PAC Virtual Meeting 30 November 2020

Findings

Arecibo Observatory
The collapse of the main instrument structure of the Arecibo Observatory represents a significant loss to the planetary science community but fortunately did not incur loss of life. We are saddened by this turn of events for the world-famous facility, which has enabled groundbreaking planetary science over many decades. In addition to contributions towards important science research, Arecibo has played a key role in broadening access to STEM fields, inspiring generations of scientists and engineers across a wide array of backgrounds to pursue careers in STEM. The PAC encourages PSD to assess the impacts to planetary science and the planetary science community from the loss of the facility, and to put together a plan for alternative approaches to mitigate such impacts.

Research & Analysis (R&A) Funding
The PAC continues to be concerned at the R&A low selection rates across the PSD portfolio and, in some cases, deferred opportunities for certain programs, since a robust research community is essential to the success of PSD's missions and ultimately the long-term health of PSD's portfolio. The PAC thanks PSD for delivering an improved and comprehensive dataset illustrating how R&A fits into the overall PSD portfolio, including ISFM, and encourages continued presentation of these data going forward. The PAC encourages continued dialog with PSD to consider potential mitigations, including discussion of the "no due date" program implementation and of the criteria used when deciding to convert a call for proposals from an annual cycle to biennial.

Mars Ice Mapper
The PAC continues to be concerned about the process by which the Mars Ice Mapper mission appeared in the Mars mission portfolio, as its scope and the plans for its funding remain unclear and evolve with each presentation. The PAC encourages increased communication with the community in the formulation of this concept and recommends that PSD/MEP form a Mission Design Team (MDT), including scientists from the participating international partners and specialists from HEO, early enough in mission definition for science community recommendations to be incorporated. The PAC recommends that any additional instruments beyond the SAR should be competed to maximize science return.

Diversity in Mission Leadership
The importance of diversity, across multiple axes, in all aspects of mission leadership (including principal investigators, project scientists, project managers, systems engineers, and business managers) and at all levels, is recognized by PSD and SMD to be key to mission success. The PAC looks forward to hearing results of the newly chartered NASEM study, and encourages NASA to ensure such works build from past efforts, such as the 2018 NASA SMD PI Diversity Workshop. Notably, the leadership of both the proposed Mars Sample Return (MSR) mission and the Mars Exploration Program (MEP) appear lacking in diversity (gender and otherwise)

relative to other areas within SMD. Given the large scope in time and science investment involved in Mars exploration, the PAC encourages PSD to look for ways to broaden diversity and inclusivity of the MSR and MEP leadership teams.

Mars Exploration Program and Mars Sample Return Organization
The PAC appreciated hearing about the recent organizational changes within MEP, and in particular about how the Mars Sample Return (MSR) campaign will be managed in a parallel structure. While the presented reasons for this management separation were clear, this structure presents challenges in coordinating and prioritizing objectives between these two tracks (including areas of overlap). The PAC emphasizes the importance of keeping Mars exploration and science objectives and MSR objectives aligned and balanced, and encourages NASA to carefully consider the communication structures and methods of prioritization as both of these programs move forward. Additionally, NASA should continue to communicate about these program structures and plans to the Mars community, such as via MEPAG.