



National Aeronautics and
Space Administration

**UPDATES FROM NASA PLANETARY
SCIENCE DIVISION'S**

HERE TO OBSERVE (H2O) PROGRAM

D. J. Smith, N. P. Lang, L. Moore, C. Niebur, S. Rinehart,
D. Santiago-Materese, M. Thompson, H. Throop, K. E. Vander Kaaden

NASA Headquarters, Planetary Science Division

hq-h2o@mail.nasa.gov



Underrepresentation in Planetary Science

Race and Ethnicity	Percentage (2,367 Respondents)
Hispanic or Latinx	5%
American Indian or Alaska Native	1%
Black or African American	1%
Native Hawaiian or Other Pacific Islander	<1%
Another Race/Ethnicity	4%
Asian or Asian American*	13%
White*	83%

*Not underrepresented in Planetary Science

Data from 2020 Survey of Planetary Science Workforce (Division for Planetary Sciences of the American Astronomical Society)

Opening doors...

Encouraging a student-led program, aligned with student interests and needs

Supporting meaningful mentorship activities



Enabling cohort-building at institutions

Continuous program refinement through feedback and suggestions

Our goal is to spark and maintain an interest for underrepresented students considering STEM careers

Core Activities

- Mission science team meetings
- Seminars
- Panel discussions
- Site visits (Centers, LPSC)

Supplemental Activities

- Self-guided learning modules
- Social events (e.g., launch parties)
- Coffee hours



VSU students and special DART mission lecture, Nov 2022



UPR cohort attending Clipper PSG in April 2023



Dragonfly hosting VSU cohort at APL in 2023

A promotional poster for an online career panel discussion. It features the NASA logo, the text 'ONLINE PANEL DE CARRERAS', and 'HERE TO OBSERVE NASA-PSD'. It includes two QR codes with the text '¡Regístrate aquí!' and '¡Únete al panel!'. The event is scheduled for '20 de marzo de 2023' from '5:30 - 7:00 PM'. Below the poster, there are six circular portraits of the invited panelists: Lucas Paganini (moderator), Noelia González, Carolina Rodríguez, Junellie Gonzalez Quiles, Miriam Rodón, and Jorge Núñez. At the bottom, it says 'Esta conferencia será en español.' and 'Información adicional upr.h2o@upr.edu'.

UPR Career Panel Discussion, April 2023

C.24 HERE TO OBSERVE

NOTICE: Amended March 20, 2023. The amendment adds this new program element to ROSES-2023. No preliminary statement (such as a notice of intent or a step-1 proposal) is requested.

This program element does not have a proposal due date. Proposals may be submitted at any time, pending certain eligibility timing issues related to resubmissions and duplicate proposal avoidance, see Section 2.4 below and [C.1 Planetary Science Research Program Overview](#).

The Science/Technical/Management (S/T/M) section of proposals is limited to five pages. Optionally, an additional page is allowed for describing a Planetary Science Division (PSD) mission of interest (see Section 2.6).

Neither NSPIRES cover page budgets nor detailed budgets are requested at the time of proposal submission (see Section 3.1). However, proposals should limit costs to within the cap (\$75,000/year). After review, selected teams will be paired with PSD missions to co-create a revised Statement of Work and finalized budget.

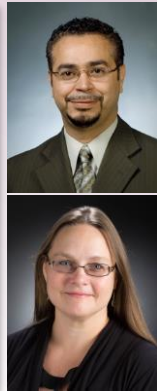
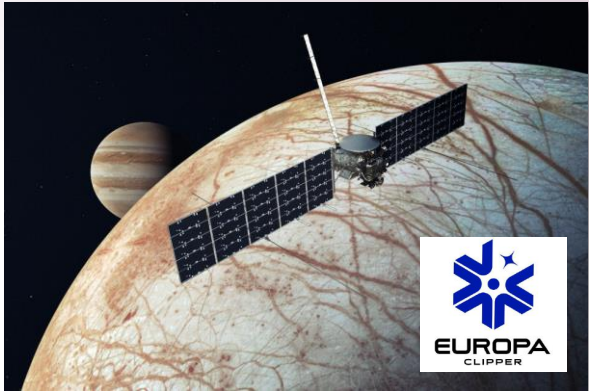
No Open Science Data Management Plan is required for this program element (see Section 3.7).

