

FUTURE LEADERS OF OCEAN WORLDS (FLOW): DIVERSITY, EQUITY, INCLUSION AND ACCESSIBILITY. C. J. Ahrens¹; E. M. Spiers²; K. J. Robinson³; A. G. Marusiak⁴; J. M. Weber⁴; A. A. Morrison⁵; T. Bell⁶; L. E. Rodriguez⁴. ¹NASA Goddard Space Flight Center; ²Georgia Institute of Technology; ³Arizona State University; ⁴Jet Propulsion Laboratory, California Institute of Technology; ⁵University of Texas San Antonio; ⁶University of Guam. (Caitlin.ahrens@nasa.gov)

What is FLOW?: Future Leaders of Ocean Worlds (FLOW), is a recently formed organization of early career scientists and engineers engaged in research relating to ocean worlds. This organization was initially formed and inspired by members of the Network for Ocean Worlds (NOW) who felt there was a need for a space where early career researchers could interact, collaborate, and learn within the larger ocean worlds research community. The first meeting of FLOW was February 22, 2021, of less than a dozen NOW-affiliated graduate students and postdocs. Since then, the organization has expanded beyond the NOW network and has over 50 members from around the globe and across institutions. The main objectives of FLOW are to foster collaboration, develop community, and advance the interests of early career ocean-world researchers. These three primary objectives, as stated in the FLOW mission statement and bolded below, are achieved through the following sub-goals:

FOSTER COLLABORATION

- Provide opportunities for mentorship
- Share research updates and receive feedback
- Provide a place for meaningful research discussion
- Expand network of peers

DEVELOP COMMUNITY

- Facilitate ocean-world early career events
- Organize conference meetups
- Advance equity, diversity, and inclusion within the ocean world community
- Provide an open and inclusive community

ADVANCE THE INTERESTS OF FLOW RESEARCHERS

- Improve knowledge/ understanding of ocean worlds
- Advocate for early career interests and needs within the ocean world community
- Share opportunities and resources relevant to FLOW members (e.g., funding opportunities, conference information, job postings)

Our IDEAs: Inclusion, Diversity, Equity, and Accessibility (IDEA) are crucial factors in the robustness and flexibility of any program or organization. To help achieve these ideals FLOW is composed of mostly virtually held events to increase attendance and access. FLOW additionally has no required fees or dues for membership. Membership is restricted only to members must agree to a code of

conduct and must be currently involved in ocean-world relevant research or educational activities. Issues of IDEA are not only explicitly included within the organization's goals stated previously but are also protected through the organization's code of conduct that all members are required to adhere to.

To foster an atmosphere that encourages the free expression and exchange of scientific ideas, all participants in FLOW agree to an environment free from all forms of discrimination, harassment, and retaliation. In addition, FLOW participants agree to collaborate under the philosophy of equality of opportunity and treatment for all members, regardless of gender, gender identity or expression, race, color, national or ethnic origin, religion or religious belief, age, marital status, sexual orientation, disabilities, veteran status, or any other reason not related to scientific merit. FLOW members agree to conduct themselves in a manner that is consistent with the Ethics Policy adopted by the American Astronomical Society (AAS). Violations of the FLOW code of conduct would result in dismissal from FLOW, as clearly stated within the organization's code of conduct.

FLOW brings in early career planetary and earth scientists, primarily graduate students and post-docs, from diverse branches of study (e.g., oceanographers, interior geophysicists, cryo-geologists, chemists, astrobiologists etc.) with the intention of bringing young voices together to advocate for and with each other. Since FLOW is a relatively new group, it very much welcomes ideas on supporting and retaining members, as well as advancing IDEA within the organization and the ocean world research community at large.

