

Planetary Science Advisory Committee (PAC) and its relation to OPAG

Anne Verbiscer
PAC Chair

What is the PAC?

- NASA Planetary Science Advisory Committee (PAC) is a new (2017) Federal Advisory Committee Act (FACA) committee of NASA, and replaces the Planetary Science Subcommittee (PSS) of the NASA Advisory Council (NAC) Science Committee (SC) (since 2006)
- PSS Membership had included all AG chairs & many attendees here at OPAG
- PAC Membership
 - Solicitation in PEN, DPS newsletters – Fall 2016 (last PSS meeting 9/16)
 - Diversity-based selection (expertise, career stage, gender)
 - Members serve for 2 years
 - AG chairs are not PAC members, but are welcome and encouraged to attend and present AG reports at PAC meetings
 - PAC Chair is a member of the NAC Science Committee (led by SMD AA)

Planetary Science Advisory Committee (PAC) Members

Anne Verbiscer, Chair – Univ. of Virginia Justin Hagerty – USGS
Amy Mainzer, Vice Chair – JPL Dana Hurley – APL
Jonathan Rall, Exec. Secretary – NASA HQ Timothy Lyons – Univ. of CA, Riverside
Robin Canup – SwRI Francis McCubbin - NASA JSC
Lynn Carter – Univ. of Arizona Aki Roberge – NASA GSFC
Justin Filiberto – LPI Britney Schmidt – Georgia Tech
Chris German – Woods Hole Rhonda Stroud- US Naval Research Lab

PAC Charter (available online)

- Objectives and Scope of Activities: The PAC shall draw on the expertise of its members to provide advice and make recommendations to the PSD Director on planetary science programs, policies, plans, and priorities. The PAC's recommendations and analysis can be used to inform decisions on the programmatic scope and priorities, as well as the implementation of planetary science programs. PAC will provide a regular forum for broad discussion of planetary science and the role of planetary science within and outside of NASA.

PAC Charter

- Description of Duties: The PAC shall function solely as an advisory body and comply fully with the provisions of the FACA. The PAC shall be supported by subordinate groups, as needed, to cover the breadth and depth of scope as determined by the PSD director.
- Subordinate Groups: PAC ad hoc task forces, SDTs, Senior Reviews, and other subordinate groups as needed, may be established or discontinued at the discretion of the PSD Director, following consultation with the SMD AA. Members of the subordinate groups that are not RGEs will be designated SGE. Any subordinate group will report back to the PAC and will not provide advice or work products directly to NASA.

FACA Code of Federal Regulations (CFR)

§ 102-3.35 What policies govern the use of subcommittees?

(a) In general, the requirements of the Act and the policies of this Federal Advisory Committee Management part do not apply to subcommittees of advisory committees that report to parent advisory committee and not directly to a Federal officer or agency. However, this section does not preclude an agency from applying any provision of the Act and this part to any subcommittee of an advisory committee in any particular instance.

(b) The creation and operation of subcommittees must be approved by the agency establishing the parent advisory committee.

PAC held its first face-to-face meeting 21-23 February 2018

- Three day meeting to accommodate full agenda:
- Day 1
 - PSD Status Report + Q&A
 - Lunar Discovery and Exploration Program
 - PSD R&A Status, R&A Restructure Review, PSD R&A Response to Review
 - SMD R&A Charge
- Day 2
 - Mars Exploration Program Update
 - Planetary Protection Officer Meet & Greet (Lisa Pratt, former PSS member)
 - Joint Workshop on Induced Special Regions (on Mars)
 - Planetary Data System Status and Future Plans
 - The Deep Space Network (DSN)
 - NASA Astrobiology Institute (NAI) and Nexus for Exoplanet System Science (NExSS)
 - Solar System Exploration Research Virtual Institute (SSERVI)
 - Ceres Pre-Decadal Science Definition Team
 - Planetary Defense Coordination Office