1. Program Introduction and Motivation

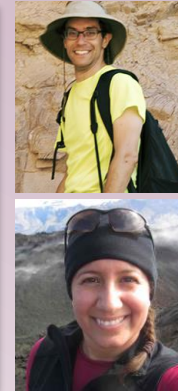
NASA is fully committed to Diversity, Equity, Inclusion, and Accessibility (DEIA). To achieve the greatest mission success, NASA embraces hiring, developing, and growing a diverse and inclusive workforce. More information on DEIA as a core Agency value can be found in the [Administrator's September 2021 Policy Statement on Diversity, Equity, Inclusion, and Accessibility for NASA's Workforce and Workplaces](#), as well as the [FY 2022–26 NASA Strategic Plan for Diversity, Equity, Inclusion, and Accessibility](#).

ROSES C.24 Overview

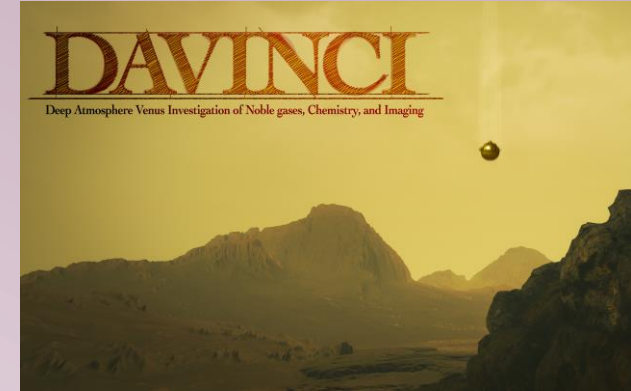
- 5-year awards to partner institutions (only non-RI eligible), up to \$75,000/year
- No Due Date
- No budget needed for submission
- Review panel of PSD mission representatives
- Co-creation period between faculty receiving awards and PSD mission to finalize 9-month H2O program calendar of (program-, institution- and mission-led) activities
- Up to 3 in-person events per year



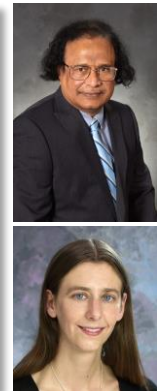
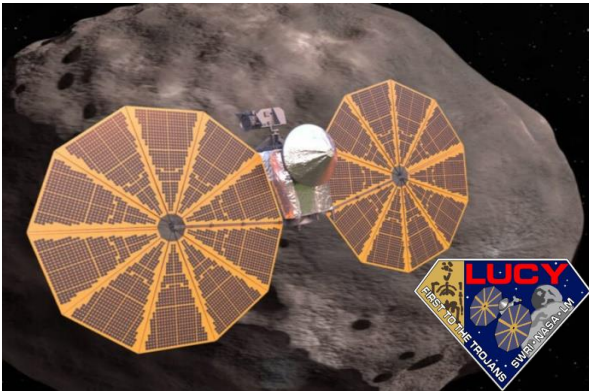
Ohio & Puerto Rico Space Grant Consortia
 Robert Romero (Ohio Aerospace Institute)
 Prof. Gerardo Morell (U. of Puerto Rico)
 Dr. Rachel Klima (Europa Clipper Mission Liaison)



