UPDATES FROM NASA PLANETARY SCIENCE DIVISION’S

HERE TO OBSERVE (H2O) PROGRAM

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Underrepresentation in Planetary Science

<table>
<thead>
<tr>
<th>Race and Ethnicity</th>
<th>Percentage (2,367 Respondents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic or Latinx</td>
<td>5%</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>1%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>1%</td>
</tr>
<tr>
<td>Native Hawaiian or Other Pacific Islander</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Another Race/Ethnicity</td>
<td>4%</td>
</tr>
<tr>
<td>Asian or Asian American*</td>
<td>13%</td>
</tr>
<tr>
<td>White*</td>
<td>83%</td>
</tr>
</tbody>
</table>

*Not underrepresented in Planetary Science

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

Dragonfly hosting VSU cohort at APL in 2023

VSU students and special DART mission lecture, Nov 2022

UPR cohort attending Clipper PSG in April 2023

UPR Career Panel Discussion, April 2023
**ROSES C.24 Overview**

- 5-year awards to partner institutions (only non-R1 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

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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](#).
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

MaKhaila Bentil, GEM Fellow and APL new hire!

Supplemental activity from VSU in 2023/24 cohort

Curiosity kickoff event for VSU cohort in 2023

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

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
### 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

<table>
<thead>
<tr>
<th>MONTH</th>
<th>NASA SYSTEMS ENGINEERING</th>
<th>NASA SOLAR SYSTEM SCIENCE</th>
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<tbody>
<tr>
<td>September</td>
<td>Introduction</td>
<td>Meet the Planets</td>
</tr>
<tr>
<td>October</td>
<td>NASA Organization Hierarchy</td>
<td>Exciting Earth</td>
</tr>
<tr>
<td>November</td>
<td>Pre-Phase A</td>
<td>Marvelous Moon and Magnetic Mercury</td>
</tr>
<tr>
<td>December</td>
<td>Phase A</td>
<td>Visualizing Venus</td>
</tr>
<tr>
<td>January</td>
<td>Phase B</td>
<td>Making it to Mars</td>
</tr>
<tr>
<td>February</td>
<td>Phase C</td>
<td>Asteroids and Comets: Small Worlds, Big Impacts</td>
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<tr>
<td>March</td>
<td>Phase D</td>
<td>Jumping Giants: Jupiter, Saturn, Uranus &amp; Neptune</td>
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<tr>
<td>April</td>
<td>Phase E</td>
<td>Wonderous Ocean Worlds</td>
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<tr>
<td>May</td>
<td>Phase F</td>
<td>Pluto and Friends</td>
</tr>
</tbody>
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*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)

### 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

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

hq-h2o@mail.nasa.gov

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