

## Newsletter 20-34

Issue 20-34, July 22, 2020

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52nd DPS MEETING: OPEN FOR ABSTRACT SUBMISSIONS AND REGISTRATION

<https://aas.org/meetings/dps52> [1]

We hope to “see” you at this year’s DPS meeting, Oct 25-30.

Member registration rate is \$160; student rate is \$75.

Abstracts will be due Aug 12, and submitters can choose between a preferred format of a pre-recorded talk or an iPoster. We will be announcing information on how to make a pre-recorded talk and an iPoster in the coming days.

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HARTMANN STUDENT GRANTS FOR DPS

A generous contribution from William K. Hartmann, supplemented by member contributions and matching funds from the DPS Committee, has enabled a limited number of student grants to assist participation by early-career scientists at

the annual DPS meeting.

\*\*\*NOTE: Due to the COVID-19 pandemic, the DPS meeting will be virtual this year.

Hartmann funds, which are usually used to cover travel expenses, will be used this year to support meeting registration for students.\*\*\*

\*\* Application details are at [https://dps.aas.org/meetings/travel\\_grant\\_application](https://dps.aas.org/meetings/travel_grant_application) [2]

Grants are primarily intended for students, but post-doctoral scientists without other means of support will also be considered.

The due date for applications is August 20, 2020 11:59 PM PDT.

The DPS Leadership is also soliciting additional contributions from members for the Hartmann Fund. Your tax-deductible gift promotes the careers of our next generation of planetary scientists. Thanks so much for your generosity.

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### COMET C/2020 F3 NEOWISE

Comet C/2020 F3 NEOWISE makes its closest approach to the Earth today, and it is visible to observers in the Northern Hemisphere roughly 1-1.5 hours after local sunset.

AAS's Sky and Telescope Magazine has published this guide to help you spot the comet for yourself:

<https://skyandtelescope.org/astronomy-news/comet-neowise-dazzles-at-dusk/> [3]

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### ARECIBO OBSERVATORY TOWN HALL - WEDNESDAY, JULY 29 AT 2PM EASTERN

The Arecibo Observatory will host a Virtual Town Hall on Wednesday, July 29, 2020 from 2:00 PM - 3:30 PM EDT/AST. The meeting will open with several status updates

about the observatory and brief science highlights from the Astronomy, Space & Atmospheric Sciences, and Planetary Sciences groups, followed by a Q&A session with all of the

attendees. Visit our [AO Town Hall website](#) [4] for more information and to submit questions

in advance.

Add to [Calendar](#) [5] (Google) | [Add to Calendar](#) [6] (iCal/Outlook)

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#### FALL AGU VIRTUAL MEETING, ABSTRACT SUBMISSIONS OPEN

The American Geophysical Union Fall Virtual Meeting 2020 abstract submission site is now open. Go to: <http://www.agu.org/Fall-Meeting> [7]

Abstract submission guidelines are at: <http://www.agu.org/Fall-Meeting/2020/Present/Abstracts> [8]  
Session Viewer/Abstract submission site is at: <http://agu.confex.com/agu/fm20/prelim.cgi/Home/0> [9]

We will be keeping all sites updated with information regarding the virtual meeting as the planning continues.

#### AGU FALL MEETING SESSION: "ENCELADUS: A HABITABLE WORLD BECKONS"

Saturn's small yet active icy moon remains one of the most scientifically compelling worlds in the solar system.

In this long-running special session, now in its 15th year, we seek to sustain a highly multidisciplinary and stimulating atmosphere that enables a deeper understanding of the nature and causes of Enceladus' activity. We encourage submissions that specifically provide insights into the moon's interior, biological potential, surface morphology, south polar plume, and space environment from diverse disciplines: e.g., planetary geology, comparative planetology of relevant icy satellites, terrestrial studies, hydrothermal systems, oceanography, geodynamics, tectonics, volcanology, space physics, organic chemistry, geochemistry, astrobiology, origins of life, microbiology, and biosignatures. Field, laboratory, and theoretical studies are all welcome.

