

245th American Astronomical Society Meeting | January 2025

DERIVING THE EARLY-CAREER ALGORITHM:

National Aeronautics and
Space Administration



First Year Impacts of the Cosmic Pathfinders Program

Dr. Ronald Gamble

Cosmic Origins Research Scientist | Visiting Assistant Research Scientist
Cosmic Origins Program,
NASA Goddard Space Flight Center | Univ. of Maryland—College Park
Center for Research in Space Sciences & Technology

[@DR_GAMBLE21](https://twitter.com/DR_GAMBLE21)

RONALD.S.GAMBLE@NASA.GOV



ASTROPHYSICS FLEET

2020

TESS

NICER

2015

NUSTAR

2010

FERMI

1990

HUBBLE

Tons of science

...very little access to it!

2005

GEHRELS SWIFT

CHANDRA

XMM-NEWTON

2000

SPARCS

SPRITE

BLACKCAT

PUEO

ASPERA

TIGERISS

LANDOLT

PANDORA

STARBURST

MANTIS

POEMM

PIONEERS & CUBESATS

KEY

- INTERNATIONAL PARTNER LED
- ISS INSTRUMENT
- SMALLSAT
- CUBESAT
- BALLOON

- FORMULATION
- IMPLEMENTATION
- OPERATING
- EXTENDED

2025

SPHEREX

ROMAN

COSI

ULTRASAT

ARIEL

UVEX

LISA

PROBES

TRADITIONAL MISSIONS

STATE OF THE PROFESSION MISCUES

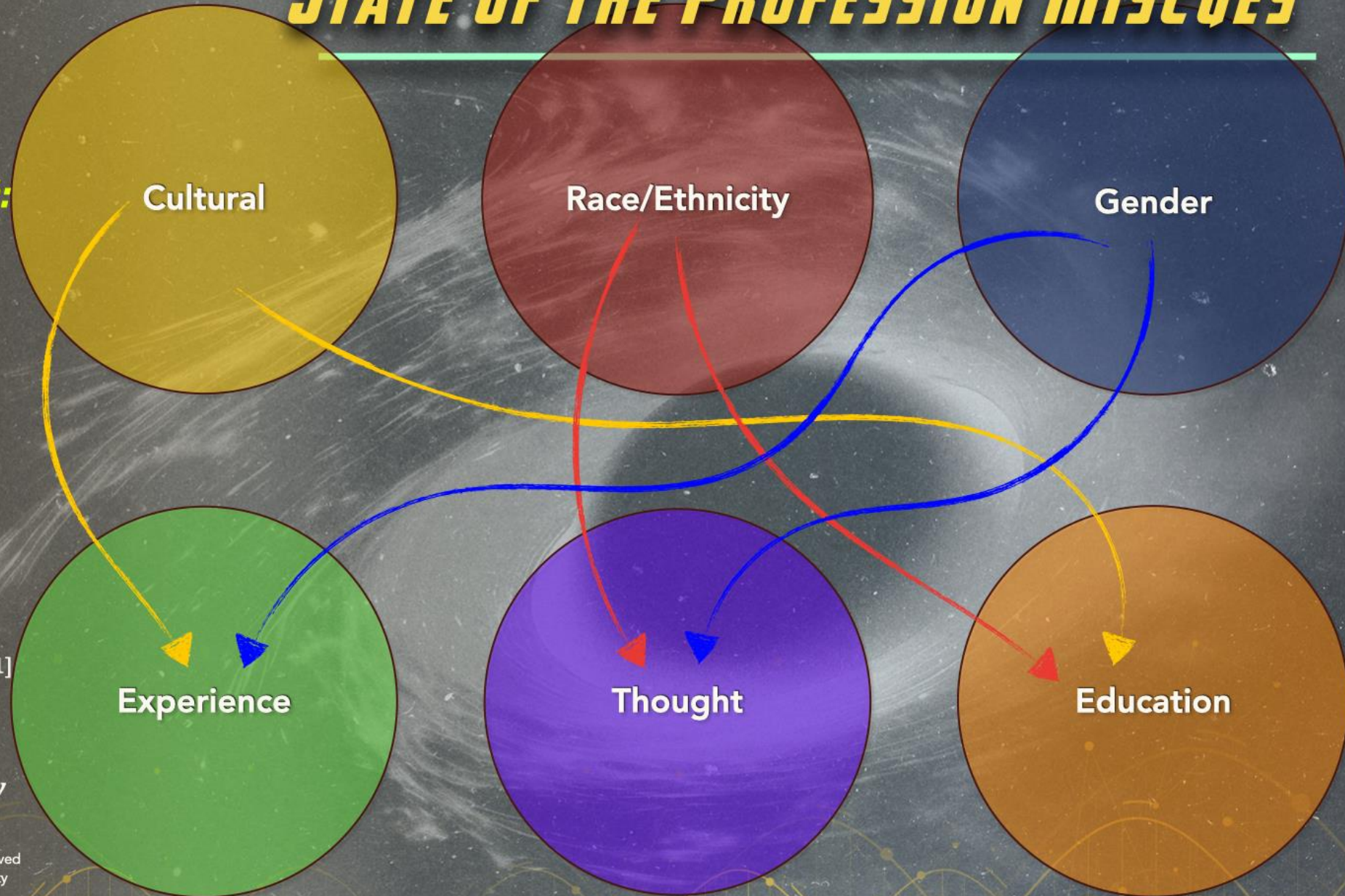
Nonlinearity of Diversity

Di-ver-si-ty / \ Də-ˈvər-sə-tē:
“the quality or state of having many different forms, types, ideas, etc.”

- ▶ **Part of Speech:** Present participle of *Divert* (def: “to change direction or course of”)
