THE NASA ASTROBIOLOGY PROGRAM'S PROFESSIONAL ADVANCEMENT WORKSHOP SERIES: NEXT STEPS. J. L. Noviello[1,2], S. Domagal-Goldman[2], and M. Kirven-Brooks[3]. [1]NASA Postdoctoral Management Program, Oak Ridge Associated Universities, Oak Ridge, TN, 37830. Jessica.Noviello@NASA.gov [2]NASA Goddard Space Flight Center, Greenbelt, MD 20771. [3]NASA Astrobiology Program, NASA Ames Research Center, Moffett Field, Mountain View, CA 94035.

Introduction: In the modern-day competitive job search, it is not enough for a candidate to have an excellent academic resume. Candidates must also present themselves well in various styles of interviews, have managerial skills, and be capable of engaging in complex interpersonal relationships and team building. The NASA Astrobiology Program's Professional Advancement Workshop Series (PAWS) addresses the need for professional skills development that is not traditionally taught in graduate programs.

PAWS is designed to supplement academic teachings by providing a space where early career scientists can learn new skills to help them explore, interview for, and be hired in the jobs and careers they want. This is especially true for jobs that are outside of the traditional academic "pipeline" (the path of student to postdoc to tenure-track professor). PAWS embraces the braided river model of career development [1], which emphasizes flexibility as a scientist's needs change throughout their life. PAWS also presents an opportunity for other early career scientists to meet and network with each other outside of conferences and other formal events. This is especially important as the world emerges from the ongoing COVID-19 pandemic. Finally, PAWS creates an informative space full of resources available to everyone, which lowers institutional barriers regarding knowledge of opportunities and potentially provides mentorship to those in need. Both items are identified as supportive of a more diverse and inclusive future workforce [2–4].

PAWS began in August 2021 and was originally intended to last until the Astrobiology Science Conference in May 2022. The NASA Astrobiology Program initially sponsored PAWS, allowing the PAWS Leadership to bring in expert speakers from outside of NASA. These external speakers exposed the event attendees to new techniques and perspectives. PAWS has been able to continue beyond May 2022 because of many people volunteering their time for panels and a good balance between panels and expert-led workshops. Here, we share how PAWS works, what the results have been so far, and the future plans for PAWS.

Format of PAWS events: Since NASA Astrobiology paid for PAWS, these events are open to any scientist who is part of the NASA Astrobiology community. Though the content is geared towards early career scientists, anyone can join an event. It is not required that attendees are members of a NASA Astrobiology Research Coordination Network (RCN), but being in an RCN greatly increases the chance that someone is aware of PAWS.

Events are between 60 and 90 minutes long. The topic, speaker, and goals are advertised to the entire NASA Astrobiology community via multiple list-servs, including the NASA Astrobiology RCN list-servs (e.g., NExSS, NOW, etc.), internal communications platforms (e.g., Microsoft Teams, Slack), and word-of-mouth. All PAWS events are fully virtual and held on Zoom with captioning enabled. Most PAWS events are recorded and put on the NExSS YouTube channel within 48 hours, except for the one event that focused on mental health, due to the sensitivity of the subject matter. Each event is moderated by the PAWS Leadership team and begins with an introduction that includes a code of conduct. All PAWS resources are provided to members on a dedicated page on the NExSS website. These links are included at the end of this abstract.

Panels are 60 minutes long and provide an opportunity for multiple people to speak about their experiences in a particular field and then answer questions directly from the audience. These panels have so far focused on careers in NASA management, data science, video game design, and National Laboratories. We also had a special panel on the NASA Postdoctoral Program in August 2022 that was timed to prepare applicants for the November 1 deadline.

Workshops are designed to be interactive to give attendees opportunities to practice skills that they learn in the workshop. So far these have focused on identifying the right job based on values, wants and needs; interviewing skills; and overcoming perfectionism. The January 2023 event will focus on science policy. These workshops are always led by outside experts.

PAWS event topics are partially determined by the attendees themselves. In spring 2022, attendees were asked to fill out a survey ranking the topics they wanted to have prioritized for the remainder of 2022. The Leadership team intends to do the same in spring 2023.

Current Successes: Currently the PAWS community is over 350 members large. Registration is required for PAWS events, which helps reduce the

number of emails sent out to the general list-serv and allows us to collect voluntarily provided demographic information about career stage and research area. We also track people who have returned for multiple PAWS events (10 events in total).

