



AG Presentations: Running Order

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Cross-AG IDEA Working Group

co-chairs: Maggie McAdam & Julie Rathbun

1. The EDI WG endorses PAC recommendation 2, 3, and 8 from June.
 - ▶ Suggest the PAC consider moving #8 up to the NAC as requesting an outward facing DEIA position at the SMD level (instead of PSD).
2. We request NASA explore the legality of using diversity (including race, gender, disability, LGBTQ+, etc) of a team as a selection criteria for selecting and extending missions, projects, facilities, and other large teams.
3. We believe Inclusion Plans could be a way to increase EDIA in planetary science. We suggest that NASA work with the community to develop resources (including funding members of the community) to educate the community. This should include education on why inclusion plans are important and best practices for implementation.

Website: <https://www.lpi.usra.edu/exmag/>, Twitter: @ExMAG_community

Membership: We are recruiting for 2023 - Secretary, Meetings Chair, Communications / social media, Subcommittee chairs for Mars, Asteroids, Microparticles subcommittees, At-large members

White papers / analyses: Science Mission Directorate SPD-41 Feedback, ANSGA-2 Feedback

Meetings: Spring 2022 Meeting - Curation & Collections, Fall 2022 Meeting - Decadal Survey, upcoming missions. Moving back to one meeting a year, perhaps in person (modulo the world)

Findings:

- ExMAG continues to encourage NASA to explore a path to permit sample exchange and reciprocal sample loans between NASA and CNSA. This will become even more urgent as China's Chang'E-6 mission will return material from the South Pole-Aitken (SPA) basin. SPA sample return has been the highest priority for the lunar science community in three consecutive Decadal Surveys but there is currently no NASA plan to implement such an activity. Facilitating US scientists working with SPA samples from such a mission would be a uniquely enabling opportunity.
- ANSMET was canceled again in 2022-2023, not because of the pandemic or logistics – but because it was not deemed “critical”. We do not fully understand how “critical” is being defined by NSF. ANSMET cannot change its remit, so how can NASA advocate for ANSMET?
- ExMAG strongly supports IDEAcon recommendations to PAC. ExMAG members participate in the cross-AG IDEA working group and highlight IDEA activities to our membership.

Actions:

- Sample Analysis community is not well integrated into the Planetary Data Ecosystem. Need to understand what repositories are “sanctioned” for preservation of sample data and find pathways (funding) for training and outreach, how to use software, repositories, etc.
- For Sample Return missions, what activities belong under the PI cost cap of the proposers versus NASA's long-term curatorial commitments
- ExMAG is glad to see that the new PSEF program is running, but has concerns about how facilities and personnel will be supported in the long term, and how this program differs from Planetary Major Equipment requests. We will follow up on clarifying to the community.

ExoPAG ongoing & recent activities

- Ongoing activities with the Planetary Science Division: Exoplanets in Our Backyard workshop (Nov. 2-4, 2022) & Planetary Science Advisory Committee meeting (rep.: [L. Schaefer](#))
- Great Observatory Maturation Program (GoMaP) workshop II, 11-13 Oct. (rep.: [B. Mennesson](#) & [M. Bottom](#))
- Cross-PAG SAG on barriers to participation (rep.: [N. Batalha](#)). Cross-AG IDEA working Group (rep.: [E. May](#)), first meeting focused on the state of the profession.
- ExoExplorers Program (rep.: [K. Colon](#) & [N. Batalha](#))
- Science Interest Groups (SIGs) and Study Analysis Groups (SAGs):
 - SIG2 "Exoplanets Demographics", finalizing report (Christiansen & [Meyer](#))
 - SIG3 "Exoplanets Solar System Synergies", on-going (Meadows & Mandt)
 - SAG23 "The Impact of Exo-Zodiacal Dust on Exoplanet Direct Imaging Surveys" ([Debes](#), Rebollido, Hasegawa)

LEAG strongly urges NASA to engage the lunar community actively and continually in the development of the *Integrated Lunar Strategy*


