NASA PLANETARY SCIENCE ADVISORY COMMITTEE (PAC) MEETING, MONDAY, JULY 2, 2018

The NASA Planetary Science Advisory Committee (PAC) will hold its 2nd meeting on Monday, July 2, 2018 from 1-5pm EDT.

The meeting agenda includes the following topics:

- Planetary Science Division Update (L. Glaze, Acting PSD Director)
- Planetary Science Research and Analysis Program (R&A) Update (J. Rall, Planetary Science R&A Lead)
- Mars Update (J. Watzin)
- Lunar Update (S. Clarke, S. Noble, D. Schurr)

DPS members are encouraged to attend telephonically and via Webex.
The dial-in information and full agenda can be found at


DPS 2018 ELECTION REMINDER

The 2018 election for DPS Vice-Chair and Committee is now open, and will close on July 31st 2018.

Please remember to vote!

Go to https://aas.org/vote/ [2]

You will need your AAS member login ID (which defaults to your membership number), and your password.

If you have trouble voting on line, the AAS can do a proxy vote and vote on your behalf (send an e-mail to dpssec@aas.org [3]). You will still get an automated email confirmation and a separate manual email, both with who you voted for and a confirmation number.

You should vote for one of the two candidates for Vice Chair:

- Matija Ćuk, SETI Institute
- Amanda Hendrix, Planetary Science Institute

The elected Vice Chair will take his/her functions in October 2018 and will become the DPS Chair in October 2019.
You should also vote for two of the four candidates for DPS Committee:

- Michael Bland
- Will Grundy, Lowell Observatory
- Lucille Le Corre, Planetary Science Institute
- Krista Soderlund, University of Texas

The successful candidates will serve on the Committee for three years after October 2018.

The detailed vitae and position statements for each of the candidates is linked from the main election page, https://aas.org/vote/ [2]

It is very important for all DPS Members to participate in these elections, so please take a moment to vote!

Thank you!

NINTH PLANETARY CRATER CONSORTIUM MEETING

The 9th Planetary Crater Consortium meeting will be held August 8-10, 2018, at the Southwest Research Institute in Boulder, CO. The Planetary Crater Consortium is open to all planetary scientists interested in any aspect of impact cratering on solar system bodies, including observational, theoretical, experimental, and numerical studies. Contributions on terrestrial impact
crater field studies are encouraged, as well as presentations about cratering on other solar system bodies. The meeting is a combination of contributed talks, posters, and open discussion.

Abstract deadline is Wednesday, August 1, 2018.

For more information, see www.planetarycraterconsortium.nau.edu [4] or contact Nadine Barlow (Nadine.Barlow@nau.edu [5]).

CALL FOR PAPERS: METEORITICS & PLANETARY SCIENCE SPECIAL ISSUE IN HONOR OF DR. CHRISTINE FLOSS

Papers are solicited for a Special Issue of Meteoritics & Planetary Science dedicated to the memory of Dr. Christine Floss and organized around the general theme of "Understanding our solar system history through In-situ micro- and nano-analysis of extraterrestrial materials."

Submission deadline is December 31, 2018.

For details, please see http://home.dtm.ciw.edu/users/nittler/flossmaps.html [6]

2018 FALL AGU SESSION NOTICES

A) SESSION P048 - THE FUTURE OF PLANETARY ATMOSPHERIC, SURFACE, AND INTERIOR SCIENCE USING RADIO AND LASER LINKS

Session Description: Radio Science techniques have advanced solar system
exploration for over five decades.

In this session, ongoing and planned innovations that will significantly enhance the field will be presented including planetary atmospheric, surface, and interior investigations that contribute to expanding the frontiers of solar system exploration in diverse areas such as

- determining the thickness of the ice sheets of ocean worlds
- constraining the interior structures of the planets and small bodies
- monitoring of planetary atmospheric dynamics and improvement of climate models
- studying the scattering and other properties of planetary surfaces
- research in fundamental physics and solar system dynamics.

Technology topics include

- design of small spacecraft networks and constellations
- advances in flight and ground instrumentation
- advancement in space clock technologies
- novel communications architectures including optical links and advances in radio and laser technologies
- new techniques and instrumentation for entry probe radio science.

Session Conveners:

David H. Atkinson ([David.H.Atkinson@jpl.nasa.gov](mailto:David.H.Atkinson@jpl.nasa.gov)) and Sami Asmar, JPL

Erwan M. Mazarico, NASA GSFC

Luciano Iess, Università La Sapienza

Abstract Deadline: August 1, 2018, 11:59 PM EDT

B) AGU SESSION P044: SUPER-EARTH DETECTION, CHARACTERIZATION AND MODELING: HOW HABITABLE ARE THEY?

Abstract deadline: August 1, 2018
Transit detections and radial velocity measurements have shown the existence of numerous exoplanets larger than Earth, yet of bulk density comparable to a rocky world: super-Earths. Within the next two years, the Transiting Exoplanet Survey Satellite (TESS) mission is expected to significantly increase the number of super-Earth detections, which will need to be characterized, especially in terms of their habitability in our search for exo-life. This can be achieved via observations of multiple types but it also requires a deep knowledge of the physical processes at play in their interiors to build reliable models. This session seeks to improve our understanding of super-Earths and their habitability from an observational, experimental and theoretical perspective through a wide range of disciplines, including but not limited to planetary sciences, mineral physics, exobiology, geochemistry and geodynamics.