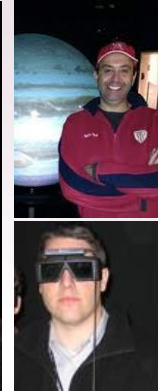
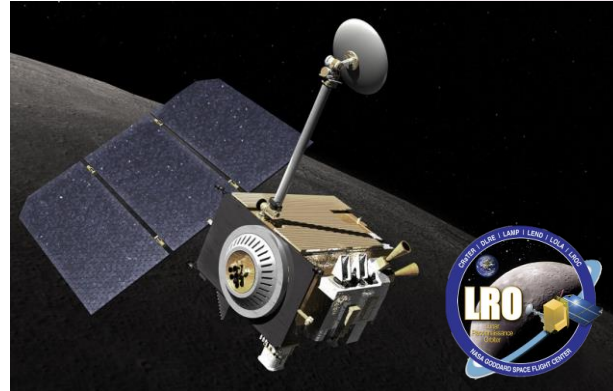
Kingsborough Community College
 Prof. Steven Jaret (KBCC)
 Dr. Alexandra Pontefract (Dragonfly Mission Liaison)



New Mexico State University
 Prof. Nancy Chanover (NMSU)
 Dr. Erika Kohler (DAVINCI Mission Liaison)



Univ. of Arkansas at Pine Bluff
 Prof. Miah Adel (UAPB)
 Dr. Katherine Kretke (Lucy Mission Liaison)

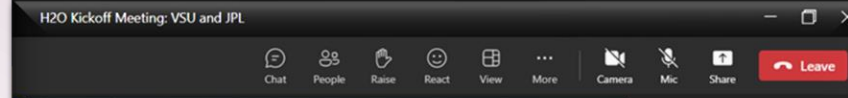


New Mexico Institute of Mining & Technology
 Prof. Raúl Morales-Juberías (NMT)
 John Van Eepoel (LRO Mission Liaison)



Virginia State University
 Prof. Dawit Haile (VSU)
 Dr. Ashwin Vasavada (Curiosity Mission Liaison)

Faculty: Prof. Dawit Haile, Prof. Nasser Ghariban
Student Leaders: MaKhaila Bentil, Justin Terry



Curiosity kickoff event for VSU cohort in 2023



MaKhaila Bentil, GEM Fellow and APL new hire!



Supplemental activity from VSU in 2023/24 cohort



VSU students visiting Wallops Flight Facility in 2023



Faculty & Staff: Prof. Gerardo Morell, Prof. Oscar Resto, Prof. Robert Romero, Tim Hale, Emily Williams

Student Leaders: Andrea Ortiz-Cana, Jorge Coppin-Massanet



Former student leader Jorge Coppin-Massanet, now PhD student, H2O program module co-creator, and logo designer!

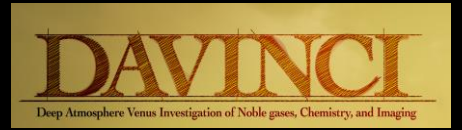
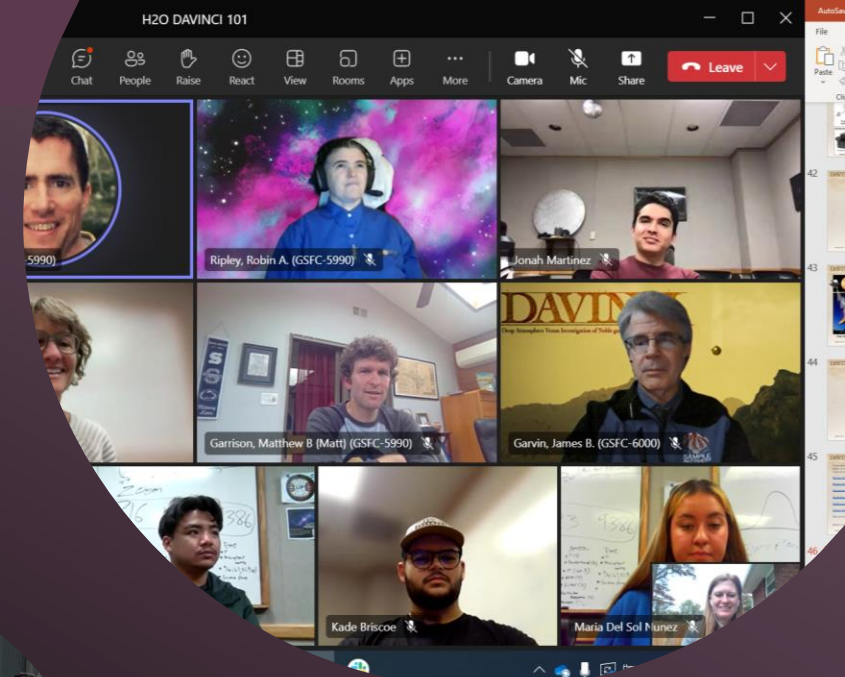
Clipper's PSG held in Puerto Rico, November 2023

