

## Newsletter 19-15

Issue 19-15, April 25, 2019

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

1. DPS ELECTIONS 2019: CANDIDATE SLATE
2. EPSC/DPS 2019 JOINT MEETING SESSIONS
3. NASA CITIZEN SCIENCE COMMUNITY WORKSHOP
4. SOFTWARE SYSTEMS FOR ASTRONOMY - REGISTRATION OPEN

+-----+

1-----1-----1-----1-----1-----1-----1-----1-----1-----1

### DPS ELECTIONS 2019: CANDIDATE SLATE

The DPS Nominating Subcommittee has identified the following candidates for the 2019 DPS elections for Vice Chair and Committee :

Vice-Chair (1 to be elected):

- o Amy Mainzer, JPL
- o Matthew Tiscareno, SETI Institute

Committee (2 to be elected):

- o Dana Hurley, APL
- o Franck Marchis, SETI Institute
- o Jay Pasachoff, Williams College
- o Noemi Pinilla-Alonso, Florida Space Institute

---

Additional candidates, supported by a petition of at least 20 DPS members,  
may be nominated by May 28th. Please send any nominations to the  
DPS Secretary, Anne Verbiscer, at [dpssec@aaas.org](mailto:dpssec@aaas.org) [1].

The DPS Committee thanks the members of the Nominating Subcommittee:

Yvonne Pendleton (Chair)

Carrie Nugent

Matthew Knight

for their dedicated service to the DPS.

2-----2-----2-----2-----2-----2-----2-----2-----2-----2-----2

#### EPSC/DPS 2019 JOINT MEETING SESSIONS

NOTE TO THOSE IN THE US : The abstract deadline is 13:00 CEST on May 8  
which is 7:00 AM EDT, 4:00 AM PDT. Please plan accordingly!

#### EX07 : PLANETARY AERONOMY - NEAR AND AFAR

Dear colleagues,

We are organizing the session “Planetary Aeronomy: Near and Afar” as part of the EPSC-DPS Joint Meeting that will take place in Geneva, Switzerland, on 15-20 September 2019. This session brings together experts studying planetary upper atmospheres of both exo- and solar system planets. You can find further information about the meeting and the session through the links:

<https://www.epsc-dps2019.eu/home.html> [2]

<https://meetingorganizer.copernicus.org/EPSC-DPS2019/session/34017> [3]

Invited Speakers will be announced in due course.

Deadline for abstract submission is: 8 May.

Looking forward to seeing you there,

Antonio García Muñoz

Tommi Koskinen  
Panayotis Lavvas

## EXO16 : OCEAN WORLDS AND ICY MOONS

Conveners : C. Howett, S. Fatemi, C. German, C. Hansen, J. Hofgartner,  
M. Holmberg, T. Hurford, H. Huybrighs, A. Murray, A. Rhoden, D. Snowden,  
A. Solomonidou, J. Spitale, F. Tosi

The set of known and suspected ocean worlds continues to expand, leading to intense interest in their viability as potential habitats that may be or may have been inhabited. Previous missions such as Cassini-Huygens, Galileo and New Horizons provide a major incentive for future exploration of the icy Galilean satellites with Europa Clipper and JUICE. Understanding ocean worlds and preparing for their exploration requires input from a variety of scientific disciplines: planetary geology and geophysics (including active processes, e.g. plumes), atmospheric physics, life sciences, magnetospheric environment, space weathering, as well as supporting laboratory studies, preparatory studies for future missions and technology developments in instrumentation and engineering. We welcome abstracts that span the full breadth of disciplines that apply to the icy moons in the outer Solar System with potential liquid oceans underneath, and their exploration.

## OPS1 : ICE GIANT SYSTEMS

Conveners: D. H. Atkinson, O. Mousis, M. Hofstadter, S. Atreya, T. Cavalie,  
L. Fletcher, C. Paty, E. P. Turtle

This session welcomes abstracts addressing all aspects of ice-giants systems



including the internal structure of the ice giants, the composition, structure, and processes of and within ice-giant atmospheres, ice-giant magnetospheres, satellites, and rings, and the relationship to exoplanetary systems. The session will comprise a combination of solicited and contributed oral and poster presentations on new and continuing studies of the ice-giant systems and the connection of the ice giants to our current understanding of exoplanetary systems.

