

The Secretariat
International Space Weather Initiative (ISWI)
Code 671, NASA Goddard Space Flight Center
Greenbelt, MD 20771, USA



2020 December 30

Dear ISWI colleague,

Season's greetings and best wishes for a safe 2021!

A tumultuous year 2020 is coming to an end. Interesting interaction between science and society in handling the pandemic. Fortunately, vaccination has started and hopefully we all will be get back to normal activities.. The ISWI Newsletter and Website continue to provide space weather information to the community. I take this opportunity to thank George Maeda (editor, ISWI Newsletter), Mitko Danov (ISWI webmaster), Shing Fung (Data Coordinator) and Pat Doherty (Workshop coordinator) for their continued support to ISWI. Thanks are also due to all the instrument providers, who continue to operate ISWI instrument networks despite the pandemic. The following is a summary of 2020 activities by way of a year-end report.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Nat Gopalswamy', is written over a light blue grid background.

Nat Gopalswamy
Executive Director, ISWI

1. Sun and Geosphere Special Issue Based on ICTP/ISWI Workshop 2019.

Recall that the most recent workshop was hosted by the Abdus Salam International Center for Theoretical Physics, Trieste, Italy, during May 24 to 28, 2019. Following the workshop, a special issue of Sun and Geosphere (<http://newserver.stil.bas.bg/SUNGEO/index.html>) was arranged. to explore the possibility of publishing a special issue. After acceptance of the proposal, a Call for Papers was issued inviting the broader ISWI community to submit original research contributions to the present special issue of the Sun and Geosphere. The topics cover the range of ISWI scientific activities:

(i) Space Weather Instrumentation, (ii) Solar Physics, (iii) Magnetosphere, Ionosphere, and Thermosphere, (iv) Solar-Terrestrial Coupling and Space Weather, (v) Space Weather Effects on Global Navigation Satellite Systems (GNSS), (vi) New Space Weather Scientific Results, and (vii) Capacity-Building, Education and Outreach. The peer-review process resulted in the set of ten papers published in early 2020. About half of the papers had students as lead authors, including one by an undergraduate student. The papers are available online (Volume 19, Number 2, 2019) free of cost:

http://newserver.stil.bas.bg/SUNGEO/sun_geo_contNEW.html. ISWI thanks the guest editors (Susanna Finn, Sneha Yadav, Pertti Mäkelä, Babatunde Rabi, and Nat Gopalswamy), the reviewers from the ISWI community, and the editor-in-chief (Atila

Özgüç) and Technical editor (Mitko Danov) of Sun and Geosphere for making the special issue possible.



Group Photo. 2019 ISWI workshop at Abdus Salam ICTP.

2. The ISWI Annual Steering Committee meeting was held at the United Nations, Vienna International Center, Austria on 2020 February 7, 2020. ISWI was also represented at the Space Weather Expert Group Meeting along the sidelines of the United Nations Committee on Peaceful Uses of Outer Space (UNCOPUOS) 57th session of the Science and Technology Subcommittee (STSC) during February 3-6, 2020 at the Vienna International Center, Austria. ISWI welcomes new steering committee members Manuela Temmer (European coordinator), James Spann (NASA/HQ), and Mamoru Ishii (AOSWA, NiCT).

3. UNOOSA Online Events in January 2021

The United Nations Office for Outer Space Affairs (UNOOSA) together with the Centre for Spatial Information Science (CSIS), the University of Tokyo, Japan, is organizing two online workshops on Global Navigation Satellite Systems. Interested parties are invited to register using the links below. Please note that the deadlines are soon and there is a limitation on the number of online participants. Therefore, if you are interested, you should register ASAP. Here are the details received from Patrick Gindler (UNOOSA).

GNSS Data Processing for High-Accuracy Positioning using Low-Cost Receiver Systems, 19 - 21 January 2021

-Information Note:

http://www.unoosa.org/documents/pdf/icg/2021/Tokyo2021/GNSS_Training_2021.pdf

-Registration: <https://forms.office.com/Pages/ResponsePage.aspx?id=2zWeD09UYE-9zF6kFubccAiOPlMdD9xBh9lcdTTfu19UNjJSQkZFTEJHTkJLTjgxNVkyVFFWSDRZTC4u>

-Deadline: 5 January 2021

GNSS for Policy and Decision Makers, 28 January 2021

-Information Note:

http://www.unoosa.org/documents/pdf/icg/2021/Tokyo2021/GNSS_Training_2021_Policy.pdf

-Online Application:

<https://forms.office.com/Pages/ResponsePage.aspx?id=2zWeD09UYE-9zF6kFubccAiOPIMdD9xBh9lcdTTfu19UMk9TRDBDSTJVUVFDUzZPMjgyQ0tSRkw0NS4u>

-Deadline: 15 January 2021



Group photo and the sponsors of the COSPAR Capacity Building Workshop at Kodaikanal, India, January 6-17, 2020.

4. ISWI Support to COSPAR Capacity Building Workshop 2020

The COSPAR Capacity-Building Workshop on “Coronal and Interplanetary Shocks: Analysis of Data from Space and Ground-based Instruments” was held at the Kodaikanal Solar Observatory, Indian Institute of Astrophysics, Kodaikanal, India during January 6 - 17, 2020 (https://www.iiap.res.in/COSPAR_KSO2020/). Thirty-four students from 5 countries and 16 lecturers from 4 countries participated in the workshop. Coronal and interplanetary shocks are important space-weather events in the Sun-Earth system because they are related to severe geomagnetic storms and acceleration of energetic particles.

The first week of COSPAR_KSO2020 was devoted to lectures in python software, plasma physics, solar physics, CMEs, shocks, interplanetary phenomena, ionospheric phenomena, and radio bursts. Background information was also provided on relevant radio and optical instrumentation. The lectures are available online:

https://www.iiap.res.in/COSPAR_KSO2020/?q=resources.

The second week was devoted to analyzing selected CME-shock events. These events were selected beforehand by the scientific organizing committee and the data were made available online (https://cdaw.gsfc.nasa.gov/meetings/2020_Kodaikanal/). The data include radio dynamic spectra and a matrix of JavaScript movies from SOHO, STEREO, SDO, Wind, and GOES missions. The movies contain online measurement tools that can obtain CME/shock height-time data and the drift rate of radio bursts.

COSPAR was the primary sponsor of the workshop and hosted by the Kodaikanal Solar Observatory of the Indian Institute of Astrophysics. The workshop was cosponsored by India's Department of Science and Technology, NASA, the Scientific Committee on Solar Terrestrial Physics (SCOSTEP), and ISWI.

5. Future Workshops and Schools

There have been several requests for workshops and schools. Because of COVID-19, almost all plans are on hold. ISWI will be holding an online school in 2021. Currently ISWI is in discussion with Teresa Barata (Portugal) and Consuelo Cid (Spain) to organize an online school in 2021. The school will feature similar to previous schools including hands-on activities. We are also planning online steering committee meeting and probably an online ISWI instrument provider meeting. Once plans are finalized, the announcement will be made via ISWI Newsletter.

6. International Space Weather Action Teams (ISWAT)

The COSPAR Space weather roadmap is being updated. ISWI is a formal member of the COSPAR panel on space weather (PSW), which provides leadership to the COSPAR Space weather roadmap. Early this year, a new effort known as International Space Weather Action Teams (ISWAT) has started to promote global collaborations in addressing challenges across the field of space weather. Details on ISWAT can be found in https://www.iswat-cospar.org/clusters_teams. There are many groups that ISWI colleagues may find interesting. If you are interested in participating in any of these activities, you can approach the contacts given in the above web site.