We also welcome contributions on Cassini data analysis and modeling, as well as instrument and mission concept developments that will lay the groundwork for a new generation of explorers to Enceladus.

Abstract submission deadline: July 29, 2020

Abstract submission link: <https://agu.confex.com/agu/fm20/prelim.cgi/Session/101707> [10]

Chris Glein (SwRI) and Bill McKinnon (WashU)

**AGU FALL MEETING SESSION: P006 - CARBON ACROSS THE SOLAR SYSTEM  
ON THE EVE OF RETURNING ASTEROID SAMPLES**

Studies of the existence and state of carbonaceous material on Solar System bodies is at the forefront of planetary research. Samples of low-albedo asteroid 162173 Ryugu are en route to the Earth on the Hayabusa2 probe, and a rehearsal of the initial sample analysis is planned. At this time, the OSIRIS-REx space probe sampling of low-albedo asteroid 101955 Bennu has been rehearsed. As a framework for these studies, telescopic, laboratory and theoretical studies of carbon in all its forms have recently snowballed. The 2018 SSERVI Carbon in the Solar System workshop launched a series of presentations and discussions at various planetary science venues, enabling an information exchange around the weathering of carbonaceous compounds in response to thermal processes and irradiation, and what implications these compositions have for understanding material processing in the Solar System. We will generate and share ideas to support research and the imminent arrival of new samples.

We invite abstracts to be submitted through July 29:

<https://www.agu.org/Fall-Meeting/2020/Present/Abstracts> [11]

Conveners:

Faith Vilas (Planetary Science Institute)

Amanda R. Hendrix (Planetary Science Institute)

**AGU FALL MEETING SESSION: "GEOLOGY AND GEOPHYSICS OF SATELLITES AND SMALL BODIES: TO IO, AND BEYOND"**

We wish to invite abstracts to the AGU Fall Meeting Planetary Science session

"Geology and Geophysics of Satellites and Small Bodies: to Io, and Beyond.

This is an exciting time for exploring the dynamic, evolving small bodies in the Solar System. The AGU abstract submission site will open in late June. The deadline for all submissions is Wednesday, 29 July at 23:59 EDT. We hope to see you (virtually!) in December.

Conveners: A.G. Davies, K. de Kleer, T. McCord, T. V. Johnson

This is a session of contributed and invited papers on the geology and geophysics of active or recently active satellites and dwarf planets, including small exoplanets. Research is progressing rapidly due to the stream of new spacecraft and Earth-based telescope data. Additionally, there are exciting future missions to the Jovian system under development, including Europa Clipper, JUICE, and the proposed Io Volcano Observer. Papers are welcomed on processes that affect the interiors of individual bodies as well as the surface expressions they produce. Included are the effects and chronology of internal heating (tidal dissipation and radioactivity), structural evolution (e.g., differentiation), tides, and other geophysical and geological processes (e.g., volcanism, tectonism).

Sincerely,

Ashley Gerard Davies, Katherine de Kleer, Tom McCord and Torrence Johnson.

**AGU FALL MEETING SESSION "LOOKING AHEAD TO THE FUTURE OF PLANETARY SCIENCE"**

We'd like to invite abstracts to the virtual AGU session " Looking ahead to the future of Planetary Science" to be submitted through <https://www.agu.org/Fall-Meeting/2020/Present/Abstracts> [11] through July 29th, and look forward to seeing you for a fascinating session.

## LOOKING AHEAD TO THE FUTURE OF PLANETARY SCIENCE

### Description:

In preparation for the NASA Decadal Survey, the Planetary Science Division awarded funds to study eleven mission concepts under the rubric of PMCS (Planetary Mission Concept Studies). This program element solicited proposals for mission concept studies that addressed NASA's planetary science objectives, which are to ascertain the content, origin, and evolution of the Solar System and the potential for life elsewhere. The oral session will highlight the final reports of these Planetary Science Decadal Survey studies, while abstracts for additional concepts that the community may have will be solicited to be presented in a poster session.

