

Annual Report (2019-2020)

IUGG Union Commission on Planetary Sciences (UCPS)

Website: <http://202.127.29.4/geodesy/ucps>

1. INTRODUCTION

The IUGG Union Commission on Planetary Sciences (UCPS) aims 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 can be found at <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)
- Nader Haghighipour (University of Hawaii, USA) (Vice-Chair)
- Paul Hartogh (MPI, Germany) (Vice-Chair)
- Scot Rafkin (IAMAS, USA) (Secretary/Treasurer)

2. ACTIVITIES

- 1st International Spatial Intelligence Application Innovation and Entrepreneurship Competition and High-level Forum, 26-27 December 2020, Nanjing, China.

In order to strengthen the exchange of the latest achievements in space intelligent applications, build a high-tech achievement industrial transformation platform, deepen international cooperation, promote scientific and technological innovation and cooperation with countries along the "Belt and Road", gather space intelligent industries, and create new momentum for economic development and transformation and upgrading, the 1st International Spatial Intelligence Application Innovation and Entrepreneurship Competition and High-level Forum was held on 26-27 December 2020, Nanjing, China.

Organizers and Sponsors:

- IUGG Union Commission on Planetary Sciences (UCPS)
- International Association of Planetary Sciences (IAPS)
- Nanjing University of Information Science and Technology
- Jiangsu Federation of Returned Overseas Chinese, China
- Nanjing Federation of Returned Overseas Chinese, China



Photo of 1st International Spatial Intelligence Application Innovation and Entrepreneurship Competition and High-level Forum, 26-27 December 2020, Nanjing, China.

- 3rd International Symposium on the Peaceful Use of Space Technology Health (IPSACE 2020) with one keynote, **17-19 November 2020**, Beijing, China.

The 3rd symposium on the Peaceful Use of Space Technology – Health (IPSPACE 2020) was held on November 18 – 19, 2020 at three parallel main venues in the US, Europe, and China and 20 sub-venues around the world with an online and offline format, including an online exhibition, due to the impact of the COVID-19 pandemic. IPSPACE 2020 focuses on the application of space especially on pandemic monitoring, preparedness, prevention, and control. The event brings together world experts to explore civil and commercial use of space technology on human health, education, navigation, agriculture, environment protection, and finance. It aims to promote the peaceful use of space technology for the betterment of human being on

earth. Prof. Shuanggen Jin was invited to give a keynote on BeiDou Navigation and Smart Health Applications. For more detailed information and to register, please visit the conference website at: <http://2020peacespace.csaspace.org.cn/8582?lang=en>



Photo of Prof. Dr. Shuanggen Jin's keynote at 3rd International Symposium on the Peaceful Use of Space Technology Health (IPSACE 2020), 17-19 November 2020, Beijing, China.

3. PLANNED FUTURE ACTIVITIES/ANNOUNCEMENTS

- Session: Science and Exploration of Mars and Venus at AOGS 18th Annual Meeting, 1-6 August 2021, Singapore

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 past, recent and ongoing missions to Mars and Venus. We propose to have 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. 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)

Dr. Takeshi Imamura (The University of Tokyo, Japan)

Prof. Shuanggen Jin (Shanghai Astronomical Observatory, CAS, China)

- 2nd International Spatial Intelligence Application Innovation and Entrepreneurship Competition and High-level Forum, 2021, China
- 4th International Symposium on the Peaceful Use of Space Technology Health (IPSACE 2021), China