- ▶ **Etymology:** Mid-14th century Latin blend of: *Dis-* (“aside”) + *Vertere* (“to turn”) = *Divertere* (“to turn in different directions”)[1]

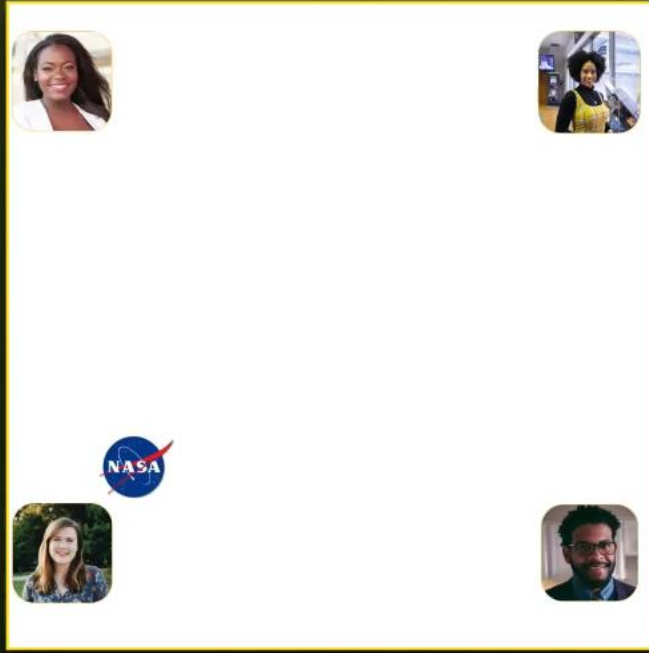
Modern day usage of the word implies a more *ethno-sociologically* directed meaning.

[1] Merriam-Webster. (n.d.). Diversity. In Merriam-Webster.com dictionary. Retrieved December 5, 2021, from <https://www.merriam-webster.com/dictionary/diversity>



WHAT IS THE COSMIC PATHFINDERS PROGRAM?

Cosmic Pathfinders is a program of online events and in-person gatherings that provides an interface to NASA astrophysics. It is motivated by an immediate need to develop the next generation of the STEM workforce in space-related fields.



Over 600 STUDENTS & EARLY-CAREERS SIGNED UP!



WHERE IS THE COSMIC PATHFINDERS PROGRAM NOW?





WHERE IS THE COSMIC PATHFINDERS PROGRAM NOW?

AAS 245 | National Harbor, MD | 2025

AAS245 2025 | #NASACPP

National Aeronautics and
Space Administration



COSMIC PATHFINDERS REACH

>600 STUDENTS & EARLY-CAREERS REACHED GLOBALLY

**>400 active* members on
slack**

**~45% international & ~55%
domestic**

**Garnered interest from professional
societies, government entities/offices, NASA
missions, universities, & commercial industry.**

**>10 invitations to present
program overview since launch**

> 100,000 interactions (impressions & Engagements) online

3 open petitions for UNIVERSITY CHAPTERS!

