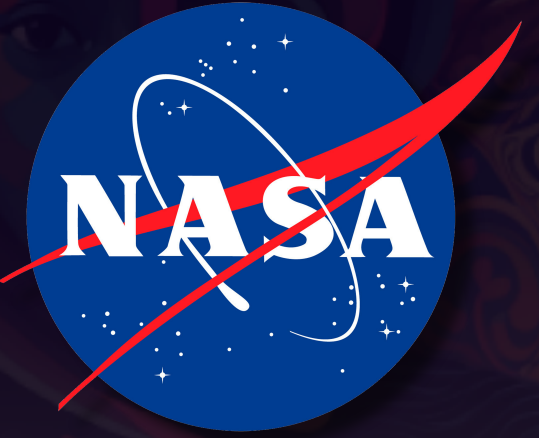


247th American Astronomical Society Meeting | January 2026

National Aeronautics and
Space Administration



Cosmic Pathfinders Program

Updates & Future Plans

Dr. Ronald Gamble

Cosmic Origins Research Scientist

NASA Goddard Space Flight Center | Univ. of Maryland—College Park

Center for Research in Space Sciences & Technology

@DR_GAMBLE21

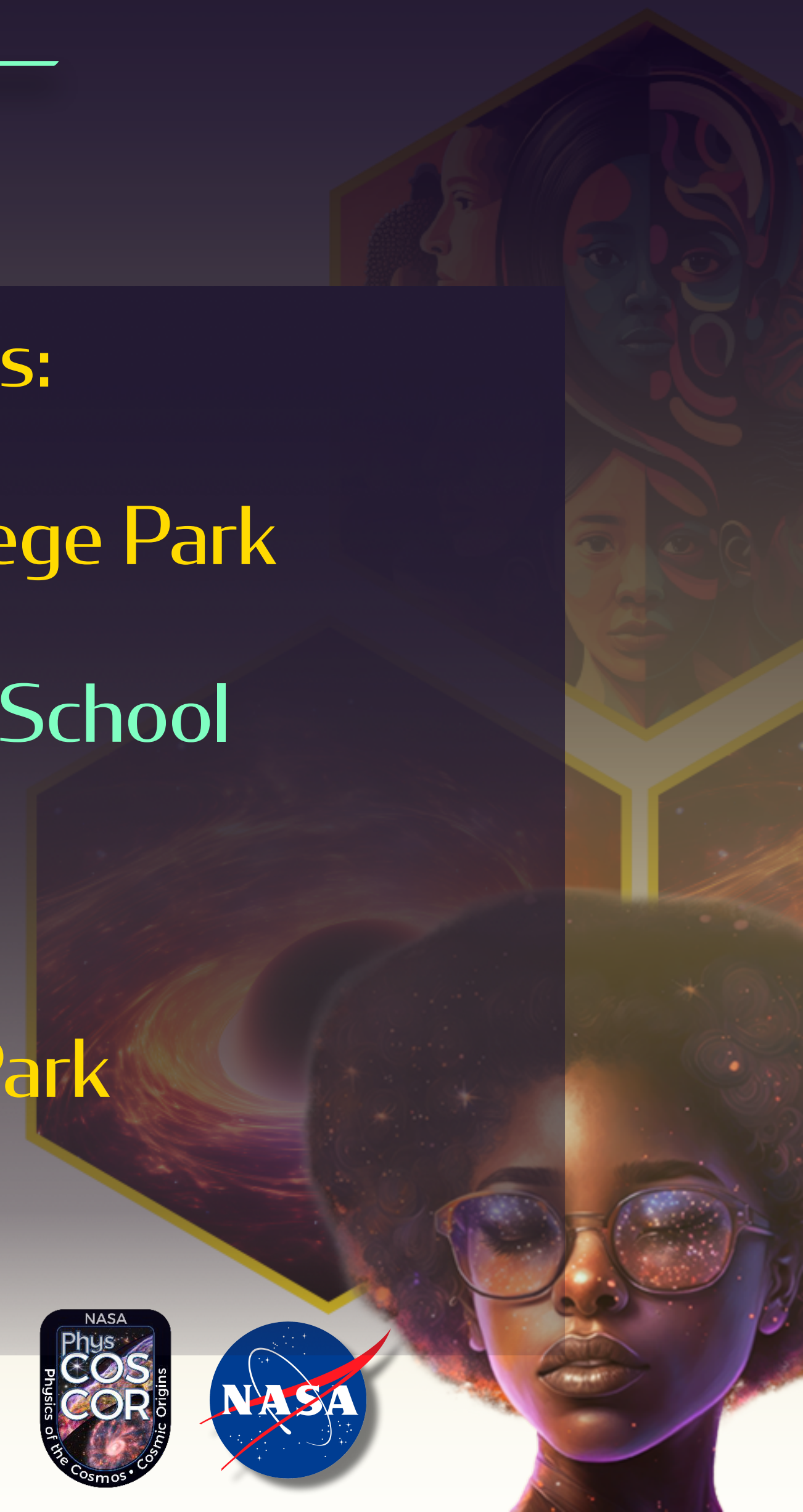
RONALD.S.GAMBLE@NASA.GOV



PROGRAM STATUS

By the people

- The first cohort of student leaders have all rolled-off after 1.5 years:
 - Isiah Holt | Pathways Intern & Doctoral Candidate at UMD-College Park
 - Amethyst Barnes | 2nd-Yr Master's student at CUNY-Gradaute School
 - Jordan Forman | 2nd-Yr Doctoral student at UC-Santa Cruz
 - Gokul Srinivasaragavan | Doctoral Candidate at UMD-College Park



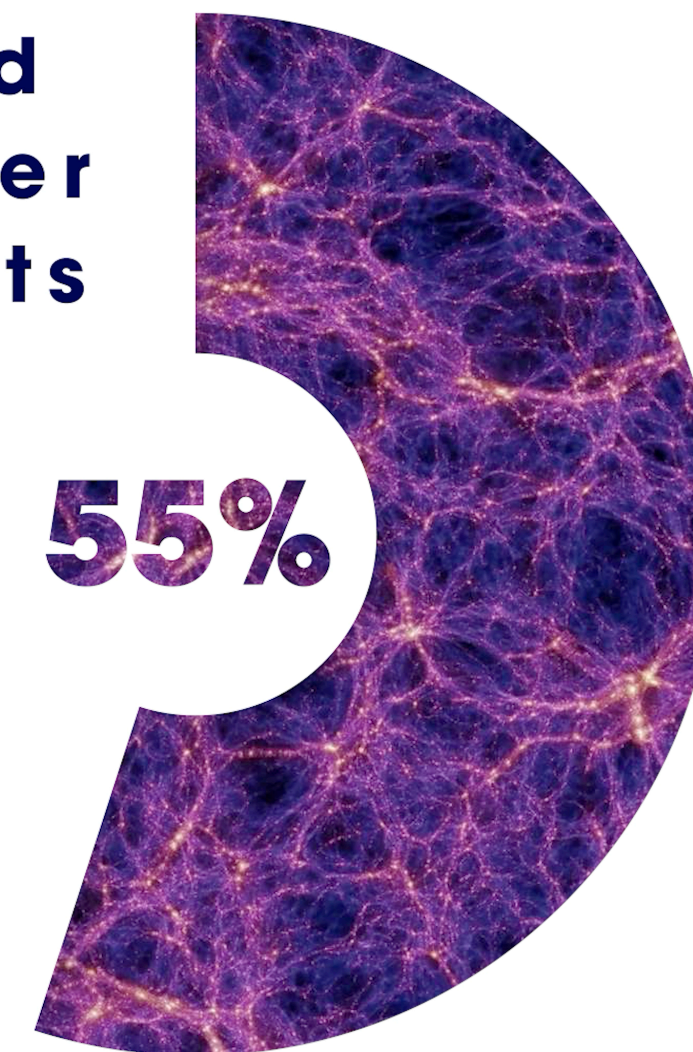
PROGRAM STATUS

By the numbers

- Cosmic Pathfinders email list has grown to over **1,200**
- **600+** in Slack community
- Ratio of domestic to international participants has stayed roughly the same
- **900+** participants across **11 different** program activities over last 2 years