- Day 3 - Analysis/Assessment Group (AG) Reports:
 - CAPTEM (Curation and Analysis Planning Team)
 - LEAG (Lunar Exploration Analysis Group)
 - MAPSIT (Mapping and Planetary Spatial Infrastructure Team)
 - MEPAG (Mars Exploration Analysis Group)
 - SBAG (Small Bodies Assessment Group)
 - OPAG (Outer Planets Assessment Group)
 - VEXAG (Venus Exploration Analysis Group)

PAC Findings –February Meeting

- NSPIRES External Reviews
- NASA Early Career Fellowship Program
- Post 2020 Mars Sample Return (contingency sample & curation plan)
- Formation of a Mercury Analysis Group
- Venus Opportunities in Discovery and New Frontiers
- Standardization of Planetary Data Formats and Definitions
- Report from Planetary Defense Coordination Office
- Radioisotope Power Systems (RPS) in the Discovery Program*

*Already addressed by PSD Director on 3/17/2018

PAC telecon July 2, 2018

- PSD Update (Lori Glaze)
- PSD R&A Update (Jonathan Rall)
- Mars Program Update (Jim Watzin)
- Lunar Program Update (Steve Clarke, Sarah Noble, David Schurr)

PAC Findings – July Telecon

- Mission Studies (SDTs must be SGEs)
- Open New Frontiers (in next Decadal)
- NASA Internal Scientist Funding Model (ISFM)
- Planetary Defense Coordination Office (PDCO)
- NASA Flight Missions going into Senior Review
- Formation of Mercury Analysis Group
- Planetary Input into Astrophysics Decadal Survey

Next PAC Meeting: Wednesday, September 26, 2018 1:00-5:00 EDT

- All invited to attend this public meeting to be held via webex.
- Proposed Agenda:
 - PSD Update (Lori Glaze) – including NASA responses to PAC Findings
 - PSD R&A Update (Jonathan Rall)
 - Mars Update (Jim Watzin)
 - Senior Review Update (Bill Knopf)
 - GPRA-MA Review and Rating
- Next face-to-face meeting in December

Backup Slides

NSPIRES External Reviews

- PAC recommends that delays of not more than 48 hours between the time an external reviewer is identified and they are notified by NRESS that reviews are available to them.
- To ensure that reviewers always have maximum time to complete their assignments, PAC recommends that NSPIRES be modified to provide automated notifications to external reviewers whenever a new review is assigned.
- PAC recommends that NSPIRES be modified such that all panelists who have completed their reviews can see all external reviews as soon as they are completed (this may be accomplished by changing a default setting within NSPIRES).
- PAC recommends that NSPIRES be modified such that group chiefs can always see the status of all reviews for the panel (accept/decline, not logged in, in progress, completed).

NASA Early Career Fellowship (ECF) Program

- The NASA Early Career Fellowship (ECF) Program was created to help early career planetary scientists acquire their first faculty position. The ECF Program was not solicited in ROSES 2017 and the New Early Career Fellowship Program is TBD in ROSES 2018. At the National Science Foundation (NSF), the CAREER program is intended to enhance the promotion case of junior faculty to fully tenured positions.
- PAC recommends the revision and restoration of NASA's ECF Program. PAC recommends dividing the way the ECF program is administered for tenure-track (or tenure-track equivalent) and non-tenure track researchers. For early career planetary scientists that do not yet have a tenure-track or tenure-track equivalent position, the ECF could be modeled after NASA's Postdoctoral Program awards or Hubble Fellowships. For those that already have faculty positions, the NSF's CAREER program could be the model for those that are on the tenure track or have tenure-equivalent positions.

Post-2020 Mars Sample Return

- NASA's Lean Sample Return strategy does not include collecting a contingency sample, whereas returning any sample has been a mission success criterion for past sample return missions.
- PAC recommends collecting a simple, contingency grab sample with a curation plan.

Mercury Analysis Group

- Mercury is not currently represented in any of the Analysis or Assessment Groups.
- PAC recommends that NASA starts a new analysis group for Mercury, rather than add it to an already existing Assessment/Analysis Group.

