Issue 19-30, July 17, 2019

+------------------------------------CONTENTS----------------------------------------+

1. APOLLO ANNIVERSARY LETTER FROM THE DPS AND FRS CHAIRS
2. EPSC-DPS 2019 DPS DEPENDENT CARE GRANTS
3. OPAG MEETING: SUBSURFACE NEEDS FOR OCEAN WORLDS (SNOW) MEETING #1
4. CALL FOR ABSTRACTS: 2019 AGU FALL MEETING
5. JOBS, POSITIONS, OPPORTUNITIES

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APOLLO ANNIVERSARY LETTER FROM THE DPS AND FRS CHAIRS

The 50th anniversary of the Apollo 11 landing is fast approaching. Many in our profession, as well as other scientific and engineering professions, were inspired by Apollo to pursue their careers. As a young girl, Linda remembers exactly where she was on that historic day, sitting next to her dad in the family room, as they watched the grainy, black-and-white video of Neil Armstrong taking his first steps on the Moon. Living through those exciting days definitely had an influence on where she is today. While Kurt was only three months old when Apollo 17 departed from the Moon, he too continues to be inspired by the accomplishments of the Apollo era - as will all generations to follow. The 50th anniversary of the Apollo 11 landing on July 20th is a great opportunity to reflect on the joys that our careers offer and the pathways our lives have taken as a result of these early accomplishments.
Numerous public outreach efforts are underway by NASA and other organizations this week. See for examples https://www.lpi.usra.edu/leag/apollo_11_50th_anniversary_celebrations/ [1] and https://spacestem.nasa.gov/events [2].

Sharing enthusiasm for learning about our place in space during such events is a self-rewarding and essential effort that results in continued government investment in space sciences.

In the past several years we have benefited from strong bipartisan congressional support for space sciences funding in multiple agencies. This support includes a well-considered investment in robotic lunar science investigations hosted on commercial lunar payload service providers. These science payloads address Strategic Knowledge Gap requirements developed under the collective leadership provided by the National Academies, LPI, LEAG, and other lunar science and exploration advisory groups. The exciting onset of numerous commercial endeavors to advance lunar exploration are spurring NASA to further its crewed Artemis program in more cost efficient ways.

Our AAS/DPS Federal Relations Subcommittee has highlighted the synergies between science and exploration, as well as our continued support for all planetary science, during its Congressional Hill Visits. This message is always well received.

When thinking about and communicating the future of human exploration and the inspiration it continues to provide, we encourage embracing the motto of the Lunar Reconnaissance Orbiter team: science enables exploration, exploration enables science. Enjoy this historic opportunity to celebrate our collective achievements in space.

Kurt Retherford

DPS Federal Relations Subcommittee Chair
EPSC-DPS 2019 DPS DEPENDENT CARE GRANTS

The DPS Susan Niebur Professional Development Fund provides financial assistance to qualifying members of the DPS in order to facilitate their meeting attendance by offsetting dependent care costs (such as child care, elder care, spousal care, etc) at the meeting location, or at home, during the DPS conference week. For 2019, the DPS Professional Development Subcommittee will accept applications for dependent care subsidies to assist an eligible DPS member to attend the Joint EPSC-DPS Meeting in Geneva, Switzerland (September 2019). The deadline for applications is 12 August 2019. Please access the grant application form at https://dps.aas.org/development#grants [3].

Mark Gurwell, DPS Professional Development Subcommittee member

OPAG MEETING: SUBSURFACE NEEDS FOR OCEAN WORLDS (SNOW) MEETING #1

Accessing into and through the ice shells of ocean worlds will both enable compelling science, including the search for evidence of past and present life, and require dedicated technology programs to realize. OPAG invites members of the astrobiology, planetary science, ocean science and technology communities to join together in a community-based forum aimed at defining the path to the ocean(s).
The first Subsurface Needs for Ocean Worlds (SNOW) meeting will be held 9am-5pm August 19, 2019, immediately prior to the fall OPAG meeting in Boulder, CO. This 1-day workshop is designed to be an open forum to discuss technology needs, common science drivers, and mission architectures for Ocean Worlds exploration. The agenda will include a mixture of short presentations, break out groups, and lighting talks on technology and science.

SNOW meeting #1 will seek to develop plans for Decadal Survey white paper(s) and define action items and agenda for the next meeting (prior to the winter/spring OPAG meeting).

