MAKING PLANETARY SCIENCE MORE INCLUSIVE: AN INTRODUCTION TO THE WORK OF THE AMERICAN ASTRONOMICAL SOCIETY'S DIVISION OF PLANETARY SCIENCES PROFESSIONAL CULTURE AND CLIMATE SUBCOMMITTEE (PCCS). R. N. Schindhelm[1], J. A. Rathbun[2] S. Diniega[3], S. M. Brooks[3], S. M. Hörst[4], K. E. Mandt[5], J. Piatek[6], E. G. Rivera-Valentin[7], A. Soto[8], M. S. Tiscareno[9] , C. Thomas[10], [1]Ball Aerospace (rschindh@ball.com), [2]Planetary Science Institute, [3]Jet Propulsion Laboratory, California Institute of Technology, [4]Johns Hopkins University, [5]Johns Hopkins Applied Physics Lab, [6]Central Connecticut State University, [7]Lunar and Planetary Institute, [8]Southwest Research Institute, [9]SETI Institute, [10]Northern Arizona University.

Introduction: The American Astronomical Society's (AAS) Division for Planetary Sciences (DPS) Professional Culture and Climate Subcommittee (PCCS) was formed in 2016 in an effort to explore the broad issues surrounding inclusion in planetary science. Its purpose is to work towards shaping the professional environment of planetary scientists into ones where professional merit is the only criterion that determines each person's success. The mission of the PCCS is to consider and recommend actions that the DPS Committee can take to promote a broadly inclusive professional community characterized by respect, honesty, and trust, and one in which people of diverse backgrounds are, and perceive themselves to be, safe welcomed, and enabled. The charge of the DPS to the PCCS and the 2017 recommendations of the PCCS to the DPS can be found at the PCCS website: https://dps.aas.org/leadership/climate. Currently the PCCS is co-chaired by Julie Rathbun and Serina Diniega; many other members will also be present at this meeting.

Through the PCCS' work, we have learned about the importance of diversity, inclusion, and equity considerations to optimize collaboration and communication. Within this presentation, we'll share resources and some of our thoughts – especially as regarding actions individuals and groups can take to advance these goals.

The importance of Diversity, Inclusion, and Equity in Planetary science: Research has demonstrated that diverse groups are more innovative, creative, and responsive to complex problems. Groups that include people from different backgrounds outperform homogeneous groups composed of the highest performing individuals [1]. And, yet, the planetary science workforce is not diverse, particularly when compared to the US population [2].

The most recent survey of planetary scientists shows that only 25% are women [3]. Including former DPS and AAS surveys shows that the percentage of women has been increasing nearly linearly with time [2]. While there have been no studies of the participation of members of racial and ethnic minority groups in planetary science over time, a study of earned geoscience doctorates in the US found no improvement in racial and ethnic diversity over the past 40 years [4]. Furthermore, the number of PhDs awarded to African-American students in physics has remained flat for the past 20 years [5]. Even once they are in the field, women are still lagging behind in some measures of success, such as involvement in spacecraft mission science teams, which has been stagnant at 15% for the past 15 years [2, 6-7]. In sum, these and other recent studies have shown that women, particularly women of color [8-10], frequently face systemic challenges that prevent them from entering and/or succeeding in planetary science.

What does the PCCS do? The PCCS has been and aims to be involved in a range of DPS and community activities. For example, the PCCS has arranged for speakers at each of the last three DPS meetings on introductory diversity topics: Unconscious bias in 2016 by Patricia Knezek; Racial microaggressions in STEM in 2017 by William Smith; Equity and Diversity in Science in 2018 by Christina Richey. All of these talks are available on the PCCS website. We are also involved in planning and analyzing surveys answered by attendees at each DPS meeting. PCCS members also contribute to meeting planning (e.g., via the science and local organizing committees), and due in part to PCCS efforts, the number of women plenary speakers has improved in the past 2 years. Furthermore, we have assisted with the implementation of pronouns on attendee badges.

In addition to our work on the annual DPS meeting, we arranged implicit bias training for the DPS Committee, DPS prize subcommittee, and DPS meeting SOC in Spring 2018. This year we are working on a reading list for scientists interested in equity and diversity issues, some of which are already referenced in this abstract. If you have any suggestions for further reading, please contact any of us.

What can you do to help? First, pay attention to whom you are working with, determine who is missing from your collaborations, and seek them out. Also, actively seek out collaborations with professors from minority serving institutions. Pay attention to who is included in meeting organization, speakers, award nominees, etc. Next, learn about issues affecting members of our community who are members of un-

derrepresented groups; read blogs such as Astronomy in Color, Women in Astronomy, and Women in Planetary Science. Support efforts that shed light on demographics and the experiences of marginalized people, or that aim to improve diversity, equity, and inclusion. Fill out demographic information when asked by DPS, NSPIRES, and other surveys. Finally, undergo training in addressing your own implicit biases or on how to intervene as a bystander [11].

In addition to the above suggestions for things you can do as an individual, you can work with your employer or other organizations (such as NASA or DPS) to increase representation [12]. More recruitment and retention efforts are needed to focus on racial and ethnic minority groups. We support the suggestion to focus recruitment from minority serving institutions (MSIs) and target internships and scholarships for members of these underrepresented groups; as a recent report from the National Academies of Science, Engineering, and Medicine says, MSIs are underutilized resources for producing STEM talent [13].

References: [1] NCAR/UCAR Diversity and Inclusion Statement (https://live-ucar.pantheonsite.io/sites/default/files/documents/related-links/2018-03/The%20Case%20for%20D%26I.pdf) [2] Rathbun, J.A., 2017, *Nat. Ast.*, **1,** id 0148 [3] White et. al., 2011 (http://lasp.colorado.edu/home/mop/files/2015/08/Report.pdf). [4] Bernard & Cooperdock, 2018, *Nat Geoscience*, **11**, 292-295 [5] AIP statistics on PhDs earned https://tinyurl.com/ycx98ezu [6] Rathbun, J.A., et al., 2016, *DPS*, 332.01 [7] Rathbun, J.A., et al., 2015, *DPS*, 312.01 [8] Malcom, S. M. et al., 1976, AAAS report No. 76-R-3 [9] Clancy, K. B. H., et al., 2017, *JGR*, 122, 1610-1623. [10] O'Brien, L. T., et al., 2014, *Cultural Div. Ethnic Minority Psych.*, 21, 169-180. [11] Milazzo, M.P. et al., 2018, *LPSC*, no. 2214 [12] Rathbun, J. A. et al., 2018, *LPSC*, no. 2668. [13] NASEM, 2018, Minority Serving Institutions: America's Underutilized Resource for Strengthening the STEM Workforce. https://doi.org/10.17226/25257.