- **Active broader community involvement and cooperation will provide important benefits for NASA, the lunar community, and the advancement of lunar science and exploration goals.**
 - To achieve strong backing and buy-in that is required for both the success of the *Strategy*
 - Development of cohesive and inclusive lunar science community
- **Communicate the scope of the planned lunar strategy and seek community feedback throughout its development.**
 - Broader community input could be useful perspective early from variety of backgrounds
- **Include non-NASA community members actively in the process**
 - Specific Action Team [Precedent: Mars Concurrent Exploration Science Analysis Group (MCE-SAG)]
 - Consultants working directly with *Strategy* development team [Precedent: Artemis III Sci. Def. Team]
- **Include non-NASA community representatives in current mission concept study teams**
 - Build community support for missions
 - Mitigate potential perception of mission centers making decisions based on own interests
 - Build and support an inclusive community



MAPSIT Findings

1. There is a lack of community tools currently available for **landed image processing**
 - MAPSIT encourages NASA to support and fund such software tools
2. Missions with a dedicated **“lead cartographer” role** are more successful than missions without (when target relevant)
 - MAPSIT encourages NASA to include language recommending or requiring this role in future calls (where appropriate)
3. MAPSIT has made the **Geologic Mapping Subcommittee (GEMS)** a standing subcommittee under the leadership of Prof. Jeanette Luna (TN Tech)
 - Has broad community membership to include planetary surfaces across the Solar System; group will meet monthly to discuss issues pertinent to geologic mapping
4. A **Lunar SDI group** has been established following LCD-SAT recommendation
 - <https://psdi.astrogeology.usgs.gov/moon/governance/intro/>

Mars Exploration Program Analysis Group (MEPAG)



- The Psyche IRB report and the PSD response to it are concerning. In addition to uncovering issues at JPL and postponing the VERITAS mission, this situation reveals what may be a wider problem with multiple mission selections, mission monitoring by PSD, and effects on the rest of PSD when missions and centers encounter problems. Does the PSD have plans to evaluate its own processes and consider how to better prepare for and solve problems encountered in the execution of aspirational science/engineering?
- Deep-space communication is a challenge across PSD and particularly at Mars. Given that the next opportunity to launch an orbital Mars mission is no sooner than 2028 (and more likely 2031), there is an urgent need to establish a communications infrastructure plan for Mars, including the ground segment. Comms is a multifaceted issue, including support of current assets, a continuing MEP as described by the Decadal Survey, and long-term support of humans to Mars. MEPAG suggests that an important part of addressing this issue, and bringing orbital comms assets with high-quality science components online efficiently, could be lower cost/size missions.

Summary of MExAG Activities and Finding

- **Goals Document:** On target to finalize in Q1 or Q2 2023
- **Technology Showcase:** Facilitated 3 mission concepts
- **MExAG23:** Feb 1–3, 2023 (virtual)
- **Finding:** MExAG encourages NASA to work with ground-based observatories where it acquires observation time to enact policies that equitably enable Mercury observations.
(Full text of finding in backup)
- **Next:** BepiColombo Mercury Third Flyby on June 20, 2023

OPAG: draft findings from November 15-16 community meeting

- **OPAG strongly supports the Europa Clipper Mission and commends JPL and NASA for working together to make Clipper the highest priority planetary flagship mission as it moves to launch in October 2024.**
 - We thank Lori Glaze and NASA HQ for prioritizing Europa Clipper to preserve schedule margin as instrument deliveries and integration proceed. We are supportive of NASA's efforts to resolve issues regarding Center workforce as highlighted in the Psyche IRB Report to minimize impact to current and future missions.
- **OPAG urges NASA to fund focused studies for Uranus Orbiter and Probe (UOP), to methodically prepare for and clear a path to Phase A. In particular, OPAG encourages NASA to start work in FY23 on the following topics:**
 - Exploration of trajectories and launch capabilities (to arrive at Uranus well before the equinox in 2049);
 - Models to retire the radiation risk environment for close orbits of Uranus;
 - Identification of potential science instruments and performance parameters, including those pertaining to astrobiology and/or ocean worlds exploration as specified in the UOP study science objectives and OWL recommendations.
- **OPAG is strongly supportive of continuing investment in outer planets related R&A programs. OPAG requests the following:**
 - that the Dual Anonymous Peer Review (DAPR) process be expanded to include the technology programs (MatISSE, PICASSO, etc.)
 - that the Precursor Science Investigations for Europa (PSI-E) program be a recurring call (we suggest every 2 years) to support the Europa Clipper mission and to draw in additional science expertise