Early career scientists are encouraged to participate. For those who receive support for the OPAG meeting, costs to extend the trip to attend SNOW can also be supported.

To register for the meeting, please visit https://forms.gle/bsYWEb8tc2DizvedA.

For any questions, please email Britney Schmidt (britneys@eas.gatech.edu) and/or Kate Craft (kate.craft@jhuapl.edu)

1. SESSION ED026 – ENGAGEMENT OPPORTUNITIES FOR EVERYONE THROUGH SCIENCE FESTIVALS

Anyone interested in sharing their experiences participating in science festivals
as a means of engaging audiences is encouraged to submit an abstract to the 2019 AGU Fall Meeting session Engagement Opportunities for Everyone through Science Festivals [8].

Increasing numbers of think pieces and news articles position scientists as experts yet still leave people questioning the science. Now, more than ever, it is crucial for scientists to be present in conversations around scientific subjects. Enter: science festivals. This session will illustrate the power of engaging public audiences with science festivals through descriptions of ongoing events, discussions of evaluation methods and results, and connecting scientists with resources and experts to help them join current festivals, or start their own. For scientists already engaging with public audiences, this session will provide next-steps for communicating their science. This session will focus on what science festivals are, why engagement is important for scientists, and how scientists can connect with this living resource. Abstracts from education/communication professionals and scientists are welcome. Topics of interest may include science communication at live events, scientists’ engagement and outreach activities, and evaluation.

https://agu.confex.com/agu/fm19/prelim.cgi/Session/82194 [8]

2019 Fall AGU abstract submission deadline is July 31, 2019 at 11:59 p.m. EDT. Don’t forget: submitting an education abstract won’t count against your first author science abstract submissions! At AGU, one first author education abstract is allowable in addition to a science abstract.

Questions? Contact Andy Shaner [9].

1. SESSION P003 : ATMOSPHERIC PROCESSES, PARTICLES, AND CHEMISTRY
We are pleased to invite you to submit an abstract to a cross-disciplinary session on Atmospheric Processes, Particles, and Chemistry (P003) at the AGU 2019 Fall Meeting in San Francisco, CA (December 9-13, 2019).

The goal of this session is to stimulate communication across disciplines and spark new scientific collaborations between the Earth and Planetary communities (lab, theory, model, observations). With this in mind, we encourage presenters who have already made these types of connections, as well as others who have a technique to offer or a problem in search of a new perspective to submit their abstracts. (Please Note: you can find our session by selecting Planetary Science [10] or Cross-listed/Atmospheric Science [11].)

Abstract submission deadline: 31 July 2019, 11:59 pm EDT

**P003 - Atmospheric Processes, Particles, and Chemistry** [12]

Many of the chemical and microphysical processes occurring in planetary atmospheres have direct similarities to those studied in the Earth's atmosphere. The aim of this session is to bring together atmospheric expertise from the Earth and planetary communities to share knowledge and techniques across traditional boundaries. We encourage submissions from all areas of atmospheric studies, including but not limited to experimental and/or theoretical studies of gas phase composition, chemistry, dynamics, and particle (aerosols and clouds) formation and evolution. We encourage reports of existing cross-disciplinary efforts as well as abstracts describing techniques that could be applied to other bodies, and submissions describing a gap in knowledge that could be addressed collaboratively. We intend to use the "short talk" format to maximize information exchange and encourage
participants to initiate conversations that could lead to future collaborations and new research investigations.


1. SESSION P005: CARBON ACROSS THE SOLAR SYSTEM
We invite abstracts for the following session at the 2019 AGU Fall Meeting in San Francisco, CA, December 9-13, 2019.

Recent results ranging from the Kuiper Belt, the Pluto system, the Saturn system, other locations beyond ~5 AU, all the way to Mercury in the inner Solar System, and nearly all points in between, raise questions about the state of carbon in the Solar System: how do carbonaceous compounds become weathered in response to thermal processes and irradiation? How do we recognize carbon compounds and their various weathering products? The syntheses of these results improve our scientific understanding of the role of carbon in the Solar System, how it evolves and how to recognize it. The carbonaceous near-Earth asteroids 162173 Ryugu and 101955 Bennu are now being visited and sampled; the analyses of these samples will provide context for the presence of carbon. In this session, abstracts covering observational, laboratory and modeling work related to carbon and carbonaceous species on Solar System bodies are welcome.