We welcome papers that

- Address the current understanding of ice-giant systems, including atmospheres, interiors, magnetospheres, rings, and satellites including Triton;
- Advance our understanding of the ice-giant systems in preparation for future exploration, both remote sensing and in situ;
- Discuss what the ice giants can tell us about solar system formation and evolution leading to a better understanding of the current structure of the solar system and its habitable zone;
- Address outstanding science questions requiring future investigations including from spacecraft, remote sensing, theoretical, and laboratory work necessary to improve our knowledge of the ice giants and their relationship to the gas giants and the solar system;
- Present concepts for missions, instruments, and investigations to make appropriate and useful measurements.

The EPSC-DPS website can be found at <https://www.epsc-dps2019.eu/> [4]

And the outer planet system sessions are listed at

<https://meetingorganizer.copernicus.org/epsc-dps2019/sessionprogramme> [5]

If any further information is needed, please let me know. Thank you!

David Atkinson

## OPS2 : SATURN SYSTEM AND THE CASSINI-HUYGENS MISSION

Please consider submitting an abstract to session OPS2 of the EPSC-DPS Joint meeting 2019 which will take place at the Centre International de Conférences de Geneve (CICG) in Geneva, Switzerland on 15–20 September 2019.

<https://www.epsc-dps2019.eu/home.html> [2]

Results related to the Saturnian system from ground-based and Cassini-Huygens mission observations are welcome in OPS2. All aspects of the system (planet, satellites and rings) will be presented, with emphasis on recent findings.

For more information see:

<https://meetingorganizer.copernicus.org/EPSC-DPS2019/abstractsubmission/34116> [6]

Abstract submission deadline : 08 May 2019, 13:00 CEST

Early registration deadline : 31 July 2019

Conveners: A. Coustenis, S. Edgington, F. M. Flasar, A. Masters, C. Plainaki, L. Spilker

## SB1 : DYNAMICAL AND PHYSICAL CHARACTERISATION OF SMALL BODIES WITH GAIA AND THE NEW GENERATION OF SURVEYS

This session welcomes abstracts describing results, developments, and perspectives on the discovery or the physical and dynamical characterisation of the small bodies of our solar system using ground based and space-borne telescopic surveys. Results related to the utilisation of the stellar and solar system objects catalogs published in Gaia DR2 are especially welcomed.

This session invites also abstracts about future Gaia data releases and their perspectives (asteroid mass measurements, the detection of Yarkovsky acceleration on objects, and spin/shape properties from photometry), as well as other future surveys or missions.

The abstract submission deadline is May 8, 2019, 13:00 CEST. Please use the below link to learn more about this session and to submit an abstract:

<https://meetingorganizer.copernicus.org/EPSC-DPS2019/session/34453> [7]

We look forward to a great meeting in Geneva.

The conveners,

Paolo Tanga, Federica Spoto, Joseph Masiero

**SB4: PLANETESIMALS: PRIMITIVE AND DIFFERENTIATED SMALL BODIES, INCLUDING VESTA AND CERES AS SEEN BY THE DAWN MISSION**

Dear colleagues,

---

The DPS is a Division of the



we would like to invite you to submit an abstract for the the next EPSC-DPS joint meeting 2019 (Geneva, Switzerland, 15–20 September, <https://www.epsc-dps2019.eu> [4]) to the session

SB4: "Planetesimals: primitive and differentiated small bodies, including Vesta and Ceres as seen after the Dawn mission"

This session welcomes contributions addressing asteroid science primarily building on data from the Dawn and other spacecraft missions, along with complementary observations from ground and space telescopic assets. Studies on the composition, geological properties, surface and internal processes of Vesta, Ceres, and other main belt asteroids in general are encouraged. We also foster studies on the formation of planetesimals, their differentiation, and further evolution, including their collisional break-up and creation of families of new generation asteroids. Contributions shedding new light on the processes driving asteroid accretion, evolution, and the information they bring to early solar system history, are also welcomed. This session aims to provide an update on the state of knowledge of the Main Belt.

The abstract submission deadline is 8 May 2019, 13:00 CEST.