Artwork from Luis Y. Rodríguez, 7th grader

H2O Program 2023/24 – Highlights from New Partners & Missions

Faculty & Staff: Prof. Nancy Chanover, Prof. Miah Adel, Prof. Steven Jaret, Prof. Raúl Morales-Juberías

Student Leaders: Hannah Gallamore, Alexandria Collins



150th Anniversary

Lucy-UAPB Pairing

UAPB's Pointe Dr. Ruth D. Jones
 Deputy Division Chief,
 Avionics - E530 Ombudsman
 NASA Marshall Space Flight Center
 Bldg 4487B2000, MSFC, AL 35892
 Desk: 256.544.1092, Cell: 256.677.3388
 ruth.jones@nasa.gov

UAPB's freshmen & sophomores,
 NASA wants more Dr. Ruth Jones from among you.

As incentives NASA	Participation expectations:
1. Has paired UAPB with NASA's Lucy spacecraft studying asteroids (right of Dr. Jones's picture, search in the link: https://www.nasa.gov/feature/2023-03-01/asteroid-2023-01)	1. Students must be US citizens or green card holders.
2. Will provide a field trip to visit a NASA center and for traveling to the Lunar and Planetary Science conference in March 2024.	2. Students must be majoring in a STEM field (or planning to major in a STEM field)
3. Will open the doors to NASA's Lucy (virtual) mission team meetings with 'Student Observer' status.	3. 1-2 hrs. attending NASA and Lucy mission virtual talks each month, September-May, usually on Friday evenings.
4. Will provide NASA mentors to answer your questions and help you with your STEM journey.	
5. Will offer insights into NASA internship and career opportunities.	
6. Leadership opportunities are embedded.	
7. Multiple years' participation opportunities are available.	
8. UAPB may authorize USD ex. fee. for participation (subject to approval).	

UAPB's interested freshmen and sophomores, please contact Dr. Miah M Adel at adelm@uapb.edu with a short, 1-page personal statement describing academic/career interests.



Learning Modules

- Self-guided / self-paced
- Can be used for additional context or by faculty as teaching tool
- Aiming for completion of solar system science modules in 2024

MONTH	NASA SYSTEMS ENGINEERING	NASA SOLAR SYSTEM SCIENCE
September (Module 1)	Introduction	Meet the Planets
October (Module 2)	NASA Organization Hierarchy	Exciting Earth
November (Module 3)	Pre-Phase A	Marvelous Moon and Magnetic Mercury
December (Module 4)	Phase A	Visualizing Venus
January (Module 5)	Phase B	Making it to Mars
February (Module 6)	Phase C	Asteroids and Comets: Small Worlds, Big Impacts
March (Module 7)	Phase D	Jumping Giants: Jupiter, Saturn, Uranus & Neptune
April (Module 8)	Phase E	Wonderous Ocean Worlds
May (Module 9)	Phase F	Pluto and Friends

NASA Systems Engineering modules online; Solar System Science learning modules in development with Prof. Britney Schmidt

Program Evaluation



- In-year feedback from students & faculty
- Outcomes for H2O alumni
- Other recommendations (redesign, refinement, recruiting)

Marcia Higgins, H2O Program Evaluator (marcia.n.higgins@nasa.gov)

Mentor Training

- Intent2Impact* Course (Movement Consulting, LLC) began in January 2024 and runs through May 2024
- 20 seats available for H2O mission mentors
- Feedback and demand from mission mentors will help determine whether training is offered annually

Questions? Suggestions?

hq-h2o@mail.nasa.gov



<https://science.nasa.gov/planetary-science/programs/here-to-observe-h2o/>