Planned Activities: FLOW has previously planned and is actively planning activities for members that may not otherwise have access through their own institutions or who are unable to attend workshops/conferences for networking. FLOW strives to have a variety of different networking and workshop-type activities accessible to early career ocean world researchers from any institution. As stated previously, the majority of FLOW-hosted events are held virtually with no restrictions on attendance beyond adhering to the code of conduct. Some of these have included virtual social events, professional event meetups, scientific talks, writing workshops, and career development "Coffee Chats".

The FLOW Coffee Chats have been an informal, panel-style discussion where 3-4 scientific professionals

give advice, answer questions, and provide personal perspectives to the attending virtual audience on a given topic. There have been varying coffee chat topics though they generally revolve around future career trajectories. Previous topics and invited expert panelists have included:

- Life-Cycles of missions and getting involved in mission work (*Dr. Linda Spilker, NASA JPL; Dr. Melissa Trainer, NASA GSFC; Dr. James Keane, NASA JPL; Dr. Kate Craft, JHU APL*)
- Careers in government research (*Sharon Walker, NOAA; Dr. Laurie Barge, NASA JPL; Dr. Elliot Sefton-Nash, ESA; Dr. Bethany Theiling, NASA Goddard*)
- Careers in industry (*Dr. Elise Miner, Sila Nanotechnologies; Dr. Pablo Sobron, Impossible Sensing; Peter Ilhardt, Areté; Shivaprakash Muruganandham*)
- Careers across academia (*Dr. Charlene Estrada, South Mountain Community College; Dr. Alberto Mestas-Nunez, University of Texas at San Antonio; Dr. Jill Mikucki, University of Tennessee; Dr. Alysia Cox, Montana Technological University*)
- Careers in the non-profit research sector (*Julie Huber, WHOI; Jeffrey Seewald, WHOI; Jennifer Hanley, Lowell Observatory; Alejandro Soto, SWRI*).

FLOW recently hosted its first early-career proposal writing workshop in early February 2022, where members were given the opportunity to draft a NASA ROSES-type solicitation and receive feedback from both their peers as well as a NOW steering committee panel. Information on how to put a proposal together and presentations on how to write a proposal were also part of this multi-week workshop. Due to the success of this past workshop, FLOW hopes to continue hosting similar workshops in the future.

FLOW has successfully hosted two professional meetups, a virtual meet-up for Outer Planets Assessment Group (OPAG) in August 2021 and an in-person meet-up at American Geophysical Union (AGU) Conference in December 2021. Plans were made initially for a meet-up at Ocean Sciences Meeting (OSM) in February 2022, prior to it switching to a virtual-only conference. FLOW is currently planning details for in-person social meetups at both the Lunar and Planetary Science Conference (LPSC) in March 2022 and the Astrobiology Science Conference (AbSciCon) in May 2022.

Contact or join FLOW: More information on FLOW, including our leadership team and the sign-up form can be found at <https://oceanworlds.space/flow/>. Inquiries or questions regarding the Future Leaders of Ocean Worlds (FLOW) can also be sent to the organization's lead, Elizabeth Spiers (spiers@gatech.edu).

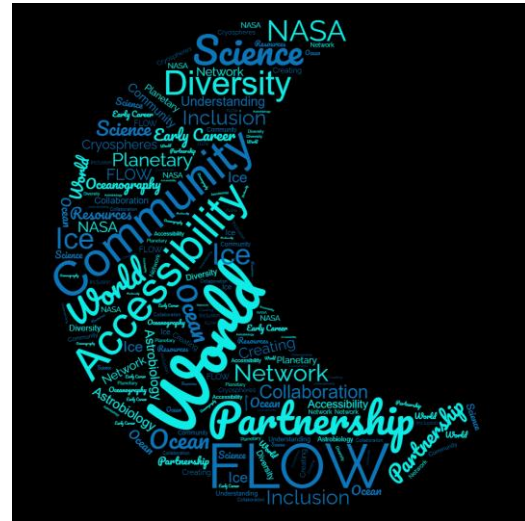


Figure 1. A word cloud composed of FLOW's values and goals.