Expanding Participation in the NASA Astrophysics Community

Ryan Hickox

Dartmouth College
Chair Emeritus, Physics of the Cosmos Program Analysis Group, PhysPAG
ryan.c.hickox@dartmouth.edu

Astrophysics Advisory Committee Meeting, 31 March 2022

Expanding Participation in the NASA Astrophysics Community

Over the past decade our profession has made strides, individually and collectively, to address its longstanding structural inequities, borne of the **historic barriers of race, gender, class, background, and identity** inherited over decades across all of academia and society…

Against that backdrop it can be unsettling to many to be reminded that **astronomy and astrophysics**, like nearly all of the other sciences, **still has a very long way to go before we can claim any semblance of victory over the inequities remaining within the system we oversee**, regardless of how they came about, and the **inordinate pressures** that we often impose upon ourselves, especially among students, early-career scientists, and **individuals from the many marginalized communities we represent and must encourage**—including those discussed in detail above, as well as the disabled community, LGBTQ community, Muslim American community, and others—through the **structure of our career pipeline and the environments we create in departments and workplaces**. **If we truly aspire to serve as a beacon and gateway to science for all people then our composition ought to reflect our people, all of them.**

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Exploring the Universe with the NASA Astrophysics Community

SACNAS National Diversity in STEM Conference, 25 October 2021

Chair: **Prof. Ryan Hickox** (Dartmouth College; Chair of NASA's Physics of the Cosmos Program Analysis Group)

Dr. Ronald Gamble (NASA Goddard Space Flight Center)
Exploring the Universe with the NASA Astrophysics Community

Prof. Jorge Moreno (Pomona College)
How does the Universe work? Formation of cosmic structure

Dr. Janice Lee (Gemini Observatory Chief Scientist, NSF's OIRLab)
How did we get here? Formation of stars in galaxies

Dr. Natasha Batalha (NASA Ames Research Center)
Are we alone? Characterization of extrasolar planets

Image Credits: NASA/M. Vogelsberger/J. Lee

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Special session is planned for Saturday, November 6, 5:30 - 7 pm (90 minutes). Speakers have 20 minutes for their presentation (15 mins + 5 mins Q&A). Session venue: Dr. Edward Bouchet Breakout Room

Speaker	Affiliation	Presentation Topic	Time
Ron Gamble	Univ. of Maryland / NASA Goddard Space Flight Cetner	NASA Astrophysics	5:30 - 5:50
Ryan Hickox	Dartmouth College	Physics of the Cosmos	5:50 - 6:10
Janice Lee	Gemini Observatory, NSF NOIRLab	Cosmic Origins	6:10 - 6:30
Anjali Tripathi	NASA Jet Propulsion Laboratory	Exoplanet Exploration	6:30 - 6:50

+ Emmanuel Duradola & Stefel Smith (Dartmouth)

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N.6.5 Goal 5: Removing Barriers

Modernize practices that have disparate impact on access to education, training, and advancement.

Scientific excellence depends on ensuring that each generation of scientists can thrive within the environments in which they learn and work, and requires equitable access to education, advancement opportunities, funding, and facilities. Astronomy is a dynamic field, both culturally and technologically, and training (including teaching practices, curriculum, and technical/professional development) that reflects the current state of evidence-based, inclusive practice is needed. Physics and mathematics instruction is the gateway to the Profession and must be modernized nationwide. **Inequities in career advancement and access to the tools of the Profession must be addressed so that the entire workforce is engaged.** See also the driving motivation for SEA Change,[173] an effort of the American Association for the Advancement of Science to effect sustainable change with regard to diversity, equity, and inclusion in STEMM[174] at U.S. institutions of higher education.

Rebalance funding priorities.	Institute Training Grants, Early Career Awards, Leadership Programs, Physics Education Research, PAARE/VFP, REU, Partnerships with PUI/MSI/SC/TCU and relevant Indigenous, local, and global communities (sections N.6.2, N.6.3, N.6.5, N.6.7).