Thanks a lot,

Doris Daou, Pat Beauchamp and Julie Castillo-Rogez

### AGU FALL MEETING SESSION "THE FUTURE OF PLANETARY ATMOSPHERIC, SURFACE, AND INTERIOR SCIENCE USING RADIO AND LASER LINKS"

Radio science has been used to study solar system phenomena and fundamental physics for over five decades. The scope of this session includes radio and optical science techniques to study ocean worlds, planetary and small body interiors, the dynamics, composition, and thermal structure of planetary atmospheres, to characterize the scattering, electrical, and other properties of planetary surfaces, to study solar system dynamics, and to conduct

tests in fundamental physics. Of particular interest are presentations on radio science investigations motivated by U.S. Planetary Science Decadal Survey white papers. Relevant technology topics

include but are not limited to the design of small spacecraft networks and constellations, advances in flight and ground instrumentation, advances in space clock technologies, novel communications architectures including optical links, advances in radio and laser technologies, and new techniques and instrumentation for entry probe radio science.

The conveners invite abstracts to be submitted through July 29 at  
<https://www.agu.org/Fall-Meeting/2020/Present/Abstracts> [11]

David H. Atkinson, Sami W. Asmar, Luciano Iess, Silvia Tellmann

#### AGU FALL MEETING SESSION "TITAN - PAST, PRESENT AND FUTURE INVESTIGATIONS OF SATURN'S GIANT MOON"

Titan's unique standing as the only moon in the solar system with a dense atmosphere provides an environment like no other. Its complex meteorology of rainfall, wind, rivers, lakes and seas interacting with a solid surface is reminiscent of the planets of the inner solar system, while its icy crust and deep liquid water interior provide comparison to outer solar system ocean worlds, such as Europa, Ganymede and Enceladus. Titan alone straddles these diverse environments, providing a fertile natural laboratory for studying one-of-a-kind chemistry, dynamics, geology and more. This session welcomes new results from past missions including Voyager and Cassini-Huygens; present day modeling, observations and experiments; and on-going scientific research to prepare for future missions including Dragonfly.

The conveners invite abstracts to be submitted through  
<https://www.agu.org/Fall-Meeting/2020/Present/Abstracts> [11] through July 29th, and look forward to a session filled with exciting new results.

Conor Nixon, Alex Hayes, Kathy Mandt and Christophe Sotin

#### AGU FALL MEETING SESSION "CONCEPTS FOR FUTURE PLANETARY SCIENCE MISSIONS AND INSTRUMENTS" (E-LIGHTNING)

Today planetary science missions are exploring the solar system as never before.

NASA spacecraft are headed to targets from Mercury to the Kuiper Belt, and aiming to return the first samples from Mars and asteroid Bennu. ESA spacecraft are reaching new targets from Mercury to Jupiter, and a wave of other missions from countries around the world are targeting the Moon, Mars, near-Earth asteroids and beyond, with an dizzying array of orbiters, rovers and landers. It is an exciting, dynamic time for planetary scientists with new opportunities to propose mission concepts ranging from small Cubesats to traditional large missions. This session solicits interactive electronic poster (e-Lightning) presentations on novel mission and instrument concepts designed for future planetary science missions.

Abstract submissions are encouraged on all relevant mission and instrument concepts at: <https://www.agu.org/Fall-Meeting/2020/Present/Abstracts> [11] by July 29th.

We look forward to another very interesting session in December.

Conor Nixon, Morgan Cable, Charles Hibbitts, Melissa Trainer

#### AGU-2020 SESSION ON PLANETARY ACCRETION AND DIFFERENTIATION

We invite contributions to the session “Accretion and differentiation of rocky planets: perspectives from geophysics, geochemistry, & astronomy” at the [AGU Fall Meeting](#) [12]

from 7-11 December 2020, which will be at least partially virtual this year. We welcome contributions from all disciplines to advance the understanding of the formation and differentiation of rocky planets including, but not limited to, geochemistry, geophysics, cosmochemistry, planetary science, and astronomy:

<https://agu.confex.com/agu/fm20/prelim.cgi/Session/101356> [13].