You can submit an abstract by clicking the following link:

<https://meetingorganizer.copernicus.org/EPSC-DPS2019/session/34459> [8]

Looking forward to seeing you in Geneva,

the conveners

Mauro Ciarniello, Julie Castillo, Daniele Fulvio, Simone Ieva, Katharina Otto, Marcel Popescu, Andrea Raponi

---

**SB5 : TRANS-NEPTUNIAN OBJECTS AND THEIR DUST ENVIRONMENT, PLUTO, 2014 MU69, AND CENTAURS**

This session welcomes papers about the trans-Neptunian objects and their environment, including investigations of space weathering. We encourage scientific investigations based on both space and Earth-based observations as well as theoretical and laboratory investigations. Papers based on observations and measurements obtained from within the Kuiper Belt are particularly encouraged including those focusing on 2014 MU69 (a target of the New Horizons mission). We also welcome papers about the Pluto system including investigations of the geology, composition, atmosphere, climate and environment. Papers on processes that may be active in the Pluto system are particularly encouraged and include topics such as formation of organics in Pluto's atmosphere and surface, or seasonal/climatic models of volatile transports. This session will also welcome abstracts devoted to studies of the Centaurs, in particular on their structure, composition, dynamics and activity patterns. We invite studies that describe observations, theory, experimental work, and future spacecraft encounters related to: (i) the onset and provenance of activity beyond Jupiter's orbit, and (ii) the nature of surface modification at these heliocentric distances (including, but not limited to, solar radiation, space weathering and impacts).

The abstract submission deadline is May 8, 2019, 13:00 CEST.

<https://meetingorganizer.copernicus.org/EPSC-DPS2019/session/34462> [9]

Please join us in Geneva, Sept. 15-20 2019, for what is sure to be a great meeting.

Conveners: Kelsi Singer, Maria Teresa Capria, Heather Elliott, Sonia Fornasier,  
Walter Harris, Rodrigo Leiva, Catherine Olkin, Davide Perna, Simon Porter,  
Silvia Protopappa, Gal Sarid, Bernard Schmitt, Anne Verbiscer, Laura Woodney

**SB8 : LATEST SCIENCE RESULTS IN PLANETARY DEFENCE**

Dear Colleagues,

We would like to invite you to send an abstract to Session SB8 "Latest Science Results in Planetary Defence" at the EPSC-DPS Joint Meeting on 15 - 20 September 2019 in Geneva.

Abstracts are invited covering all aspects of planetary defense: Results from space and ground based telescopic data, results from past and ongoing missions that are relevant for planetary defence as well as updates of planned missions that will significantly contribute and enhance the scientific knowledge for the global planetary defence strategy are welcome.

More information about the session and a link to abstract submission can be found on:

<https://meetingorganizer.copernicus.org/EPSC-DPS2019/session/34463> [10]

Deadline is the 8th of May.

Best regards,

The Conveners

**SB11 : PLANETARY RING SYSTEMS**

Dear Colleagues,

The DPS is a Division of the

---

We would like to invite you to send an abstract to Session SB11 "Planetary ring systems" at the EPSC-DPS Joint Meeting on 15 - 20 September 2019 in Geneva, Switzerland.

This session is open for discussions about rings around Jupiter, Saturn, Uranus, Neptune and small outer-solar-system bodies. Theoretical and observational studies of ring morphology, dynamics, composition, origin, evolution, and interactions with nearby moons are all topics of interest. Contributions reporting on the latest results from the Cassini mission and from TNO and Centaur observations are particularly welcome.

More information about the session and a link to abstract submission can be found on: <https://meetingorganizer.copernicus.org/EPSC-DPS2019/session/34467> [11]

Deadline is the 8th of May 2019.

Best regards, Phillip D. Nicholson, Gianrico Filacchione

#### TP6: MOON AND OTHER AIRLESS ROCKS

Dear Colleagues,

We would like to invite you to submit an abstract to Session TP6 "Moon and Other Airless Rocks" at the EPSC-DPS Joint Meeting on 15 - 20 September 2019 in Geneva.