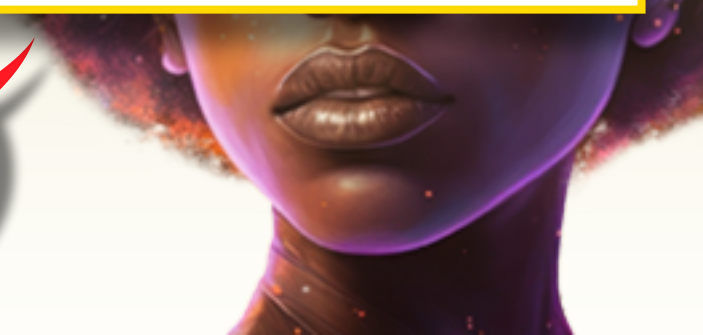
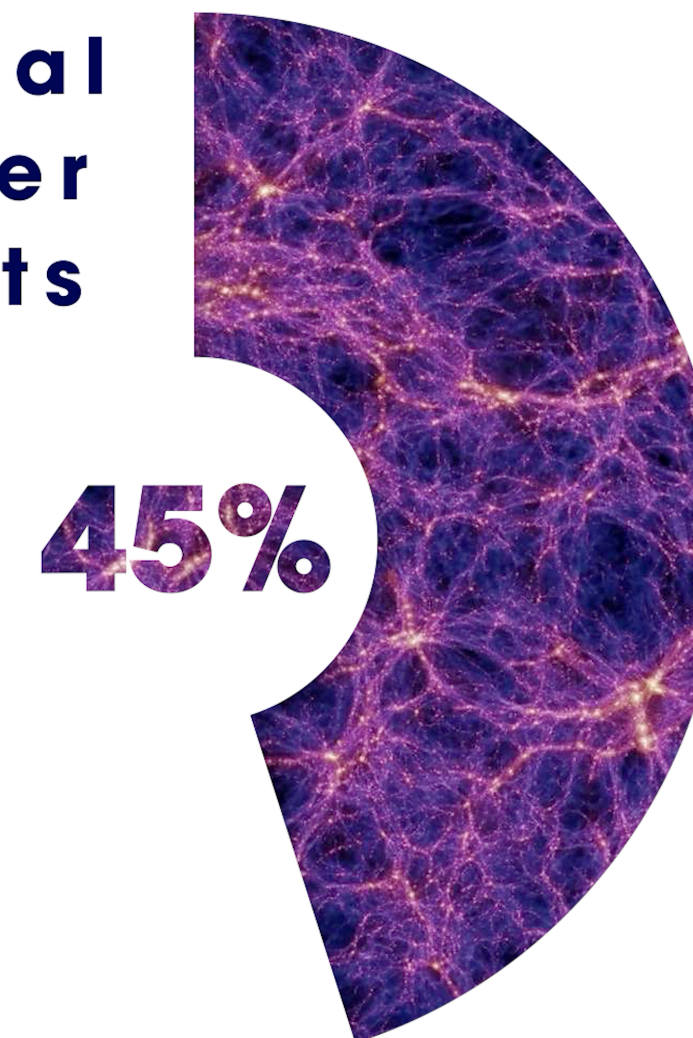
U.S. Based
Early-Career
Participants

55%



International
Early-Career
Participants

45%



2025 *IN REVIEW...*

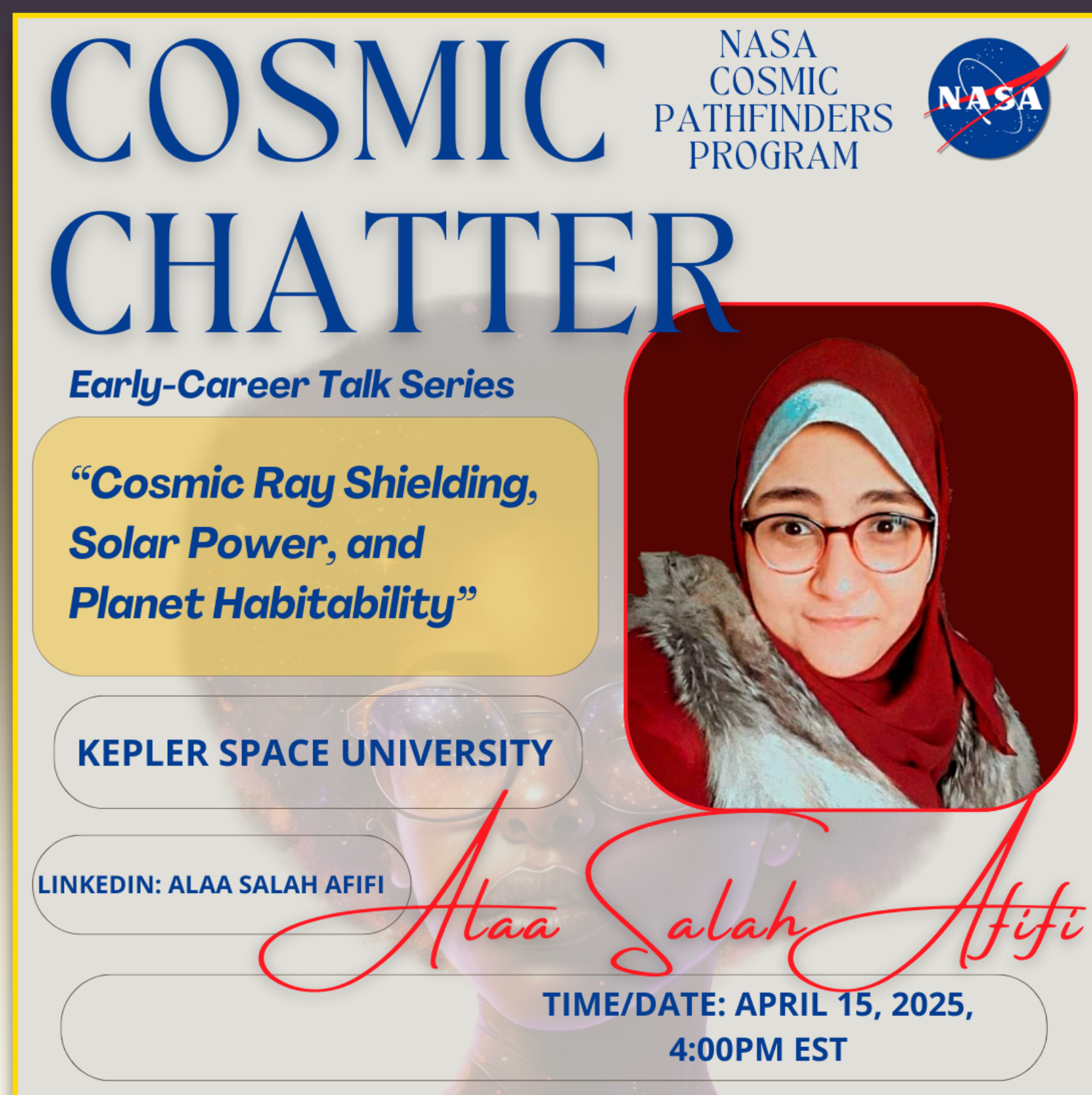
Began on a high note...