Venus Opportunities in Discovery and New Frontiers Programs

- Although NASA selected Venus missions as finalists in the most recent Discovery mission opportunity and Venus missions were proposed to the New Frontiers Program, none was selected for flight.
- PAC recognizes that Venus remains an important and underinvestigated target and recognizes its connections to exoplanets and habitability.

Standardization of Planetary Data Formats and Definitions

Because use of standard data formats that ensure data interoperability reduce redundant efforts and can maximize scientific return from planetary space missions, PAC recommends that NASA make a concerted effort to facilitate development of standard formats and definitions for planetary data (i.e., GIS and spatial data)

Report From Planetary Defense Coordination Office

Given the importance of planetary defense to NASA and the public, PAC recommends that NASA's Planetary Defense Coordination Office make regular reports to the PAC on the progress and plans being made with regards to meeting the George E. Brown survey objective of detecting and tracking >90% of NEOs larger than 140 m, and smaller NEOs.

Mission Studies

PAC is concerned that a rigid interpretation of the Federal Advisory Committee Act (FACA) rules is impeding the progress in getting mission studies completed for the upcoming Planetary Decadal Survey.

Requiring all Science Definition Team (SDT) members for each mission study to be Special Government Employees (SGEs) significantly prolongs the formation of each SDT that will conduct these studies.

We are on the eve of the charge for the next Decadal and the SDTs for these mission studies need to be formed soon. The SDTs do not provide advice to NASA in the same way that the PAC and other Advisory Committees do; therefore, the PAC encourages NASA to conduct mission studies in ways that do not require appointing numerous SGEs, possibly through the Assessment or Analysis Groups.

OPEN NEW FRONTIERS

For the upcoming Planetary Decadal Survey, PAC encourages NASA to include in its charge to the National Academies that the New Frontiers mission class be open to all targets and destinations, as the Discovery mission class is, rather than limited to a fixed set of targets provided by the Decadal Survey. An open New Frontiers competition would enable proposing teams to be creative in their mission objectives and designs and to be fully responsive to new discoveries, enabling NASA to obtain the highest science return on its investments.

NASA's Internal Science Funding Model (ISFM)

PAC appreciates NASA's efforts to increase efficiency in the use of science dollars; however, the implementation of the ISFMs at NASA centers must be done in a transparent manner so the Planetary Community is fully aware of this funding model. Key to the transparency of this funding model will be the performance metrics by which it is evaluated, to be made available to those both inside and outside of NASA centers.

Planetary Defense Coordination Office (PDCO)

Given the importance of planetary defense to NASA and the public, PAC recommended at its previous meeting in February, 2018 that NASA's Planetary Defense Coordination Office (PDCO) make regular reports to the PAC on the progress and plans being made in regards to meeting the George E. Brown survey objective of detecting and tracking >90% of Near Earth Objects (NEOs) larger than 140m, and smaller NEOs.

Now that the Administration has requested a significant increase in FY19 funding for PDCO, PAC would like to see the PDCO program objectives, summary program plan to meet these objectives, and roadmap with dates of key milestones included in the complete PDCO report at the next PAC meeting.

NASA Flight Missions Going into Senior Review

PAC is concerned that many NASA flight missions are not getting sufficient budget guidance in time to write competitive proposals for the Senior Review. PAC recommends that missions be provided budget projections as early as possible to inform their extended mission proposals

Formation of a Mercury Analysis Group

PAC is delighted to hear that NASA will soon be forming a Mercury Analysis Group. PAC would like to see a Mercury mission on the list of mission studies to be done for the next Planetary Decadal Survey.

Planetary Input into the Astrophysics Decadal Study

PAC is concerned that the Astrophysics Decadal Survey is proceeding without input from the Planetary Science Community. PAC recommends that there be representation from the Planetary community on the Committees assessing priorities for space and ground-based astronomy in the coming decade.