# IUGG Union Commission on Planetary Sciences (UCPS)



## **UCPS** Newsletter

IUGG Union Commission on Planetary Sciences (UCPS)
Website: http://202.127.29.4/geodesy/ucps

Editor: Shuanggen Jin



### MERRY CHRISTMAS AND

HAPPY NEW YEAR 2018 TO ALL OF YOU

---Chair of IUGG Union Commission on Planetary Sciences (UCPS) Prof. Shuanggen Jin

## 1. Union Commission on Planetary Sciences

The IUGG Union Commission on Planetary Sciences (UCPS) was established by the IUGG Executive Committee in June 2015 to promote and coordinate scientific (physical, chemical, and mathematical) studies of planets in the solar system and around other stars. UCPS intends to advance planetary science through advocacy of solar system and extrasolar exploration, seeking insights on the origin, formation and evolution of planets and systems, including a search for habitable worlds beyond Earth. The UCPS together with other IUGG associations will share knowledge through scientific research and comparative studies between planetary objects and the Earth in the fields of atmosphere, surface and interior science. Additional information about **UCPS** be found can http://202.127.29.4/geodesy/ucps.

#### **Objectives:**

- To advance and foster the study of scientific problems in the planetary sciences;
- To promote and coordinate international cooperation in planetary science, and promote planetary science activities in developing countries;
- To facilitate, on an international basis, discussion and publication of the results of the studies, research and work indicated above;
- To contribute to coordinating activities for future space missions.

#### **Executive Committee**

Shuanggen Jin (IAG, China) (Chair) Athena Coustenis (IAMAS, France) (Vice-Chair) Joern Helbert (IASPEI, Germany) (Vice-Chair) Scot Rafkin (IAMAS, USA) (Secretary/Treasurer)

#### **EC Members**

Christine Schott Hvidberg (IACS, Denmark) Michael Purucker (IAGA, USA) Fabrizio Capaccioni (IAHS, Italy) Philippe Lognonne (IASPEI, France) Jose Luis Macias-Vasquez (IAVCEI, Mexico)

#### 2. UCPS Events

 1st IUGG Symposium on Planetary Science (IUGG-PS 2017) and 3rd IAPS Scientific Assembly (IAPS2017) --Interdisciplinary observation and

understanding of the Solar System, July 3-5, 2017, Berlin, Germany

http://www.dlr.de/iugg-ps2017



#### **Background:**

Planetary science is an increasingly interdisciplinary field of research propelled forward by advances in space exploration and ground based studies. Detailed characterization of planetary environments within and beyond our Solar System requires collaborative studies across the fields of geology, atmospheric science, geophysics, geodesy, seismology, aeronomy, planetary origins, chemistry and astrobiology. The IUGG Union Commission on Planetary Sciences (UCPS) was established by decision of the IUGG Executive Committee in June 2015, which promotes the advancement of scientific understanding of planetary science and exploration of the solar system origin, formation and evolution including a search for life beyond Earth. The 1st IUGG Symposium on Planetary Science (IUGG-PS2017) and 3rd IAPS Scientific Assembly (IAPS2017): Interdisciplinary observation and understanding of the Solar System was successfully held on July 3-5, 2017, Berlin, Germany, which was organized and sponsored by the IUGG Union Commission on Planetary Sciences (UCPS), International Association of Planetary Sciences (IAPS) and German Aerospace Center (DLR).

#### **Reports:**

The IUGG-PS 2017 and IAPS2017 brought together international scientists and engineers focused on interdisciplinary observation and understanding of the Solar System with 11 sessions. Topics include planetary geodesy, remote sensing, atmosphere, ionosphere/plasma physics, magnetic and gravity field, geomorphology, geophysics, geodynamics, geology, petrology, volcanology, geochemistry, interior physics, Life & Astrobiology. About 100 participants attended IUGG-PS 2017 from 14 countries with about 45 oral talks and 25 posters. The IUGG-PS 2017 provided a very good platform for progress presentations and detailed discussion as well as communication.