The deadline for abstract submissions is Wednesday, 31 July, 23:59 EDT

Conveners: Faith Vilas (PSI, fvilas@psi.edu [17]), Amanda R. Hendrix (PSI), Yvonne J. Pendleton (NASA ARC)

1. SESSION P013: FINDING, EXPLORING AND CHARACTERIZING TERRESTRIAL EXOPLANETS: THE NEXT FRONTIER
We are pleased to invite you to submit an abstract for the following session at the 2019 AGU Fall Meeting in San Francisco, CA, December 9-13, 2019.

This session is a discussion of the potential of new and future facilities and modeling efforts designed to detect, image and characterize Earth-size and super-Earth terrestrial exoplanets, studying their formation, evolution and also the existence of possible
biospheres. Topics to be covered in this session include instrument requirements and technologies to detect these exoplanets; strategies for target selection and prioritization; signs of exoplanet habitability and global biosignatures that can be sought with upcoming instrumentation; impacts of planetary system properties; and future ground-based and space telescope architectures.

For more information, visit:

https://agu.confex.com/agu/fm19/prelim.cgi/Session/75474

The submission deadline is Wednesday, July 31, 2019.

Conveners:
Franck Marchis (SETI Institute)
Ramses Ramirez (Tokyo Institute of Technology)
Douglas A. Caldwell (SETI Institute)

1. SESSION P030: PLANETARY RINGS, METEOROID AND DUST POPULATIONS AND EFFECTS

Session Description:

New theoretical and observational studies of planetary rings, meteoroids, and dust. These collections of small particles are sensitive to a wide variety of dynamical phenomena, and so can provide information about the sources, sinks and transport of material. Rings can also encode detailed information about their dynamical environments such as their host planet's gravitational field, while meteoroids and dust interact with larger bodies through surface impacts and atmospheric ablation and therefore contribute to surface weathering or airless bodies and metal deposition in planetary atmospheres. Subjects to be covered include: the structure, dynamics and composition of rings; characterization of dust populations along with their effects on asteroids and spacecraft; dust chemistry; hypervelocity impacts of dust and meteoroids; the interaction of planetary rings with ionospheres, magnetospheres and interplanetary dust; and the origin and evolution of the rings. Recent observations of the dust
environment around small bodies will be highlighted.

Nicolas Lee, Sean Hsu, Matthew Hedman, Sigrid Close

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mhedman@uidaho.edu [21]
sigridc@stanford.edu [22]

1. SESSION P038: THE NEW MARS UNDERGROUND 2.0

After last year’s highly successful “The New Mars Underground” Session, we look forward to seeing again many abstracts focusing on the Martian subsurface: its properties, processes and prospects for life, ancient and modern – across science, enabling technologies and mission concepts.

Summary: The Martian crustal subsurface encompasses a wide range of environments at depths from ~centimeters to kilometers. These environments are relatively unexplored but are of enormous interest for planetary science. Recent results, e.g., methane fluctuations, radar data that are consistent with liquid subsurface water, and ongoing debates on RSL, all point to dynamic subsurface environments. We invite contributions that address the nature and diversity of Mars crustal subsurface environments (modeling, experiments, observations) or develop the tools/missions for exploring them (sounding, access, in situ analysis). We are particularly interested in contributions that advance our understanding of how the subsurface changes with geographic
location and depth, in respect to: volatiles such as brines, ices, clathrates, salts, methane and oxidants, the potential for extant life and the preservation of signs of extinct life, the redox potential of past and present environments, and the technologies/mission concepts that enable such subsurface exploration.

Please direct question to the conveners: Vlada Stamenkovic (JPL, Vlada.Stamenkovic@jpl.nasa.gov), Nina Lanza (Los Alamos), Jack Mustard (Brown), Kris Zacny (Honeybee).

Submit here: Abstract submission deadline is coming soon: 31 July 2019, 11:59 pm EDT

https://agu.confex.com/agu/fm19/prelim.cgi/Session/83347

1. SESSION P039: THE URANUS AND NEPTUNE SYSTEMS, AND THEIR RELATION TO OTHER PLANETS

https://agu.confex.com/agu/fm19/prelim.cgi/Session/81002

Uranus and Neptune systems are high-priority targets for near-future exploration by orbiter and/or flyby missions that may accompany in-situ probes and landers.