- AAS245 Splinter Session | National Harbor, MD | 2025
- Start of the 2nd year
- Over 80 in attendance
- Maximal engagement!



2025 *IN REVIEW...*

...Lots of red tape and hurdles throughout the year...



The poster is for the 'COSMIC CHATTER' Early-Career Talk Series. It features a portrait of Alaa Salah Afifi, a woman wearing a red hijab and glasses. The text on the poster includes: 'NASA COSMIC PATHFINDERS PROGRAM' with the NASA logo, 'COSMIC CHATTER', 'Early-Career Talk Series', '“Cosmic Ray Shielding, Solar Power, and Planet Habitability”', 'KEPLER SPACE UNIVERSITY', 'LINKEDIN: ALAA SALAH AFIFI', a signature 'Alaa Salah Afifi', and 'TIME/DATE: APRIL 15, 2025, 4:00PM EST'.

- One early-career speakers in the Cosmic Chatter series
- Re-prioritization of program
- No student leadership
- Program paused activity paused for several months

2025 *IN REVIEW...*

...but we ended with a bang!



The poster for the Cosmic Origins Early-Career Workshop features a vertical layout. On the left, the text "Science. Mission. Careers." is written vertically. Below it, the NASA logo is displayed. To the right of the NASA logo is the "Phys COS COR" logo, which includes the text "Physics of the Cosmos • Cosmic Origins". The main title "Cosmic Origins Early-Career Workshop" is prominently displayed in the center. Below the title, the dates "October 21-23, 2025" and the time "1:00-4:00pm est" are listed. A QR code is located at the bottom right, with the text "Register Here!" above it. The background of the poster shows a stylized spiral galaxy.

Science. Mission. Careers.

NASA Phys COS COR Physics of the Cosmos • Cosmic Origins

NASA

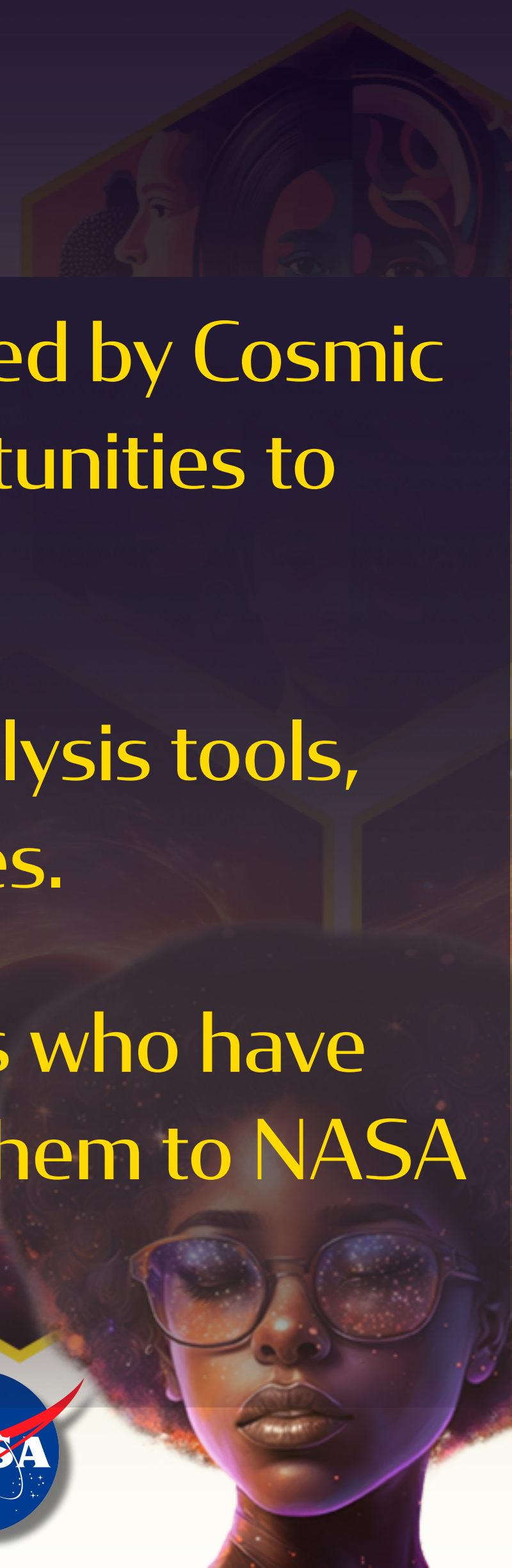
Cosmic Origins Early-Career Workshop

October 21-23, 2025
1:00-4:00pm est

Register Here!