More information can be found at http://www.dlr.de/iugg-ps2017

Prof. Shuanggen Jin Dr. Jörn Helbert











 AOGS Session: Science and Exploration of Mars and Venus, 6-11 August, 2017, Singapore <a href="http://www.asiaoceania.org/aogs2017">http://www.asiaoceania.org/aogs2017</a>

This session covers the study of the ionosphere, atmosphere, surface and interior of Mars and Venus. We invite abstracts on results from ground-based observations as well as recent and ongoing missions to Mars and Venus (for eg., ExoMars Mars Express, Venus Express, Mars Odyssey, MRO, MERs,Phoenix, Mars Science Laboratory, MAVEN, Indian Mars mission, etc.)

We envisage having presentations on measurements and theoretical models dealing with the ionospheric environment and its interaction with the solar wind; the atmospheric composition, dynamics and climate; the surface morphology, geology, geochemistry and mineralogy; the deep interior and subsurface structure of both Mars and Venus.

The session will also include presentations on various aspects (like their scientific goals, long-term plans, technology etc.) of future missions and missions about to be launched to Mars and Venus (e.g., InSight, ExoMars Rover, Mangalyan-2, 2020 Chinese Mars Mission, Mars 2020, etc.). We also invite abstracts on comparative planetology of terrestrial planets. Both solicited talks and contributed presentations will be included in the program.

#### Conveners:

Dr. Varun Sheel (Physical Research Laboratory, India) Prof. Shuanggen Jin (Chinese Academy of Sciences, China)

Dr. Takeshi Imamura (The University of Tokyo, Japan) Dr. Hideaki Miyamoto (University of Tokyo, Japan) Prof. Juergen Oberst (German Aerospace Center (DLR), Germany)

 Prof. Dr. Shuanggen Jin attended Asia Oceania Geosciences Society (AOGS) Annual Meeting and was elected President of AOGS Planetary Science Section, 6-11 August, 2017, Singapore <a href="http://www.asiaoceania.org/aogs2017">http://www.asiaoceania.org/aogs2017</a>





#### 3. Highlighting Activities

Announcement of a Special Issue of Planetary and Space Science on interdisciplinary observation and understanding of the Solar System

Planetary science is an increasingly interdisciplinary field of research propelled forward by advances in space exploration and ground based studies. Detailed characterization of planetary environments within and beyond our Solar System requires collaborative studies across the fields of geology, atmospheric science, geophysics, geodesy, seismology, aeronomy, planetary origins, chemistry and astrobiology. The 1st IUGG Symposium on Planetary Science (IUGG-PS2017): Interdisciplinary observation and understanding of the Solar System will be held on July 3-5, 2017, Berlin, Germany. The IUGG-PS2017 aims to bring together international scientists and engineers focused on an interdisciplinary work on exploration and science of the solar system and seeking life beyond Earth. Topics include planetary geodesy, remote sensing, atmosphere, ionosphere/plasma physics, magnetic and gravity field, geomorphology, geophysics, geodynamics, geology, petrology, volcanology, geochemistry, interior physics, Life & Astrobiology. All objects from the terrestrial and giant planets to exoplanets, including small bodies are welcome.

This special issue of Planetary and Space Science (PSS) is welcome submissions on new advances and findings from interdisciplinary observation and understanding of the Solar System. Papers must be electronically submitted https://www.evise.com/profile/#/PSS. To ensure that all manuscripts are correctly identified for inclusion into the special issue, authors must select "SI: Planetary Sciences" when you reach the "Choose Article Type" step in the submission process. The general format for submission of papers is on the Elsevier web https://www.journals.elsevier.com/planetary-and-spa ce-science. The deadline for submissions is 15 December 2017

**Guest Editors:** 

Prof. Shuanggen Jin (SHAO, China, Email: sg.jin@yahoo.com)
Dr. Jörn Helbert (DLR, Germany, Email: joern.helbert@dlr.de)

#### 4. Jobs Announcement

 PhD and Post-doc positions at Shanghai Astronomical Observatory, CAS, Shanghai, China.