Abstracts are invited on any research related to Moon, moons, asteroids, and the interactions of airless rocks with the space environment. Earth's Moon has been our guide to cratering and other processes that affect airless rocks in space. Recent discoveries have shown that the Moon is not what we thought it was, suggesting we ought to re-examine our understanding of processes affecting airless rocky bodies and their surfaces.

More information about the session and a link to abstract submission can be found on: <https://meetingorganizer.copernicus.org/EPSC-DPS2019/session/34055> [12]

Deadline is the 8th of May.

Best regards,  
Tim Livengood  
Amanda Hendrix

Co-conveners

#### TP17/OPS8 : ATMOSPHERES AND EXOSPHERES OF TERRESTRIAL BODIES

Space missions have provided a wealth of data on the atmospheres and aeronomy of rocky planets and moons, from the lower layers up to the external envelopes in direct contact with the solar wind. An recent emerging finding is evidence that the atmosphere behaves as a single coherent system with complex coupling between layers.

This session solicits contributions that investigate processes at work (chemistry, energetics, dynamics, electricity, escape etc...) on Venus, Mars, and Titan and includes studies of the coupling between the lower/middle and upper atmospheres. Contributions based on analysis of recent spacecraft and ground-based observations, comparative planetology studies, numerical modelling and relevant laboratory investigations are particularly welcome. The session will consist of invited and contributed oral talks as well as posters.

The abstract deadline is 8 May, 2019, at 13:00 CET. Hope to see you in Geneva!

The conveners: Anni Määttänen, Michael Chaffin, Francisco González-Galindo, Majd Mayyasi, Claire Newman, Takehiko Satoh, Dmitrij Titov

#### TP20 : IONOSPHERES OF UNMAGNETIZED BODIES IN THE SOLAR SYSTEM AND THEIR RESPONSES TO SPACE WEATHER ACTIVITY

Dear colleagues,

We would like to encourage you to submit an abstract to our session

TP20: Ionospheres of Unmagnetized Bodies in the Solar System and their responses to space weather activity: Terrestrial Planets and comets for the



joint EPSC-DPS conference that will take place in Genève (Switzerland)

on 15-20 September 2019.

Please find more details in here:

<https://meetingorganizer.copernicus.org/epsc-dps2019/sessionprogramme> [13]

“Ionospheres are an integral part of planetary atmospheres, being tightly coupled to the neutral atmosphere, exosphere and surrounding plasma environments. Specifically, the ionospheres of unmagnetized (or weakly-magnetized) bodies with substantial atmospheres are controlled not only by solar radiation and neutral atmosphere variations, but also directly impacted by the surrounding plasma environment (e.g. the solar wind for Mars, Venus, Pluto and comets, and the Kronian magnetosphere for Titan) and space weather variability. Understanding how each unmagnetized body reacts to all these factors is a key in comparative aeronomy because although a priori all of them have a general similar behavior, they also have scientifically important differences caused by their different natures. This session focuses on the ionospheres of Mars, Venus, Pluto, Titan, and comets such as 67P/CG, and solicits abstracts concerning remote and in situ data analysis, modeling studies, instrumentation and mission concepts. Topics may include, but are not limited to, day and night side ionospheric variability, sources and influences of ionization, ion-neutral coupling, current systems, comparative ionospheric studies, and solar wind-ionosphere interactions and responses of the ionized and neutral regimes to transient space weather events. Abstracts on general plasma and escape processes are also welcome.”.

\*\* Note that this year this session belongs to the “Terrestrial Planets” block only, but both terrestrial planets and comet communities are welcome to submit abstracts.

Deadline for abstract submissions: 8 May 2019, 13:00 CEST

Please do not hesitate to forward this message to appropriate persons.

With best wishes,

Beatriz Sanchez-Cano, Christopher Fowler, Xiaohua Fang, Candace Gray,  
Pierre Henri, Matteo Crismani

3-----3-----3-----3-----3-----3-----3-----3-----3-----3-----3

### BUILDING THE NASA CITIZEN SCIENCE COMMUNITY WORKSHOP

Building the NASA Citizen Science Community, June 20-22, 2019,  
Hacienda del Sol, Tucson, AZ.