To support and empower the next generation of astrophysics leaders

- Day 1 | Overview of the science themes covered by Cosmic Origins and give early career scientists opportunities to share their research.
- Day 2 | Highlights of NASA archives, data analysis tools, and upcoming research proposal opportunities.
- Day 3 | Participants will engage with speakers who have taken a variety of career paths that have led them to NASA science and mission work.



2025 *IN REVIEW...*

...but we ended with a bang!



Science. Mission. Careers.

NASA Phys COS COR Physics of the Cosmos • Cosmic Origins

NASA

Cosmic Origins

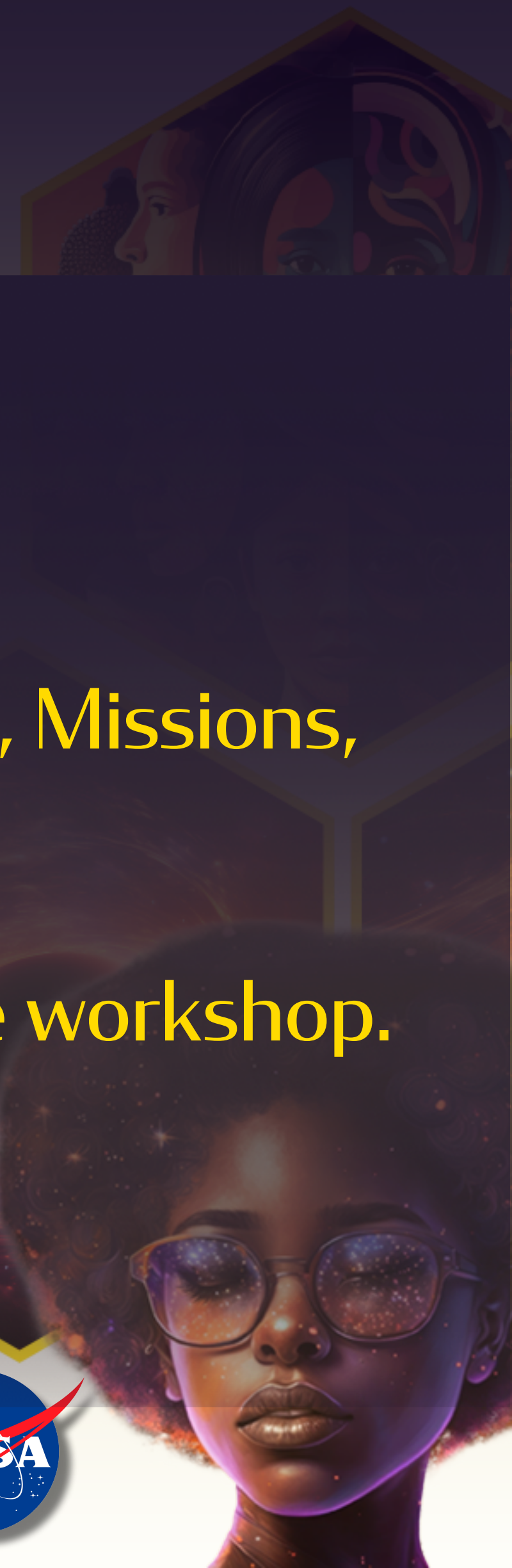
Early-Career Workshop

Register Here!

October 21-23, 2025
1:00-4:00pm est

To support and empower the next generation of astrophysics leaders

- **1,000+** registrants from all over the world
- **10** Submitted talks by early-careers
- 3-days of engagement and speakers: Science, Missions, and Careers
- Averaged **80-100** participants per day of the workshop.



2025 *IN REVIEW...*

...but we ended with a bang!



The poster for the Cosmic Origins Early-Career Workshop features a vertical banner on the left with the text "Science. Mission. Careers." and "To support and empower the next generation of astrophysics leaders". The main title "Cosmic Origins Early-Career Workshop" is centered in large, stylized font. Logos for NASA Phys COS COR and NASA are visible. The dates "October 21-23, 2025" and time "1:00-4:00pm est" are at the bottom, along with a QR code and the text "Register Here!".

Science. Mission. Careers.

NASA Phys COS COR

NASA

Cosmic Origins

Early-Career Workshop

Register Here!

