

# OUTER PLANETS ASSESSMENT GROUP

## *Presentation to the Planetary Science Subcommittee*

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Washington University in St. Louis  
Incoming Chair

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Most recent OPAG meeting was held 9-10 March 2009 in Bethesda, MD.

Presentations available: <http://www.lpi.usra.edu/opag/reports.html>

Next OPAG meeting will be held 14 July 2009 in Columbia, MD

### **Two major issues:**

- 1) The announced prioritization of the **Outer Planets Flagship sequence**, with the Europa Jupiter System Mission (ESJM) first, represents a victory for the entire outer planets community, which worked extraordinarily hard to see such a mission come to fruition. There nevertheless remains a great deal of work to be done to synchronize mission development with our European colleagues, and to reduce technical and cost risk, all of which will be challenging in the fiscal environment created by the Mars Science Lander (MSL) launch delay, and of course, by the larger economic situation.
- 2) **Planetary Science Decadal Survey** is now underway. OPAG is working on submitting a consensus white paper, as well as providing a clearinghouse for community white papers.

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## OPAG

The Outer Planets Assessment Group is a NASA-supported forum for scientists and engineers and other interested parties to discuss exploration of the outer solar system and to enhance communication between the outer planets community and NASA.

Bill McKinnon, Washington University (Chair - incoming)  
Kevin Baines, Jet Propulsion Laboratory  
Sushil Atreya, University of Michigan  
Henry Throop, Southwest Research Institute  
Pat Beauchamp, Jet Propulsion Laboratory  
Ralph Lorenz, APL The Johns Hopkins University  
Heidi Hammell, Space Sciences Institute  
David Williams, Arizona State University  
Jani Radebaugh, Brigham Young University  
Jack Connerney, Goddard Space Flight Center  
John Clarke, Boston University  
EX OFFICIOS  
Torrence Johnson, Jet Propulsion Laboratory  
Michael Blanc, ESA  
Masaki Fujimoto, JAXA

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- 1) **Outer Planet Flagship.** OPAG vigorously encourages NASA to do its utmost to continue preparations for the *JEO* mission, including support for instrument development, continued international collaboration, and reduction of radiation risk, and culminating as soon as practical in a new start. In particular, OPAG endorses the “scientific pyramid” approach described by Ron Greeley for providing near-term advice for ESJM.

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- 2) **Outer Planets Program.** OPAG strongly endorses the concept of a sequence, or line, of flagship missions to the outer Solar System, or more generally, an *Outer Planets Program*.

OPAG recommends that NASA develop a program to reduce or retire technological or other risk associated with a major mission to Titan, which may include such enhancing technologies as aerocapture, as well as maintain a science working group of the appropriate size to provide advice and input for such a program.

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- 5) **Planetary Science Decadal Survey.** OPAG encourages interested members of the outer planets community to craft their own, topical white papers, and forward them or summaries thereof to the OPAG Steering Committee. OPAG urges NASA to support NRC mission studies as part of the DS to whatever extent practical.
- 6) **Radioisotope and Other Power Systems.** OPAG strongly encourages all relevant governmental agencies to explore innovative ways to make sufficient plutonium available for future outer planets missions (after *JEO*).

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- 3) **New Frontiers Program.** OPAG strongly encourages NASA to maintain *Juno* on its current schedule, and to mitigate any potential delay to the mission should unforeseen circumstances arise that require expenditure of what would have been mission reserve funds.

- 4) **Small Flagship Missions.** OPAG recommends that NASA evaluate the possibility of having a new mission class above *New Frontiers*, but less costly than *Cassini*, *JEO*, or *Mars Sample Return*, for example.

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- 7) **Cassini Extended-Extended Mission (XXM).** OPAG strongly endorses approval by NASA of this extension to the *Cassini* mission, including the *Juno*-like end-of-mission scenario. OPAG reiterates the need to involve new members of the outer planets community in the *Cassini* science teams, to facilitate interdisciplinary science and to train the next generation of outer planet scientists in an active planetary mission.
- 8) **Data Usability.** OPAG recognizes the need for PDS to improve its overarching tools for archiving and retrieval of mission data and ancillary files for all missions under its purview and suggests that NASA address the implementation of this strategy at PDS.
- 9) **Outer Solar System Communication.** OPAG emphasizes that NASA's capabilities for communication with the outer Solar System should not be allowed to atrophy or disappear entirely.

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