Scientists, educators, students, and people interested in learning about, and joining, citizen science projects are invited attend this 3-day workshop. The focus has two primary areas of focus: 1) to bring together citizen science practitioners from NASA and the broader global citizen science community to discuss best practices from successful citizen science projects, to brainstorm ideas for new citizen science projects, and to devise ways to grow NASA's citizen science community, and 2) to gather students, educators, and citizen scientists to explore current citizen science projects, learn about the type of work occurring in different projects, and explore ways to get involved.

Representatives from NASA, iNaturalist, GLOBE, Zooniverse, CosmoQuest, and other citizen science programs will be present. Registration is free but limited; registration is on a first-come, first-serve basis. Breakfast and lunch are provided all three days.

4-----4-----4-----4-----4-----4-----4-----4-----4-----4-----4

## SOFTWARE SYSTEMS FOR ASTRONOMY - REGISTRATION OPEN

Please note that registration is now open for the summer school in Software Systems for Astronomy (SSfA-6). The course will take place July 15-26, 2019, on the Big Island of Hawaii. The course covers software design and implementation of telescope and instrument control systems, observation planning tools, and software for analyzing and archiving astronomical data.

If you are not a University of Hawaii at Hilo (UHH) student, use this link to register:

<https://hilo.hawaii.edu/depts/summer/SummerAdmissions.php> [14]

If you are a UHH student, use this link to register:

<https://hilo.hawaii.edu/depts/summer/SummerCourseRegistration.php> [15]

More information can be found here:

<http://astro.uhh.hawaii.edu/Summer/Summer-2019/ssfa19.php> [16]

Direct questions to [aconrad@hawaii.edu](mailto:aconrad@hawaii.edu) [17]

-----+

Send submissions to:

Anne Verbiscer, DPS Secretary ([dpssec@aas.org](mailto:dpssec@aas.org)) [1]

You are receiving this email because you are a DPS member.

To unsubscribe or update your information, please send your request

to [privacy@aas.org](mailto:privacy@aas.org) [18]. The more general AAS privacy policy is available

online at <https://aas.org/about/policies/privacy-policy> [19]. Current and back

issues of the DPS Newsletter can be found at <https://dps.aas.org/newsletters> [20]

## Footer

- [Reports](#)
- [Photos](#)
- [History](#)
- [Bylaws](#)
- [Giving](#)