October 21-23, 2025

1:00-4:00pm est

To support and empower the next generation of astrophysics leaders

- Topics spanned: Astrophysics technology, science & folklore, science communication, career branding, leadership roles, grant writing, data archives (FORNAX, HEASARC), and lots of good science.
- Speakers included: AAS president (Dara Norman), *Cosmic Dawn* documentary producer (Sophia Roberts), author/astro-folklorist (Moiya McTier), *AstroTech* Co-Director (Candice Pacheco), students, and more!



CURRENT STATE OF THE FIELD

Impacts of Federal Funding Cuts to Physics/Astronomy

- 88% experienced non-arrivals by non-US citizens due to visa denials and backlogs.

Harvard FAS Cuts Ph.D. Seats By More Than Half Across Next Two Admissions Cycles

<https://www.thecrimson.com/article/2025/10/21/fas-phd-admissions-cuts/>

NEWS | 21 October 2025

US PhD admissions shrink as fears over Trump's cuts take hold

Some doctoral programmes are admitting no students at all amid uncertainty about federal science funding.

By [Alexandra Witze](#)

<https://www.nature.com/articles/d41586-025-03417-6>

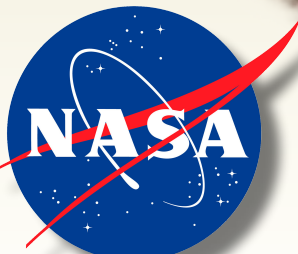
Quarter of UK university physics departments at risk of closing, survey finds

Four out of five making staff cuts as physicists say findings are 'great concern' for UK's leadership in important areas

<https://www.theguardian.com/education/2025/sep/20/quarter-of-uk-university-physics-departments-at-risk-of-closing-survey-finds>



US Astronomy Graduate Admissions, AY 2025-2026, Emily Levesque (emsque@uw.edu)