We are very welcome you with geophysics, atmosphere, hydrology, mathematics or planetary science background to pursue PhD at Shanghai Astronomical Observatory, CAS, Shanghai, China with full scholarship by covering

tuition fee, insurance, dormitory and additional allowance of about 1000 US\$ per month, please directly contact Prof. Shuanggen Jin (sgjin@shao.ac.cn).More information can be found at: http://twas.org/opportunity/cas-twas-presidents-phd-fello wship-programme

In addition, we have several Post-Doc positions in planetary exploration and science. If you have a Ph. D with a strong CV, and would like to work as Post-Doc at the Shanghai Astronomical Observatory, CAS, please contact Prof. Shuanggen Jin (sgjin@shao.ac.cn)

• Tenured Full Professor Position in Astrobiology, Institute for Planetary Materials (IPM), Okayama University, Misasa, Japan.

The candidate is expected to demonstrate excellent ability and research experience in analytical or experimental studies within the areas described above. As a senior faculty member, he/she will have broad knowledge and vision in further advancing research programs at IPM. The Institute is planning to be responsible for comprehensive analysis of samples collected by "Hayabusa 2", which will return to the Earth in 2020. Moreover, we hope to participate in other materials science analysis from global sample return projects. The candidate is expected to take a leading role in sample analysis for these global joint missions.

The successful candidate is expected to take part in the education of graduate students. He/she will also take on an active role in the management and future vision of the Institute. The Institute is expecting to receive recovery funding after the earthquake in Central Tottori in October, 2016 to both replace and expand instrumentation, and the candidate is expected to play an active, collaborative role in the design and implementation of the recovery program.

IPM is a Joint Use/Research Center, and the faculty member will contribute to the promotion of this program by supporting the needs of collaborative research performed by external visitors from within Japan and worldwide.

- Closing Date: Review of Applications will begin on February 23rd 2018, and will continue until the position is filled.
- For further information, please contact: The Selection Committee for the Faculty in the Division for Astrobiology, Institute for Planetary Materials, Okayama University, 827 Yamada, Misasa, Tottori, 682-0193, Japan Phone: +81-858-43-1215

E-mail: wakusei-jinji@adm.okayama-u.ac.jp
Application documents should be sent by mail or email to the above committee.

- Selection: The candidates will be examined by the Selection Committee for the Faculty in the Division for Astrobiology
- Salary: The successful candidate will be employed under the annual salary system in

accordance with established guidelines at Okayama University. The details are as follows (only in Japanese). <a href="http://www.gnst.okayama-u.ac.jp/up load files/koubo/nenpo.pd">http://www.gnst.okayama-u.ac.jp/up load files/koubo/nenpo.pd</a>

 Professorship in Impact and Meteorite Research, salary grade W 3, reference code: GW-S-Professur MfN-E, Freie Universität Berlin (FU) and Museum für Naturkunde Berlin (MfN), Germany.

We are seeking candidates with a distinguished, internationally recognized research record in the fields of either terrestrial/extraterrestrial impact studies or meteorite research. She or he should have a background in micro-analytical methods related to the study of impact rocks and/or meteorites. Other methodological focus areas can be cosmochemistry, structural geology, and/or geophysics. The selectee should have experience regarding the acquisition of funding for, and carrying out, sponsored research projects. Previous involvement in the management and implementation of knowledge and technology transfer is also desired.

Apart from the official duties that the appointee has to fulfill in accordance with <u>Article 99</u> of the Berlin Higher Education Act in particular, the following activities need to be fulfilled additionally:

Applications should include a CV, copies of all certificates of academic qualification in German or English (please add the translations if needed), if applicable the letter of appointment, a list of publications, a list of courses previously taught and evidence of teaching competence. Furthermore, please include information on involvement in ongoing and future research endeavors, joint research projects and externally funded projects, and if necessary language certificates. If applicable for the respective content areas, please give information on industrial cooperation, inventions/patents and spin-offs.

All materials including a private postal and an email address must be received preferably electronically in one PDF file (maximum 5 MB), quoting the reference code, no later than November 10th, 2017

Freie Universität Berlin Fachbereich Geowissenschaften Dekanat, z. Hd. Frau Herm Malteserstr. 74-100 D- 12249 Berlin, Germany

email: doherm@campus.fu-berlin.de

 4 Year ERC EXOKLEIN Postdoc in Carbon Cycles on Exoplanets (Kevin Heng's Group), University of Bern, Switzerland

The ERC postdoc position is for 3+1 years at the University of Bern. There will be a standard first year of probation, while the last year of extension depends upon progress and satisfactory performance. The annual salary is between 90,000 and 97,000 CHF, depending

upon experience (years after Ph.D) and is set by a predetermined matrix from the University and Canton of Bern. Child allowance and maternity/paternity leave are offered. Additionally, there is an annual budget of 5000 CHF for travel and a one-off startup fund of 10,000 CHF for purchasing computers. The start date is expected to be late 2018 or early 2019 and is negotiable.