**Source URL:** <https://dps.aas.org/newsletters/19-15>

**Links:**

- [1] <mailto:dpssec@aaas.org>
- [2] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_www.epsc-2Ddps2019.eu\\_home.html&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=6BMHmwqG59og\\_e8Nd22ysuCAydSNy9InfmBRHReqi9g&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__www.epsc-2Ddps2019.eu_home.html&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=6BMHmwqG59og_e8Nd22ysuCAydSNy9InfmBRHReqi9g&amp;e=)
- [3] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_meetingorganizer.copernicus.org\\_EPSC-2DDPS2019\\_session\\_34017&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=AbGsvtyjhAX1QS7w-iQmglNaepQzZcGYHnj7ybhWMzU&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__meetingorganizer.copernicus.org_EPSC-2DDPS2019_session_34017&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=AbGsvtyjhAX1QS7w-iQmglNaepQzZcGYHnj7ybhWMzU&amp;e=)
- [4] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_www.epsc-2Ddps2019.eu\\_&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=FVQWmGpFRxo8LpOMLkUN92lqteIN-\\_1rHT6NpLfzjog&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__www.epsc-2Ddps2019.eu_&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=FVQWmGpFRxo8LpOMLkUN92lqteIN-_1rHT6NpLfzjog&amp;e=)
- [5] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_meetingorganizer.copernicus.org\\_epsc-2Ddps2019\\_sessionprogramme&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=unBNNMe32TTzUVYPXBM9sJFKKD8cO\\_Lg8aGShylNnFo&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__meetingorganizer.copernicus.org_epsc-2Ddps2019_sessionprogramme&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=unBNNMe32TTzUVYPXBM9sJFKKD8cO_Lg8aGShylNnFo&amp;e=)
- [6] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_meetingorganizer.copernicus.org\\_EPSC-2DDPS2019\\_abstractsubmission\\_34116&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=V7J3lyuj7bYFb4vJLTuijRiftHkmyPc-jvHGWR6DbeE&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__meetingorganizer.copernicus.org_EPSC-2DDPS2019_abstractsubmission_34116&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=V7J3lyuj7bYFb4vJLTuijRiftHkmyPc-jvHGWR6DbeE&amp;e=)
- [7] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_meetingorganizer.copernicus.org\\_EPSC-2DDPS2019\\_session\\_34453&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=NrtJ1jb\\_HL5KxPNRyt3IDNcNQN\\_guEX1PLd7jzKe0w&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__meetingorganizer.copernicus.org_EPSC-2DDPS2019_session_34453&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=NrtJ1jb_HL5KxPNRyt3IDNcNQN_guEX1PLd7jzKe0w&amp;e=)
- [8] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_meetingorganizer.copernicus.org\\_EPSC-2DDPS2019\\_session\\_34459&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=GwWQVgrvRIBvm5-hs6xgR5vUI6uU-emhfbapGRfs2to&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__meetingorganizer.copernicus.org_EPSC-2DDPS2019_session_34459&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=GwWQVgrvRIBvm5-hs6xgR5vUI6uU-emhfbapGRfs2to&amp;e=)
- [9] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_meetingorganizer.copernicus.org\\_EPSC-2DDPS2019\\_session\\_34462&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=lby71Q4-mLNUyAUUKQQwIHlpGiK71y\\_fWSlmyZgiO3I&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__meetingorganizer.copernicus.org_EPSC-2DDPS2019_session_34462&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=lby71Q4-mLNUyAUUKQQwIHlpGiK71y_fWSlmyZgiO3I&amp;e=)
- [10] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_meetingorganizer.copernicus.org\\_EPSC-2DDPS2019\\_session\\_34463&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=Owe8YO2bxz0886715UXH-KK19c4e2Gkga4XL1ojGy0&amp;m=jstU\\_vMycoApY8I2NX-y\\_1pwMXDpSGQZt8jtRpQL9-l&amp;s=pdQCYoFAITYpObabNI6sK\\_jzF9gwXSup\\_XvUxO27r4Y&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__meetingorganizer.copernicus.org_EPSC-2DDPS2019_session_34463&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=Owe8YO2bxz0886715UXH-KK19c4e2Gkga4XL1ojGy0&amp;m=jstU_vMycoApY8I2NX-y_1pwMXDpSGQZt8jtRpQL9-l&amp;s=pdQCYoFAITYpObabNI6sK_jzF9gwXSup_XvUxO27r4Y&amp;e=)
- [11] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_meetingorganizer.copernicus.org\\_EPSC-2DDPS2019\\_session\\_34467&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=gzWvrk-w\\_dcuQ6zuw2hiPijNg8hxGXYklq180-PII7s&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__meetingorganizer.copernicus.org_EPSC-2DDPS2019_session_34467&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=gzWvrk-w_dcuQ6zuw2hiPijNg8hxGXYklq180-PII7s&amp;e=)
- [12] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_meetingorganizer.copernicus.org\\_EPSC-2DDPS2019\\_session\\_34055&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=gzWvrk-w\\_dcuQ6zuw2hiPijNg8hxGXYklq180-PII7s&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__meetingorganizer.copernicus.org_EPSC-2DDPS2019_session_34055&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=gzWvrk-w_dcuQ6zuw2hiPijNg8hxGXYklq180-PII7s&amp;e=)