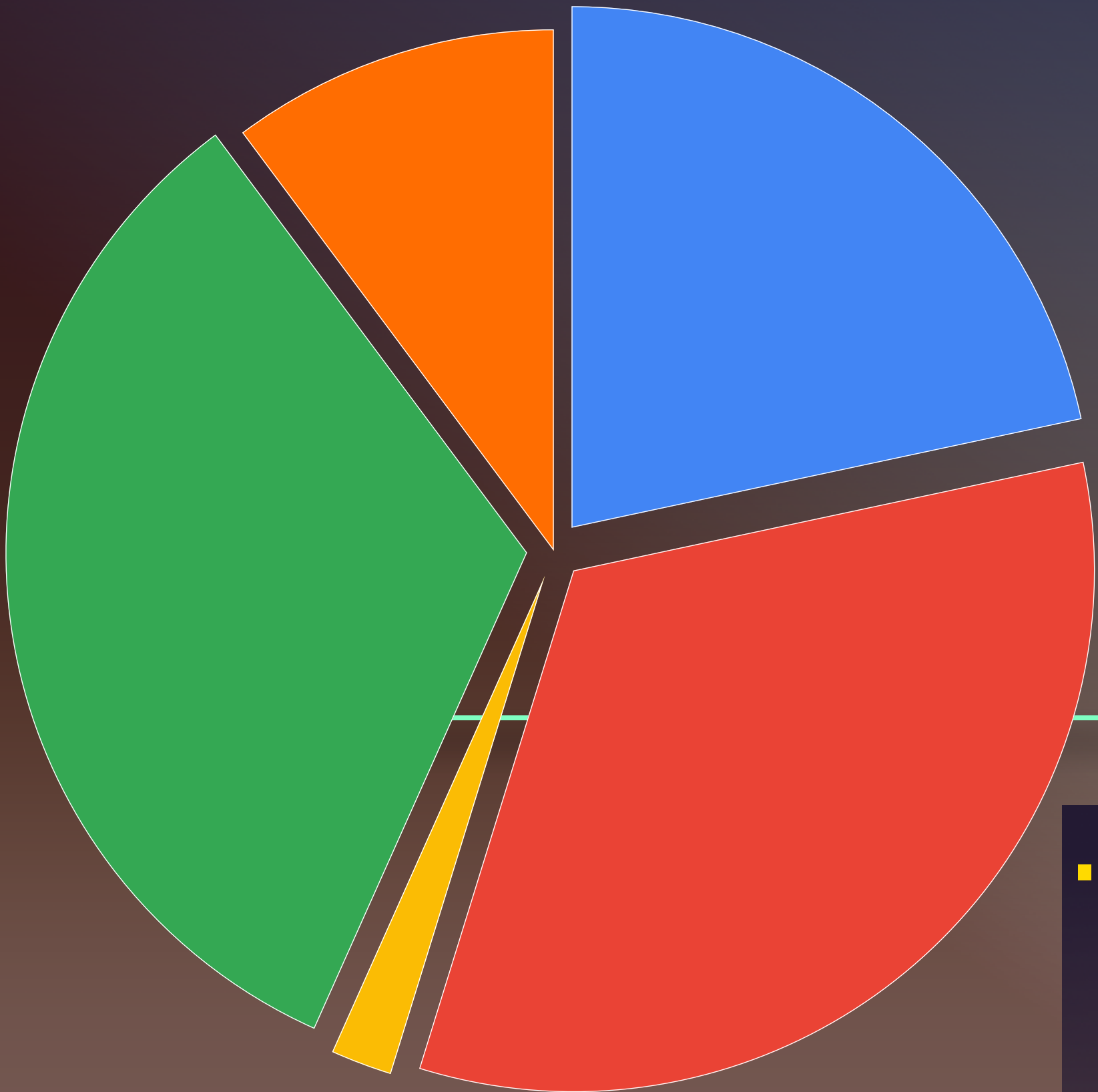


First-year enrollment in graduate physics/astronomy programs is estimated to have declined by 7-9% for 2025

*Estimated Decline in New Graduate Physics Program Enrollments, Fall 2025; AIP,
DOI: [10.1063/sr.725ffbf97e](https://doi.org/10.1063/sr.725ffbf97e)*

● Smaller ● Regular ● Cancelled ● No Data ● TBD

US Astronomy Graduate Admissions,
AY 2025-2026



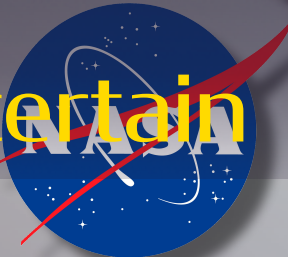
- Distribution of US and Canadian programs that grant graduate degrees in astronomy; indicating these programs' current plans for graduate admissions during the 2025-2026 academic year.