CURRENT STUDENT LEADERSHIP



Amethyst Barnes
*Master's Student, CUNY
Cosmic Pathfinder Leader*




Gokul Srinivasarangavan
*Doctoral Candidate, UMCP
Cosmic Pathfinder Leader*



Isiah Holt
*Doctoral Candidate,
UMCP
Cosmic Pathfinder Leader*

COSMIC CHATTER SPEAKER SERIES


NASA Cosmic Pathfinders Program 


Charting the Cosmos

An Interactive Mentoring Workshop with *Jessica Harris*

Owner and Founder of Jessica A. Harris, LLC

Time 4:00 - 6:00 PM
Date September 16, 2024

<https://tinyurl.com/bdtr43km> 



NASA COSMIC PATHFINDERS PROGRAM 

COSMIC CHATTER

Early-Career Talk Series


"No Merger No Cry: Assessing the Purity of Ground-Based Starburst Samples via High-Resolution JWST Imaging in COSMOS-Web"

EMMA KLEINER
NASA - GODDARD/JOHNS HOPKINS UNIVERSITY

@ASTRO.EMMA_KLEINER *Emma Kleiner*

TIME/DATE: JUNE 13TH, 2024, 4:00PM ET
[HTTPS://TINYURL.COM/5E89YP9J](https://tinyurl.com/5E89YP9J)



NASA COSMIC PATHFINDERS PROGRAM 

COSMIC CHATTER

Early-Career Talk Series

"Modeling Asteroids and Using Microwave Telescope Data to Constrain Thermophysical Properties"

MARIAH JONES
VASSAR COLLEGE

@MARIAHJONES *Mariah Jones*

TIME/DATE: MAY 30TH, 2024, 4:00PM ET
[HTTPS://TINYURL.COM/5E89YP9J](https://tinyurl.com/5E89YP9J)



Nurture Professional Growth:

The program will access key topics pertaining to issues surrounding **Imposter Syndrome, Career Navigation, Conference Participation, Cultural Inclusivity, and Accessibility.**

The program addresses **intersectionality of these topics with scientific and mathematical skills and other professional scientific skills.**

National Aeronautics and Space Administration



NASA Cosmic Pathfinders Program



Rachel Rivera
*PhysCOS/COR
Technology Development Manager
NASA GSFC*

150 participants!!



Gokul Srinivasarangavan
*Doctoral Candidate, UMCP
Cosmic Pathfinder Leader*



Isiah Holt
*Doctoral Candidate, UMCP
Cosmic Pathfinder Leader*



Dr. Laura Lopez
*Associate Professor
Ohio State University*



Dr. Ronald Gamble
Moderator

The Art of Storytelling in STEM

Panel Discussion

SACNAS NDiSTEM | Phoenix, AZ | 2024

2025

COSMIC PATHFINDERS PROGRAM:

UNIVERSITY CHAPTERS ARE HERE!!

Scan the QR code for the
NASA Cosmic Pathfinders Program
Chapter Petition Form!



 [@DR_GAMBLE21](https://twitter.com/DR_GAMBLE21)
RONALD.S.GAMBLE@NASA.GOV

AAS 245 | National Harbor, MD | 2025

National Aeronautics and Space
Administration



2025

COSMIC PATHFINDERS PROGRAM:

TRANSFORMING THE EARLY-CAREER EXPERIENCE IN STEM

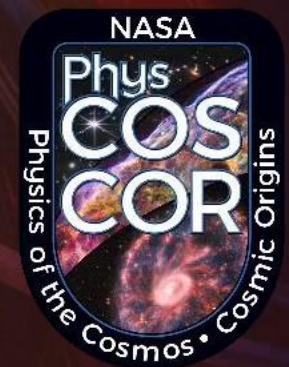
Dr. Ronald Gamble

Director, NASA Cosmic Pathfinders Program

**2024 - 2025 Student Leadership:
Amethyst Barnes, Gokul Srinivasaragavan,
Isiah Holt**



@DR_GAMBLE21
RONALD.S.GAMBLE@NASA.GOV



Scan the QR code to join!