- p6PuwFydGnn1qcOD2s&amp;s=Jrtj\_9zF5BkaMzvQdUP-sCrI9tbLlagKtercfbM2JU&amp;e=  
[13] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_eur03.safelinks.protection.outlook.com\\_-3Furl-3Dhttps-253A-252F-252Fmeetingorganizer.copernicus.org-252Fepsc-2Ddps2019-252Fsessionprogramm e-26data-3D02-257C01-257Cbcmdr1-2540leicester.ac.uk-257Cb61921c980424a2c953408d6b10e2d3a-257Caebecd6a31d44b0195ce8274afe853d9-257C0-257C0-257C636891071782287611-26sdata-3DJm7 DsgQPKH3M0YOmAqv1E88va8J-252Fku44mRG5MOfnUzl-253D-26reserved-3D0&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CG AXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=vwAgKBENaFT OCD2iaWOY1Ob1HuYQCz-ujk10vknNjXg&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__eur03.safelinks.protection.outlook.com_-3Furl-3Dhttps-253A-252F-252Fmeetingorganizer.copernicus.org-252Fepsc-2Ddps2019-252Fsessionprogramm e-26data-3D02-257C01-257Cbcmdr1-2540leicester.ac.uk-257Cb61921c980424a2c953408d6b10e2d3a-257Caebecd6a31d44b0195ce8274afe853d9-257C0-257C0-257C636891071782287611-26sdata-3DJm7 DsgQPKH3M0YOmAqv1E88va8J-252Fku44mRG5MOfnUzl-253D-26reserved-3D0&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CG AXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=vwAgKBENaFT OCD2iaWOY1Ob1HuYQCz-ujk10vknNjXg&amp;e=)
- [14] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_hilo.hawaii.edu\\_depts\\_summer\\_SummerAdmi ssions.php&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydG nn1qcOD2s&amp;s=-DZ\\_vnjO4x\\_C0CJUrifo\\_n\\_STAcMCh15Gf9yxaqnAM&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__hilo.hawaii.edu_depts_summer_SummerAdmi ssions.php&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydG nn1qcOD2s&amp;s=-DZ_vnjO4x_C0CJUrifo_n_STAcMCh15Gf9yxaqnAM&amp;e=)
- [15] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_hilo.hawaii.edu\\_depts\\_summer\\_SummerCour seRegistration.php&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&a mp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6 PuwFydGnn1qcOD2s&amp;s=aH5WcNGgq44qlzLwikk3r2ghS0QzrK0bNBGch3mTtW8&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__hilo.hawaii.edu_depts_summer_SummerCour seRegistration.php&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&a mp;r=fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6 PuwFydGnn1qcOD2s&amp;s=aH5WcNGgq44qlzLwikk3r2ghS0QzrK0bNBGch3mTtW8&amp;e=)
- [16] [https://urldefense.proofpoint.com/v2/url?u=http-3A\\_\\_astro.uhh.hawaii.edu\\_Summer\\_Summer-2D20 19\\_ssfa19.php&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r =fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwF ydGnn1qcOD2s&amp;s=uPi6yfKAzm6BeCxrdbaap8JhKE3WdBsCmMwS8I3oOM&amp;e=](https://urldefense.proofpoint.com/v2/url?u=http-3A__astro.uhh.hawaii.edu_Summer_Summer-2D20 19_ssfa19.php&amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r =fG5pH1N7YtwOEF6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwF ydGnn1qcOD2s&amp;s=uPi6yfKAzm6BeCxrdbaap8JhKE3WdBsCmMwS8I3oOM&amp;e=)
- [17] <mailto:aconrad@hawaii.edu>
- [18] <mailto:privacy@aaas.org>
- [19] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_aas.org\\_about\\_policies\\_privacy-2Dpolicy& amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOE F6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&a mp;s=29MUXVzAjfzLhOBVrhD3pAD\\_CL65iWmHvEiOQeVTWdk&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__aas.org_about_policies_privacy-2Dpolicy& amp;d=DwMGaQ&amp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOE F6xelPAeRse0ND3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&a mp;s=29MUXVzAjfzLhOBVrhD3pAD_CL65iWmHvEiOQeVTWdk&amp;e=)
- [20] [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_dps.aas.org\\_newsletters&amp;d=DwMGaQ&a mp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND 3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=CE8SK43R 2JDFjit8ln0tXPKew5XKfml2ulFcxYgVM7s&amp;e=](https://urldefense.proofpoint.com/v2/url?u=https-3A__dps.aas.org_newsletters&amp;d=DwMGaQ&a mp;c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&amp;r=fG5pH1N7YtwOEF6xelPAeRse0ND 3CGAXrgq3T4Wd0y4&amp;m=weesDPSzclVcrx8ShpCvqiQ8hp6PuwFydGnn1qcOD2s&amp;s=CE8SK43R 2JDFjit8ln0tXPKew5XKfml2ulFcxYgVM7s&amp;e=)