data source: Emily Levesque
(emsque@uw.edu).



US Astronomy Graduate
Admissions, AY
2025-2026, Emily
Levesque
(emsque@uw.edu)

- Only a third of departments will have “regular” admissions cycles for AY 2025-2026
- Almost 25% of departments will shrink
- Over 40% of departments surveyed were uncertain



At Harvard University, The Faculty of Arts and Sciences slashed the number of Ph.D. student admissions slots for the Science division by more than 75%

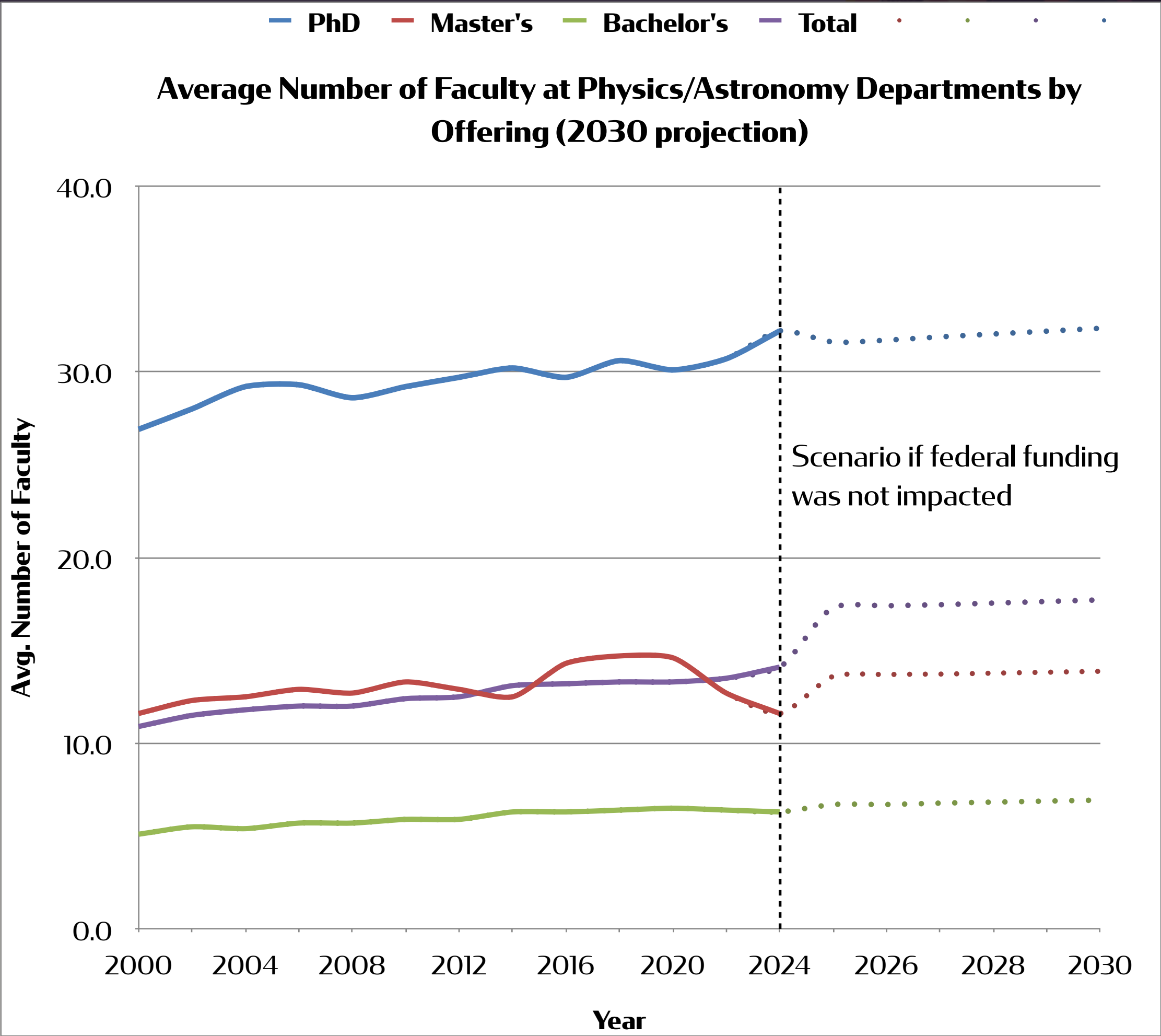
Harvard FAS Cuts Ph.D. Seats By More Than Half Across Next Two Admissions Cycles, The Harvard Crimson, 2025

