPAG
Sangeeta Malhotra	GSFC	COR Program Office
Michael Meyer	Michigan	ExoPAG
Bindu Rani	KASI	PhysPAG
Graca Rocha	JPL	PhysPAG
Sarah Tuttle	Univ. Washington	COPAG
Andres Romero-Wolf	JPL	PhysPAG
Kim Weaver	GSFC	PCOS Program Office
Brian Williams	GSFC	PCOS Program Office

Response to APAC recommendations



- **Draft Terms of Reference were presented to the APAC at March 2021 meeting. The APAC recommended that:**
 - The **goals of the SAG** be made more **focused**
 - Goals are updated to focus on more on understanding the “experiences, needs, and wishes of faculty, scientists, and students that face institutional barriers to participation in NASA astrophysics” and identifying opportunities, rather than analyzing the efficacy of existing NASA programs.
 - **Members of the communities and institutions** of interest be **consulted** regarding the Terms of Reference
 - The Cross-PAG group reached out to 19 scientists from a range of demographic communities and institutions (including MSIs, Community Colleges, etc.). We received detailed feedback from 8 scientists, which we have incorporated into the terms of reference. All who responded were enthusiastic about the SAG.

Proposed Terms of Reference



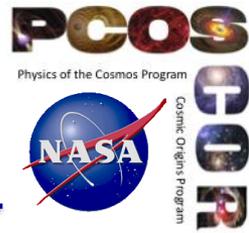
Proposed Cross-PAG SAG on Expanding Participation in NASA Astrophysics

Proposed SAG Name: Astrophysics With Equity: Surmounting Obstacles to Membership (AWESOM)

With the current national focus on diversity, equity, and inclusion as well as efforts to combat systematic bias, and with the Astro2020 Decadal Survey soon to report recommendations on the state of the profession, **we propose for a Science Analysis Group (SAG)** to undertake a careful study of institutional barriers to access in NASA astrophysics. There are many lines of evidence indicating the need for further efforts to improve access to participation in astrophysics, including:

- Among PIs proposing for research grants (for example from the National Science Foundation), Black, Indigenous, and People of Color (BIPOC) scientists are dramatically under-represented relative to the full STEM workforce ([NSF Merit Review Process Fiscal Year 2018 digest](#); [Funk & Parker 2018](#)).
- The fraction of bachelor's degrees awarded in Physics and Astronomy to members of Under-Represented Minority Groups is much lower than for the national population. A critical role in education of physicists from these groups is played by Historically Black Colleges and Universities (HBCUs) and other Minority-Serving Institutions (MSIs; [AIP TEAM-UP Task Force Report 2020](#)). However, in the recent past there have been few NASA astrophysics research programs funded at HBCUs or small MSIs.
- Community Colleges host ~44% of all undergraduates (55% of Hispanic undergraduates), and 55% of low-income students begin college at community colleges ([Community College Resource Center](#)), yet few NASA astrophysics PIs are located at community colleges.
- Anecdotally, colleagues at institutions where research is not prioritized (including many that primarily educate BIPOC students) face many challenges in engaging with NASA research including limited research time, facilities, and expertise in applying for grants and grant management.

Proposed Terms of Reference (cont'd)



This SAG will consist of astrophysicists from multiple disciplines including PhysPAG, ExoPAG, and COPAG, as well as subject matter experts from other fields. We will engage colleagues from the BIPOC community and institutions that are underrepresented in NASA research programs. The SAG will particularly focus on barriers to participation in NASA astrophysics at the institutional level, and seek to analyze the needs of faculty, students, and scientists at institutions that could most benefit from improved access to and participation in NASA astrophysics.

The goals of this SAG are as follows:

- Identify barriers to participation in NASA astrophysics, with a particular focus on systemic barriers and/or low levels of institutional resources.
- Obtain as complete as possible a picture of the experiences, needs, and wishes of faculty, scientists, and students that face institutional barriers to participation in NASA astrophysics.
- Analyze this input to identify opportunities for new initiatives that would reduce these barriers to participation, and would complement existing NASA programs such as those provided by MUREP.

Several of these goals will rely on a broad community census. Any surveys will be formulated and conducted with the assistance of expert social scientists to ensure robust data collection and analysis. The SAG will work in coordination with and complement ongoing NASA diversity & inclusion efforts. The SAG will document findings in one or more publicly available white papers delivered to APAC in 2022.

Outstanding questions and issues

- **Anticipating Astro2020 Decadal Survey Report** in particular State of the Profession recommendations
- **RFI from NASA OSTEM on Advancing Racial Equity and Support for Underserved Communities in NASA Programs, Contracts and Grants Process** (RFI due 12 July 2021)
- Questions/guidance on **development and administration of surveys by the SAG**