To apply, please send a statement of past and present research interests (2 pages), a CV (2 pages), a list of publications (no page limit) and a cover letter (1 page) listing the name of 3 referees/references. The entire application should be submitted as a SINGLE PDF FILE to Prof. Kevin Heng (kevin.heng 'at' csh.unibe.ch). It is the responsibility of the applicant to ensure that three letters of recommendation are sent directly by the letter writers to Heng, by the application deadline of 31st January 2018.

#### 5. Upcoming conferences

Lunar Science for Landed Missions Workshop *Jan 10-12,2018, Moffett Field, California,USA* https://lunar-landing.arc.nasa.gov/

18th Small Bodies Assessment Group Meeting *Jan17-18,2018, Moffett Field, California, USA* https://www.lpi.usra.edu/sbag/meetings/

PERC International Symposium on Dust and Parent Bodies (IDP2018)

Feb 26-28,2018, Chiba, Japan

http://www.perc.it-chiba.ac.jp/meetings/IDP2018

IX Taller de Ciencias Planetaries (IX Planetary Science Workshop)
Feb 26-Mar 2,2018, La Plata, Argentina

Feb 26-Mar 2,2018, La Plata, Argentina http://tcp2018.fcaglp.unlp.edu.ar/

From Mars Express to Exomars
Feb 27-28,2018, Madrid, Spain
http://upwards.iaa.es/content/mars-express-exomars

International Workshop on Occultation and Eclipse *Mar,1-2,2018, Istanbul, Turkey* <a href="http://iota-me.com/oe.php">http://iota-me.com/oe.php</a>

IEEE Aerospace Conference *Mar,3-10,2018, Big Sky, Montana* <a href="https://aeroconf.org/">https://aeroconf.org/</a>

Diversi Mundi (OPS-III): The Solar System in an Exoplanetary Context *Mar,5-9, 2018, Santiago, Chile* http://www.eso.org/sci/meetings/2018/ops2018.html

nttp://www.eso.org/sci/meetings/2018/ops2018.ntml

Merging Giant-Star Asteroseismology with the Fate of Extrasolar Planetary Systems

Mar, 9, 2018, London, United Kingdom

https://sites.google.com/view/ras-evolsystems/home

Science with the Atacama Pathfinder Experiment

(APEX2018)

Mar,11-14,2018, Tegernsee, Germany

https://events.mpifr-bonn.mpg.de/indico/event/58/

Planetary Science Deep Space SmallSat Studies *Mar,18, 2018, The Woodlands, Texas* https://www.hou.usra.edu/meetings/smallsat2018/

49th Lunar and Planetary Science Conference (#lpsc2018)

*Mar,19-23,2018, The Woodlands, Texas* https://www.hou.usra.edu/meetings/lpsc2018/

Communicating Astronomy with the Public (CAP 2018) *Mar*,24-28,2018, *Fukuoka*, *Japan* https://www.communicatingastronomy.org/cap2018/

The Transneptunian Solar System *Mar*,26-29,2018, *Coimbra*, *Portugal* <a href="http://www2.mps.mpg.de/services/coimbra/">http://www2.mps.mpg.de/services/coimbra/</a>

Circumplanetary Disks and Satellite Formation *Mar*,26-30,2018, *Nagoya*, *Japan* <a href="https://cpdsf2018.wixsite.com/home">https://cpdsf2018.wixsite.com/home</a>

SSB Committee on Astrobiology and Planetary Science *Mar*,27-28,2018, *Washington*, *D.C.* <a href="http://sites.nationalacademies.org/SSB/SSB\_067577#Me">http://sites.nationalacademies.org/SSB/SSB\_067577#Me</a> etings and Events