As of October 2022, after the last PAWS event, the community is composed of people ranging in career stage from undergraduate to senior scientists in professorships and NASA administration. 80% of attendees who provided this information self-identify as graduate students, post-baccalaureate researchers, or postdoctoral scholars (n=184). This is strong evidence that PAWS is reaching its target demographic. Roughly 42% of the participants (n=263) are not a member of one of NASA Astrobiology's RCNs, which suggests that there is a general need for this programming beyond the NASA Astrobiology community.

Future Plans: PAWS has no end-date and will continue for as long as possible. We are currently investigating options to secure additional funding for PAWS so that we can continue to hire expert speakers for our workshops. We also have plans to formally analyze the data we have and write a manuscript about this model for future professional development workshops. We aim for a manuscript on PAWS to come out sometime in early 2024.

PAWS is also eager to expand its reach, particularly to the planetary science community. The PAWS Leadership team, in partnership with the Lunar and Planetary Institute, will submit a proposal to the NASA ROSES Topical Workshops, Symposia, and Conferences call to fund a week-long virtual workshop focused on topics we have not yet covered in previous PAWS events, and to open PAWS to a new audience. Topics we will cover in this week-long program will include an introduction to project management, how to build a research website (with time to create one and hear feedback from others), and public speaking, though this list is not exhaustive. We aim for this event to take place in August 2023.

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References: [1] Batchelor, R. L. (2021), *Eos*, *102*, https://doi.org/10.1029/2021EO157277 [2] National Academies of Sciences, Engineering, and Medicine (2016), https://doi.org/10.17226/21900. [3] National Academies of Sciences, Engineering, and Medicine (2021). https://doi.org/10.17226/26141. [4] National Academies of Sciences, Engineering, and Medicine (2022). https://doi.org/10.17225/26522.

Additional Information: PAWS playlist on the NExSS YouTube channel: https://www.youtube.com/playlist?list=PLA1rcvHDMyYhcPcfFzB74R-4gAmntN1qI

PAWS webpage: https://nexss.info/paws/

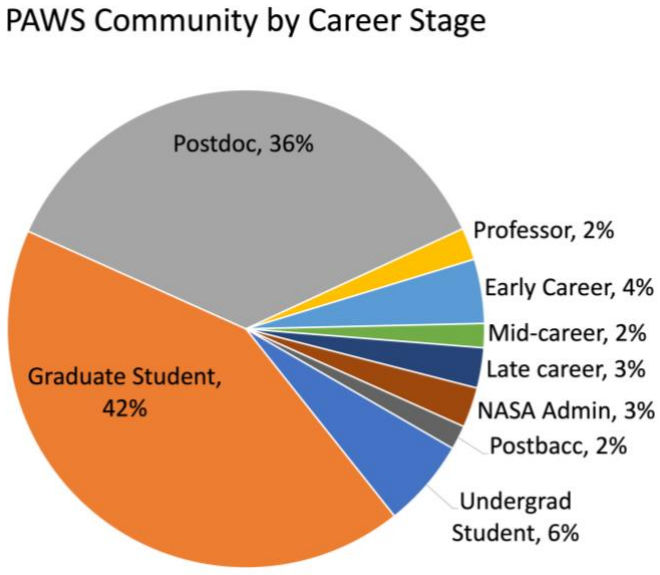

Figure 1: The PAWS Community broken down by self-reported career stage. Graduate students, post-baccalaureate researchers, and postdocs make up ~80% of the PAWS community, proof that PAWS is reaching its target audience.

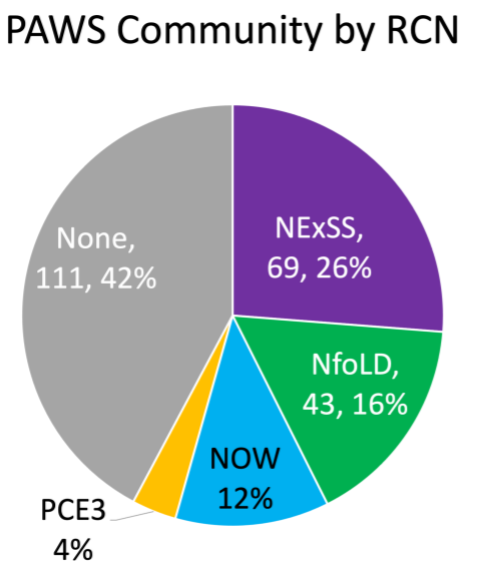

Figure 2: The PAWS Community broken down by self-reported NASA Astrobiology RCN. NExSS is the Nexus for Exoplanet System Science; NfoLD is the Network for Life Detection; NOW is the Network for Ocean Worlds; and PCE3 is Prebiotic Chemistry and Early Earth Environments.