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N.6.5.2 Invest in Programs and Practices to Increase Inclusion and Persistence of Scientists from Groups Historically Underrepresented

Federal funding has created multiple programs to recruit, retain, and advance historically underrepresented people within the Profession, including Bridge Programs (Fisk-Vanderbilt, Columbia, Cal-Bridge, IGEN Bridge); terminal master's programs (e.g., Wesleyan); and summer research programs (REUs, CAMPARE[189]). NSF is funding APS and AAPT's new program, Effective Practices for Physics Programs (EP3) for responding to challenges and engaging in systematic improvements.[190] DOE is funding a Visiting Faculty Program[191] (VFP, formerly known as FaST) to increase faculty and students at institutions historically underrepresented in research areas important to DOE. Last, the National Society of Black Physicists (NSBP), funded by NASA, NIST, NSF, and several national and private research institutions and organizations, has a growing list of student chapters. Such programs and organizations enhance access to doctoral education, as well as a sense of belonging and identity for physics students from underrepresented groups, which increase their persistence and success. However, agencies no longer offer funding for long-term sustainability nor institutional or agency accountability for the continuation of past successful programs. For example, PAARE[192] and MUCERPI[193] are no longer receiving proposals. Investments for programs that have shown progress in increasing the persistence of historically underrepresented groups are most successful if they are not time-limited but are supported for as long as they are effective.

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Proposed Cross-PAG SAG on Expanding Participation in NASA Astrophysics

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

- Group includes scientists from a diverse range of backgrounds, science interests, and institutions

  - From PhysPAG presentation to Oct 2022 APAC meeting: "The effort should **align with recommendations from Astro2020** regarding State of the Profession"

    However, agencies no longer offer funding for long-term sustainability nor institutional or agency accountability for the continuation of past successful programs…Investments for programs that have shown progress in increasing the persistence of historically underrepresented groups are most successful if they are not time-limited but are supported for as long as they are effective.

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- In response to APAC recommendations and Astro2020 SoP recommendations, the **Terms of Reference of this SAG are being updated** to focus on analyzing optimal practices for funding, supporting, and assessing these programs to maximize their impact on expanding participation

- Coordination with NASA on **new and continuing programs** (HBCU engagement, bridge programs, etc.)

- Utilization of responses to **NASA RFI** from June 2021?

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SCIENTIFIC AMERICAN®

NASA Criticized for Ending Pronoun Project

More than 100 employees at NASA's Goddard Space Flight Center were surprised when a test project allowing them to add their pronouns to their agency identifiers was abruptly canceled

By Nadia Drake on March 14, 2022

Each year, members of the LGBTQ+ Advisory Group at NASA's Ames Research Center participate in the San Francisco Pride parade, as seen here during 2019's festivities. Credit: NASA

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"Having the ability to display pronouns—particularly in visible, prominent places, not tucked away at the bottom of an e-mail signature—removes significant burdens for trans and gender nonconforming people," Walkowicz says. "Like all people, trans and gender nonconforming scientists don't want to be constantly self-advocating in order to be themselves in peace. We would actually much prefer to have our pronouns where you can see them so we can all get on with our lives and do some science."

During the hour-long meeting, Melroy and the others made it clear that the test program was over—that the decision was final—although they said they were hoping NASA could formally implement a similar, long-term policy. Yet employees said the presenters offered no satisfactory explanation for the timing of the termination or the rationale behind it.

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NEWS | 25 March 2022

Exclusive: Documents reveal NASA's internal struggles over renaming Webb telescope

E-mails show agency's controversial response to astronomers concerned about past LGBT+ discrimination.

Alexandra Witze

Shown here being packed up for shipment to its launch site last year, the James Webb Space Telescope was designed to probe the early Universe. Credit: Chris Gunn/NASA

https://www.nature.com/articles/d41586-022-00845-6

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Steps forward

-- Continue engagement with community:

Proposal for session at **AAS Summer meeting**, Pasadena, CA, 12-16 June 2022

- Proposal for NASA session at **SACNAS National Diversity in STEM** conference, San Juan, Puerto Rico, 26-28 Oct 2022 (speakers provisionally confirmed) Special thanks to Natasha Batalha (NASA Ames)

  - Opportunities at NASA (Porsche Parker, NASA Ames)
  - How does the Universe work? (Arianna Long, UC Irvine)
  - How did we get here? (Aida Wofford, UNAM)
  - Are we alone? (Steven Villanueva, NASA GSFC)

-- Complete updated **Terms of Reference for Cross-PAG SAG**

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Thank you!