EGU General Assembly 2018 Apr 8-13, 2018, Vienna, Austria http://www.egu2018.eu/

Second International Mars Sample Return Conference *Apr 25-27,2018, Berlin, Germany* <a href="https://atpi.eventsair.com/QuickEventWebsitePortal/2nd-international-conference-on-mars-sample-return/home">https://atpi.eventsair.com/QuickEventWebsitePortal/2nd-international-conference-on-mars-sample-return/home</a>

Planetary Science Informatics and Data Analytics Conference April 24-26, 2018, St. Louis, Missouri

http://psida.rsl.wustl.edu/

Mercury: Current and Future Science of the Innermost Planet (#mercury2018)

May 1-3, 2018, Columbia, Maryland

https://www.hou.usra.edu/meetings/mercury2018/

Differentiation: Building the Internal Architecture of Planets

May 07–11,2018, San Gabriel Valley, CA, US

https://www.hou.usra.edu/meetings/differentiation2018/

AOGS 15th Annual Meeting Jun 3-8, 2018, Hawaii, USA

https://www.iers.org/IERS/EN/NewsMeetings/ForthcomingMeetings/forthcoming.html

10th IVS General Meeting

*Jun 3-8, 2018, Longyearbyen, Spitsbergen, Norway* https://www.iers.org/IERS/EN/NewsMeetings/Forthcomi

ngMeetings/forthcoming.html

Cryovolcanism in the Solar System Workshop *Jun 5-7,2018, Houston, TX* https://www.hou.usra.edu/meetings/cryovolcanism2018/

Meteorites—Understanding the Origin of Planetodiversity *Jun 6-8,2018, Paris, France* https://meteorites2018.sciencesconf.org/

15th International Planetary Probe Workshop (IPPW-15) *Jun 11-15,2018, Boulder, CO* https://www.colorado.edu/event/ippw2018/

Planetary Geologic Mappers Annual Meeting *Jun 12-14,2018, Knoxville, TN* https://www.hou.usra.edu/meetings/pgm2018/

Space Resources Rountable *Jun 12-15,2018, Golden, CO* http://www.isruinfo.com/

Planetary & Terrestrial Mapping Science Symposium *Jun 12-15,2018, Golden, CO* https://www.deltion.ca/ptmss

Geobiology

Jun 12-15,2018, Pasadena, CA

http://web.gps.caltech.edu/GBcourse/

Amazonian Climate Workshop

Jun 18-22,2018, Lakewood, CO

https://www.hou.usra.edu/meetings/amazonian2018/

Atmosphereless Solar System Bodies in the Space Exploration Era Jun 19-22,2018, Kharkiv, Ukraine http://www.astron.kharkov.ua/conference/ssb/18/index.ph

EUCOP 2018: 5th European Conference on Permafrost *Jun 23-1,2018, Chamonix, France* https://eucop2018.sciencesconf.org/

Workshop in Geology and Geophysics of the Solar System

Jun 23-1,2018, Petnica, Serbia

http://petnica.rs/planetary2017

Astrobiology Australasia Meeting Jun 24-29,2018, Rotorua, New Zealand http://astrobiology.nz/announcement-for-the-astrobiology -australasia-meeting-and-grand-tour-2018

NASA Exploration Science Forum 2018 Jun 26-28,2018, Moffett Field, CA https://nesf2018.arc.nasa.gov/

Astrophysical Frontiers in the Next Decade and Beyond: Planets, Galaxies, Black Holes, & the Transient Universe *Jun 26–29, 2018, Boulder, CO, US* https://nai.nasa.gov/calendar/details-astrophysical-frontie

rs-in-the-next-decade-and-bey

Exoplanets II

July 2-6, 2018, Cambridge, United Kingdom <a href="http://exoplanets.phy.cam.ac.uk/Meetings/exoplanets2">http://exoplanets.phy.cam.ac.uk/Meetings/exoplanets2</a>

42nd COSPAR Scientific Assembly *Jul 14-22*, 2018, *Pasadena, CA, USA* http://cospar2018.org/

IAU XXX General Assembly Aug 20-31, 2018, Vienna, Austria http://astronomy2018.univie.ac.at/

