

COSPAR Smallsat Town Hall Webinar

Asia Pacific Region

29 September 2020 3:30-5:00 pm GMT+8 9:30-11:00 am CEST

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(Free registration)

COSPAR International Constellation of Small Spacecraft

The Committee on Space Research (COSPAR) in 2019 established a new Task Group to develop an "actionable" plan for an international constellation of small satellites. As a background for taking such an approach, COSPAR quoted from its March 2019 Strategic Plan:

"As a demonstration of COSPAR's value to its Members, and its importance in space research, COSPAR should explore the possibility of assembling an international consortium that will develop, launch, and acquire data from a constellation of small satellites. As always with COSPAR activities, participation in the consortium would be voluntary. The small satellites with instruments would need to be provided by member nations, and there will need to be a major space agency(s) that facilitates launches and data collection. It will be important that the constellation yields useful and important data, so that each contributing nation can state that it is assisting in the solution of an important scientific problem. A particularly useful constellation would be one that measures the plasma conditions in the ionosphere, with sufficient measurement density to substantially improve space weather forecasts."

The COSPAR team, known formally as the Task Group on establishing a Constellation of Small Satellites (TGCSS), began its deliberative work in early March of 2020. The Task Group members agreed to start addressing several key issues and concerns:

- Smallsat design/system engineering
- Spacecraft bus standards
- Access to space
- Ground systems/communications
- Data archiving/sharing/standards

The Task Group members have recognized two important and distinct aspects of the COSPAR Action Plan. One branch of activity should be geared toward harnessing and taking good advantage of what international COSPAR adherents already are doing in the smallsat realm. By identifying and orchestrating such efforts, COSPAR is able to perform a worthwhile service to the space community and the nations of the world. The other aspect of this plan is to build capacity amongst nations and institutions that presently have little (or no) space involvement or experience. By bringing more developing nations to the "space exploration table", COSPAR will greatly increase and benefit the entire space enterprise.

At present – under the aegis of the TGCSS – COSPAR has been polling nations and various adherent bodies around the world. The question being posed is whether COSPAR entities are interested in this smallsat program and what elements the adherent nations might wish to "lay on the table" now or in the near future. The inquiry is also seeking ideas on what various parties might do to help support the proposed smallsat infrastructure. The responses from this COSPAR inquiry will help to inform and guide the next phases of the program. The significant number of positive responses received so far denotes a strong interest in the community for this initiative.

Our interest and intention of involving industry in meaningful ways should also be highlighted. Finding industry partners through the good offices of COSPAR could help jump start programs for many aspiring nations and institutions. If industry partners wished to contribute expertise, hardware, or data support, this would be welcome in a program such as envisioned.

Those community members interested in this smallsat initiative should look at an article [Baker et al., 2020] in the August 2020 issue of Space Research Today.

Also, please feel free to <u>contact the COSPAR Headquarters office</u> to get more information and to express interest in this effort.

A set of regional (Europe, Asia, American sector) "town hall" meetings to explore this concept has been established. The first of these – the American sector webinar – was held on 2 September at 12:00 noon EDT, while the European/Mid-East/Africa sector will follow some weeks after the Asia/Oceania sector.

To anticipate attendance levels, we ask those wishing to join the webinar to register with ISSI-BJ on behalf of COSPAR. For questions about the registration process, please contact Ms. Laura Baldis at laura.baldis@issibj.ac.cn

For the Asia Pacific Region webinar please register (free) at https://register.gotowebinar.com/register/6463929213777689616

Agenda

INTRODUCTION TO COSPAR TGCSS

- Welcome Speech Prof. Ji Wu, Chair
- Welcome Speech Dr. Jean-Claude Worms, Co-Chair
- Welcome Video Prof. Lennard A. Fisk, President of COSPAR
- Introduction to TGCSS (video) Prof. Daniel Baker, TGCSS
- COSPAR 4S Roadmap Dr. Rudolf von Steiger, ISSI, Bern

REGIONAL ACTIVITIES

- MUSE Multiscale cUrrents density and magnetic field Structure Explorer: A CubeSat mission for space science Dr. Wang Jindong, NSSC, CAS
- · Constellation of Small Satellites Prof. Jong Uk Park, KASI
- Small Satellite Activities Dr. Praveen K. Kumar, ISRO

DISCUSSION

- · Panel Discussion
- Q&A

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