Summary of significant SBAG issues for the PAC

- Apophis Specific Action Team (SAT) Report released; posted on SBAG site; announced in DPS Newsletter and PEN; presented later today to the PAC and in January at SBAG 28
- Ocean Worlds inter-AG collaborative working group general purpose/guidance captured during meeting of SBAG, OPAG, and NOW chairs; leadership search in process (with SBAG representation)
- Psyche Independent Review Board (IRB) implications are a big concern; will be a topic of discussion at SBAG 28 (January 2023); too soon and without community feedback for SBAG to officially respond; SBAG participated in AG Chair caucus to discuss initial thoughts and begin to formulate a united front
- Code of Conduct for the Steering Committee approved at last SC meeting (SC member signatures in process; to be posted on SBAG website)
- Upcoming SBAG 28 meeting January 24-25, 2023; agenda being finalized; Early Career recipients selected and notified (2 invited talks, 5 lightning talks)
- High priority findings from SBAG 27 were elevated and presented at the last PAC meeting (June 2022); will undoubtedly continue to be concerns for SBAG community (national resources for planetary radar capabilities and timely fulfillment of the George E. Brown Congressional goal of discovering 90% of the near-Earth asteroid (NEA) population larger than 140 meters in size with NEO Surveyor)

20th Meeting of the Venus
Exploration Analysis Group
Nov 7-9, 2022
Albuquerque NM

VEXAG

300+ registered, 70+ In person
attendees, 90+ Online at once.

FINDINGS (Advanced Draft)

- **VERITAS needs to be launched as soon as possible, without any further delay.** VEXAG suggests that VERITAS be prioritized over solicitation of new proposals, particularly for the same mission class.
- A “**Precursor Science Investigations – Discovery**” (**PSI-D**) **R&A program**, focused on ensuring success of and maximum scientific return from upcoming Discovery missions and the EnVision partnership, is in the interests of the broad planetary community.
- A new “**CloudTech**” **R&A program** to focus on aerial/airborne technologies and implementations applicable to multiple planetary targets, in addition to a **HOTTech 3 program**, in an upcoming ROSES cycle would allow focus on maturing important technologies and integration into platforms and systems.

More details, including Endorsements and Questions, in supplementary slide deck.



VEXAG

- THE AG CAUCUS IS DEEPLY DISAPPOINTED THAT PROBLEMS ON THE PSYCHE MISSION HAVE RESULTED IN THE DELAY OF VERITAS AND STRONGLY SUPPORTS THE LAUNCH OF VERITAS ON ITS NEW SCHEDULE. SHOULD BUDGET BE THE RATE-DETERMINING STEP, NASA SHOULD FOLLOW THE OWL GUIDELINES FOR BUDGETARY DECISIONS.
- THE ISSUES REVEALED BY THE PSYCHE IRB ILLUMINATE WHAT MAY BE A SYSTEMIC PROBLEM WITH HOW MISSIONS ARE SELECTED, FUNDED AND MONITORED THROUGH EVERY PHASE. GIVEN THE TIMING OF THE RELEASE OF THE IRB REPORT, THE AGS ARE PRESENTING AND DISCUSSING THE RESULTS WITH THEIR RESPECTIVE COMMUNITIES, AND WILL REPORT AG-SPECIFIC FINDINGS TO THE PAC AT ITS NEXT MEETING.