Lunar Polar Volatiles (#LPV2018)

Aug 7-9,2018, Laurel, Maryland

http://www.hou.usra.edu/meetings/lunarvolatiles2018

LSST 2018 Project and Community Workshop *Aug 13-17,2018, Tucson, Arizona* https://project.lsst.org/meetings/lsst2018/

The 11th Meeting on Cosmic Dust Aug 13-27,2018, Sagamihara, Japan https://www.cps-jp.org/~dust/Welcome.html

Texas Comparative Climatology of Terrestrial Planets III *Aug 27-30,2018, Houston* https://www.hou.usra.edu/meetings/climatology2018/

A Century of Asteroid Families Aug 28-30,2018, Vienna, Austria http://asteroidfamilies.net/IAU2018/

International Venus Conference 2018 Sep 11-14, 2018, Niseko, Japan https://www.cps-jp.org/~akatsuki/venus2018/

SSB Committee on Astrobiology and Planetary Science *Sep 12-13,2018, Irvine, California* <a href="http://sites.nationalacademies.org/SSB/SSB\_067577#Me">http://sites.nationalacademies.org/SSB/SSB\_067577#Me</a> etings and Events

Extrasolar Cloud Academy: Cloud Formation and Properties in Extrasolar Planets

Sep 23-28,2018, Grenoble, France

<a href="http://eos-nexus.org/clouds/">http://eos-nexus.org/clouds/</a>

Bombardment: Shaping Planetary Surfaces and Their Environments Sep 30-Oct 3,2018, Flagstaff, Arizona https://www.lpi.usra.edu/first-billion-years/

Late Mars Workshop (#Latemars)
Oct 1-3,2018, Houston, Texas
https://www.hou.usra.edu/meetings/latemars2018/

69th International Astronautical Congress October 01–05, 2018, Bremen, Germany https://iac.nasaprs.com/iac/home/index.cfm

21st International Workshop on Laser Ranging

Nov 5-9, 2018, Canberra, Australia <a href="https://www.iers.org/IERS/EN/NewsMeetings/ForthcomingMeetings/forthcoming.html">https://www.iers.org/IERS/EN/NewsMeetings/Forthcoming.html</a>

2018 Geological Society of America Annual Meeting *Nov 4-7,2018, Indianapolis, Indiana* <a href="https://www.geosociety.org/GSA/Events/Annual\_Meeting/GSA/Events/gsa2018.aspx">https://www.geosociety.org/GSA/Events/Annual\_Meeting/GSA/Events/gsa2018.aspx</a>

AGU 2018 Fall Meeting Dec 10-14, 2018, Washington, D.C., USA https://www.iers.org/IERS/EN/NewsMeetings/ForthcomingMeetings/forthcoming.html

EGU General Assembly 2019 *Apr 07-12,2019, Vienna, Austria* http://www.egu2019.eu/

Better Stars, Better Planets: Exploiting the Stellar-Exoplanetary Synergy *Apr 15-(6/28),2019, Santa Barbara, CA* https://www.kitp.ucsb.edu/activities/exostar19

AOGS 16th Annual Meeting Jul 28- Aug 02,2019, Singapore https://www.iers.org/IERS/EN/NewsMeetings/ForthcomingMeetings/forthcoming.html:jsessionid=9695C31866EE 34300E8CE1F105F92DAB.live2#meeting2019

Ninth International Conference on Mars *July* 22-26, 2019, *Pasadena*, *California*, *USA* https://www.hou.usra.edu/meetings/ninthmars2019/

2019 GSA Annual Meeting
Sep 22-25,2019, Phoenix, AZ
<a href="https://www.geosociety.org/GSA/Events/Annual\_Meetingg/GSA/Events/gsa2019.aspx">https://www.geosociety.org/GSA/Events/Annual\_Meetingg/GSA/Events/gsa2019.aspx</a>

2019 GSA Annual Meeting
Sep 22–25,2019, Phoenix, AZ, US
<a href="https://www.geosociety.org/GSA/Events/Annual Meeting/GSA/Events/gsa2019.aspx">https://www.geosociety.org/GSA/Events/Annual Meeting/GSA/Events/gsa2019.aspx</a>