<https://www.thecrimson.com/article/2025/10/21/fas-phd-admissions-cuts/>

CURRENT STATE OF THE FIELD

Impacts of Federal Funding Cuts to Physics/Astronomy

- Who is impacted the most? — grant-heavy RA and postdoc roles.
- How is the impact felt? — early-career pipeline is squeezed.
- What is the remedy? — shrinking of departments and first-year cohorts



STRATEGIC GOALS FOR PROGRAM

FY 2026 | improve Current Efforts

- Cosmic Pathfinders email list: **1,200+**
- Maximize engagement with a more consistent calendar.
- Improve continuity of communication with participants; convert slack space to discord server.
- Improve metric tracking for program | multi-year metrics that track career trajectories of participants
- Increase in-person engagement for program.



STRATEGIC GOALS FOR PROGRAM

FY 2026 | Cosmic Pathfinders Chapters

- Members of the program who are at the same university or institution may self-organize into chapters upon completion of NASA Cosmic Pathfinders chapter petition form and required materials.
- Chapters are modeled after similar campus organizations and professional societies.
- They present a unique opportunity for students to connect with a national network of astronomers, astrophysicists, and space scientists, and foster a sense of belonging within the larger scientific community.



Petition for NASA Cosmic Pathfinders Chapter

NASA Cosmic Pathfinders Program | FY2025 | Last Updated: 4/22/25

Members of the program who are at the same university or institution may self-organize into chapters upon completion of NASA Cosmic Pathfinders chapter petition form and required materials. Such groups further galvanize the engagement of students with NASA astrophysics. Chapters are modeled after similar campus organizations such as the Society of Physics Students. Chapters may host regular meetings to discuss relevant prevailing academic and professional issues and focus on developing essential scientific, mathematical, and interdisciplinary skills. They present a unique opportunity for students to connect with a national network of astronomers, astrophysicists, and space scientists, and foster a sense of belonging within the larger scientific community.

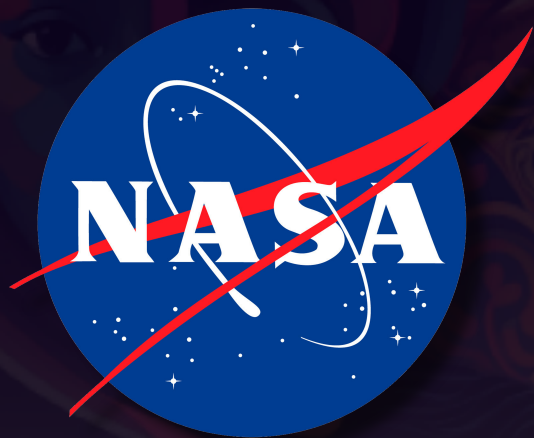
STRATEGIC GOALS FOR PROGRAM

FY 2026 - 2027 | Strengthening the Demand for More

- Expand leadership to (min.) 5 and (max.) 7 members with new focused distribution: Postdocs = 2, Grad students = 3, Post-bacs = 2 | Spring 2026
- Planning for Cosmic Pathfinders Research Symposium | TBA 2026
- Establish an inaugural internship program
- Streamline collaboration with faculty and department chairs



National Aeronautics and
Space Administration



Cosmic Pathfinders Program



Statement of Interest Form

Program Page

Ron Gamble | Contact

@DR_GAMBLE21
RONALD.S.GAMBLE@NASA.GOV