Conveners
Francois Soubiran (Ecole Normale Supérieure Lyon)
Natalia V Solomatova (Ecole Normale Supérieure Lyon)
Franck Marchis (SETI Institute)
Anaïs Kobsch (Ecole Normale Supérieure Lyon)

C) NEW AGU 2018 SESSION “THE NEW MARS UNDERGROUND”

Session ID: 51671
Session Title: P046. “The New Mars Underground”:
Science and Exploration of a New Deep Frontier

The Martian underground within a depth of a few miles is of enormous
interest for planetary sciences. But so far, studies and exploration of Mars’ subsurface have taken a back seat to exploration of its surface. This is now changing with the imminent Mars InSight (NASA) & ExoMars (ESA) missions, Mars Sample Return calling for a deeper understanding of the shallow Mars subsurface, plans for human exploration, and as better technical capabilities and scientific understanding finally enable accessing the Mars underground. We seek contributions that encompass the nature and diversity of Mars crustal subsurface environments (modeling, experiments, observations) or the tools for exploring them (sounding, drilling, cave explorer robotics, in situ analysis techniques). Broad themes are related to the distribution/cycling of subsurface water (ice/liquid), brines and other volatiles, the astrobiological (extinct or extant life) and ISRU potential of Mars’ subsurface, and the technologies and mission concepts that enable such exploration.

Submit here before August 1, 2018, 11:59 PM EDT:

https://agu.confex.com/agu/fm18/prelim.cgi/Session/51671 [9]

Conveners:
Vlada Stamenkovic (JPL), Penny Boston (NASA AMES), Bob Grimm (SwRI), and Kris Zacny (Honeybee Robotics)

D) SESSION P038: RESULTS FROM THE INVESTIGATION OF JUPITER’S ATMOSPHERE BY JUNO AND A SUPPORTING CAMPAIGN OF EARTH-BASED OBSERVATIONS.

Primary convener: Glenn S. Orton;
Conveners: Scott Bolton, Cheng Li, Gordon Bjoraker

NASA’s Juno mission operates a spacecraft in 53-day polar orbits around
Jupiter, with the ultimate goals of understanding Jupiter’s origin and evolution.

One specific objective is to establish the structure, composition and dynamics of the deep atmosphere and its relationship with the upper atmosphere. Juno’s polar orbit with close approaches near the terminator only a few thousand kilometers above the cloud tops provides the opportunity to characterize poorly explored polar regions and to study the characteristics of cloud dynamics and composition at spatial resolutions as fine as 6 km. An integral part of Juno’s exploration is a campaign of Earth-based observations that extend and enhance spacecraft results by complementing Juno’s spatial, temporal and spectral coverage. This session welcomes presentations involving all results obtained by and in support of the Juno mission, including not only results of Juno and Earth-supporting observations but also theoretical modeling of atmospheric structure, composition and dynamics.

E) SESSION SM03: OUR EVOLVING UNDERSTANDING OF AURORAL PROCESSES AND MAGNETOSPHERE DYNAMICS AT JUPITER THROUGH JUNO AND EARTH-BASED OBSERVATIONS

Primary convener: Robert Ebert;

Conveners: Scott Bolton, George Clark, Masafumi Imai

Our view and understanding of Jupiter’s auroras and magnetosphere are ever-changing as Juno continues to explore these regions in situ with coordinated efforts from Earth-based observatories such as Hubble, Hisaki, Keck, etc. These new measurements have illuminated new and exciting discoveries that are challenging our theoretical ideas. This session seeks submissions covering new observations and interpretations, theories, and models of Jupiter’s auroral regions, magnetosphere and/or ionosphere and their connection. Specifically, this session will cover the following topics: observation and theory of auroral acceleration including wave-particle interactions; auroral phenomenology, magnetosphere-
ionosphere coupling; plasma sheet dynamics; outer boundary structure and
dynamics, and particle acceleration and transport. This session aims to share
the most recent observations and ideas regarding Jupiter’s magnetosphere,
while providing a forum that takes a multidisciplinary approach to furthering
our knowledge of this system.

F) SESSION P049: THE INTERIORS OF JUPITER AND SATURN IN THE ERA OF JUNO AND CASSINI

Primary Convener: David Stevenson;
Conveners: Hao Cao, Scott Bolton, Luciano Iess

The ongoing Juno mission and the recently concluded Cassini mission have
provided a wealth of new measurements (e.g. gravity field, magnetic field,
composition, seismic waves) revealing key aspects of the interiors of Jupiter
and Saturn for the first time. Examining these new measurements from both
planets, separating common themes from specific expressions, is a critical step
towards a coherent understanding of the formation, evolution, and interior
dynamics of giant planets in the solar system and beyond. This session will
bring together observation and interpretation of gravity field, magnetic field,
composition, seismic waves at Jupiter and Saturn. Topics will include depth
of strong differential rotation (zonal flows), helium and heavy element abundance,
generation of intrinsic magnetic field, existence and properties of the central
core, seismic, thermal, and magnetic consequences of stable stratification, as
well as formation scenarios and evolution pathways.

SOFTWARE SYSTEMS FOR ASTRONOMY 5 – UPDATE
SSfA at UH Hawaii - 4 seats available - This year we so far have 18 students and therefore plan two sessions for Software Systems for Astronomy 5 on the Big Island of Hawaii. This leaves 4 seats still available.

SSfA covers software design and implementation of telescope and instrument control systems, observation planning tools, and software for analyzing and archiving astronomical data. SSfA-5 will be offered as a two week intensive course, 23-Jul to 03-Aug, 2018.

Please find special instructions for off-island participants here:

http://astro.uhh.hawaii.edu/Summer/Summer-2018/ssfa18.php#Special_Summer_Note

More information about Software Systems for Astronomy 5 is here:


More detail about the course is given in the UHH catalog (the course number is 385):

https://hilo.hawaii.edu/catalog/astr-courses

If you have questions, send email to aconrad@hawaii.edu

Send submissions to:

Anne Verbiscer, DPS Secretary (dpssec@aas.org)

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