The AGU abstract portal is already open and the deadline for submissions is Wednesday, 29 July.

Session description: The simultaneous advent of high-resolution observations of planet-forming disks and enhanced prospects to characterize rocky exoplanets highlights the need for increasing interdisciplinary collaboration to understand the birth and life cycle of terrestrial worlds in our solar system and exoplanetary systems. Therefore, this session welcomes abstracts that address new observational, theoretical, and laboratory constraints on the formation of Earth and other terrestrial planets in the solar system as well as in exoplanetary



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systems. This includes modeling, observational, and experimental studies related to properties of planetesimals, impacts, pebble accretion, core segregation, moon formation, crust-mantle differentiation, atmosphere formation, or other major geophysical/geochemical processes that fundamentally shape the evolution of rocky planetesimals and planets during their formation and early evolution.

Conveners: Laura Schaefer (Stanford), Rebecca Fischer (Harvard), Tim Lichtenberg (Oxford)  
Invited Speakers: Bethany Chidester (UC Davis), Jennifer Bergner (UChicago)  
Sections: Study of Earth's Deep Interior (primary), Mineral and Rock Physics, Planetary Science  
Themes: Origin and evolution, Planetary atmospheres, Planetary interiors, Planetary Geochemistry

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Send submissions to:

Anne Verbiscer, DPS Secretary ([dpssec@aaas.org](mailto:dpssec@aaas.org) [14])

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to [privacy@aaas.org](mailto:privacy@aaas.org) [15]. The more general AAS privacy policy is available

online at <https://aas.org/about/policies/privacy-policy> [16]. Current and back

issues of the DPS Newsletter can be found at <https://dps.aas.org/newsletters> [17]

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 [11] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_www.agu.org\\_Fall-2DMeeting\\_2020\\_Present\\_Abstracts&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=yS7N9cYakVH7ZDXF4q6Vvqet5VPNujtROq1DlwD8O7I&amp;s=pkjkKVWYVIC6oL0JIKUEB-vPrgjLp-IML\\_dA0kUim9k&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__www.agu.org_Fall-2DMeeting_2020_Present_Abstracts&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=yS7N9cYakVH7ZDXF4q6Vvqet5VPNujtROq1DlwD8O7I&amp;s=pkjkKVWYVIC6oL0JIKUEB-vPrgjLp-IML_dA0kUim9k&amp;e=)  
 [12] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_www.agu.org\\_fall-2Dmeeting&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=yS7N9cYakVH7ZDXF4q6Vvqet5VPNujtROq1DlwD8O7I&amp;s=PB1OsiHAz0bWjR2Di8hUpMjgqzmIBRio2EaERIMF0oA&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__www.agu.org_fall-2Dmeeting&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=yS7N9cYakVH7ZDXF4q6Vvqet5VPNujtROq1DlwD8O7I&amp;s=PB1OsiHAz0bWjR2Di8hUpMjgqzmIBRio2EaERIMF0oA&amp;e=)  
 [13] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_agu.confex.com\\_agu\\_fm20\\_prelim.cgi\\_Session\\_101356&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=yS7N9cYakVH7ZDXF4q6Vvqet5VPNujtROq1DlwD8O7I&amp;s=SnbxxaPubOyx6csVvDV\\_j49TNABnk0zWotTvVIVC1Ak&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__agu.confex.com_agu_fm20_prelim.cgi_Session_101356&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=yS7N9cYakVH7ZDXF4q6Vvqet5VPNujtROq1DlwD8O7I&amp;s=SnbxxaPubOyx6csVvDV_j49TNABnk0zWotTvVIVC1Ak&amp;e=)  
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