We aim to hold a highly interdisciplinary session that advances the state of the art in our understanding of all aspects of ice-giant systems: the magnetospheres, satellites, rings, atmospheres, and interiors of Uranus and Neptune; their formation and evolution; and their relation to other planets in and beyond our solar system. Our session especially welcomes presentations that advance our understanding of the Ice Giant systems in preparation for future remote sensing and in situ explorations. We solicit presentations on observations, modeling, theory and laboratory work, as well as concepts for missions and instruments relevant for future exploration of the Ice Giant Systems.

Convenors: Kunio Sayanagi, Krista Soderlund, Zibi Turtle, Xin Cao
1. SESSION P040: TITAN: THE EXOTIC AND ENIGMATIC MOON

Saturn’s giant moon Titan is one of the most mysterious, and yet strangely familiar, realms in the solar system. Possessing a dense atmosphere enriched in organic compounds, its active photochemistry works to produce a panoply of molecules of increasing size and complexity, running the gamut from ethane to haze particles. This session solicits presentations on all aspects of Titan research, including on-going Cassini dataset analysis, Earth-based observations, modeling, laboratory investigations, and comparison with other worlds.

Conveners: Conor Nixon (NASA GSFC), Alex Hayes (Cornell University), Kathleen Mandt (Johns Hopkins APL)

Submissions welcome until: 31 July 2019 23:59 EDT/03:59 +1 GMT.

At:  https://agu.confex.com/agu/fm19/prelim.cgi/Home/0 [26]

1. SESSION SH04: SPACE WEATHER EVENTS AT SOLAR SYSTEM BODIES AND BEYOND

We would like to invite you to submit an abstract and participate in the 2019 Fall AGU cross-disciplinary session, "SH024: Space weather events at solar system bodies and beyond". The abstract submission is currently open until 31 July 2019 23:59 EDT/03:59 +1 GMT.

Please visit this page to submit directly to this session:

https://agu.confex.com/agu/fm19/prelim.cgi/Session/82766 [27]
Session description:

The characteristics of how different solar system bodies respond to the active solar conditions can be used as an analog for space weather conditions experienced by planets at other stellar systems. The availability of both interplanetary spacecraft observations and advanced modeling techniques allow us to better understand the space weather responses by planets and their satellites within our solar system. In particular, the heliospheric influences on various bodies can be different, depending on the plasma environment of the planet (e.g., airless or tenuous atmosphere, with or without a magnetosphere).

This session will cover a range of interrelated topics, including the propagation and evolution of ICMEs and SEPs in the heliosphere, the space weather responses by planets, moons, and asteroids, and the expected space weather conditions at exoplanets, particularly those within habitable zones of their stellar systems. We welcome both observational and modeling studies on the heliosphere and exoplanetary

1. Conveners:
   Réka Winslow (University of New Hampshire)
   Jingnan Guo (University of Science and Technology of China)
   Christina O. Lee (Space Sciences Laboratory, UC Berkeley)

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JOBS, POSITIONS, OPPORTUNITIES

A) PLANETARY SCIENCES EXPLORATION POSTDOCTORAL POSITION

AT THE UNIVERSITY OF CENTRAL FLORIDA

The Department of Physics (physics.cos.ucf.edu) at the University of Central
Florida (UCF) and the Florida Space Institute (FSI) invite applications for a post-doctoral position as part of the Center for Lunar and Asteroid Surface Science (CLASS) of the NASA Solar System Exploration Research Virtual Institute (SSERVI). We seek candidates with interests in exploration-related planetary science including, but not limited to, lunar surface mineralogy, regolith processes, primitive asteroid mineralogy, and in-situ resource utilization (ISRU). Applicants must have a Ph.D. at the time of appointment in Geological Sciences, Planetary Sciences, or a closely related discipline. The successful applicant is expected to be involved in CLASS projects related to the physical properties of lunar and asteroidal materials, the scientific support of ISRU development, and lunar regolith processes. This will include interaction with the commercial NewSpace community in the development of the next generation of lunar landers, instruments, and experiments. Interested individuals should provide include a cover letter, curriculum vitae, summary of research, and a list of three professional references with contact information to Dr. Daniel Britt (dbritt@ucf.edu [28]).

Screening of applications will continue until the position is filled.

Send submissions to:
Anne Verbiscer, DPS Secretary (dpssec@aas.org [29])

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To unsubscribe or update your information, please send your request to privacy@aas.org [30]. The more general AAS privacy policy is available online at https://aas.org/about/policies/privacy-policy [31]. Current and back
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