ISWI Steering Committee Meeting: Annotated Agenda

2020 February 07

Bldg. C Room 0213

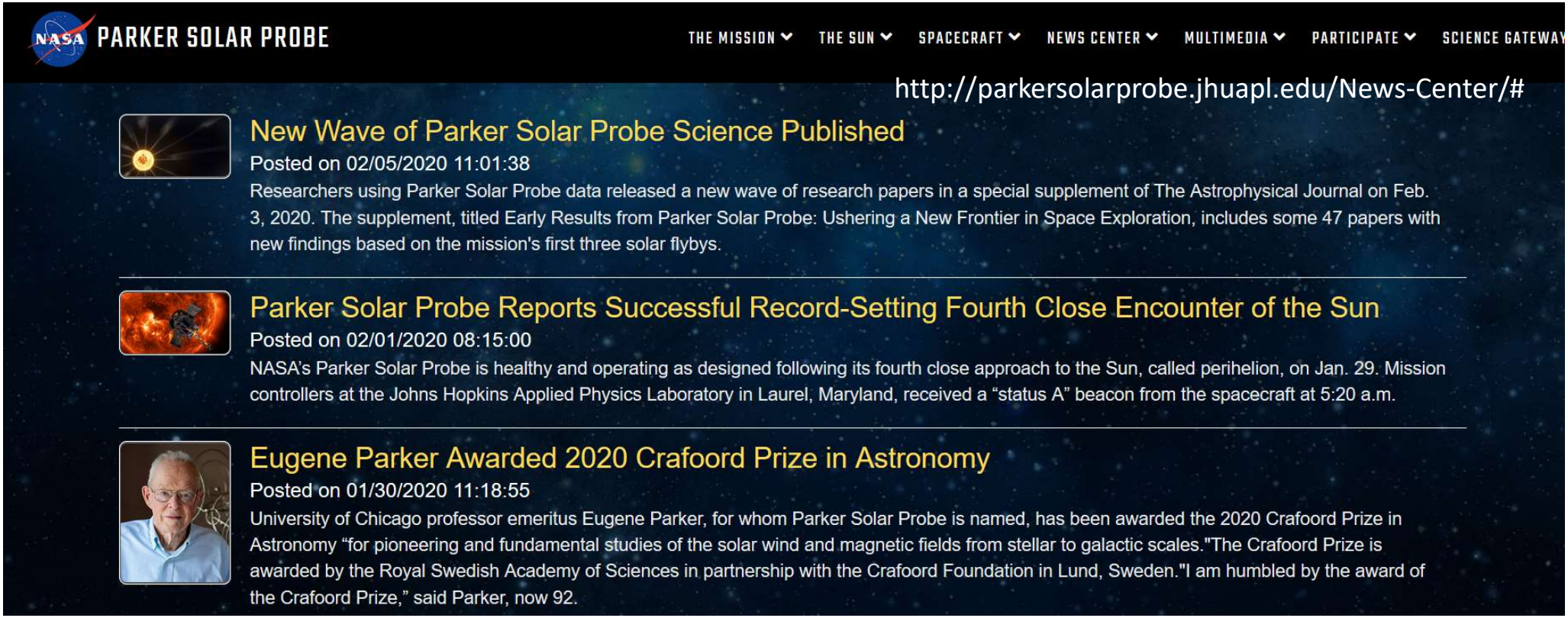
VIC, Vienna, Austria

Chair: Nat Gopalswamy

Agenda

- 1. Introduction & Report (chair)
- 2. Secretariat update (Pat Doherty, Katya Georgieva)
- 3. Steering Committee update (welcome Manuela Temmer and Mamoru Ishii)
- 4. ISWI National Coordinators (Discussion by Christine Amory)
- 5. ISWI Instruments update (Christian Monstein, Keith Groves, Jean-Pierre Raulin)
- 6. Data Subcommittee Report (Shing Fung)
- 7. ISWI – UNOOSA Collaboration (Sharafat Gadimova)
- 8. Expert Committee on Space Weather – summary of activities (Ian Mann)
- 9. ISWI/NASA report
- 10. ISWI/ICTP 2019 Workshop report (Nat Gopalswamy)
- 11. ISWI Workshop Nov 2020, India Skype presentation from India: Dr. Ramachandran
- 12. Space weather agenda in WMO (Werner Balogh)
- 13. VarSITI Report (Katya Georgieva)
- 14. SCOSTEP/PRESTO report (Kazuo Shiokawa)
- 15. Discussion on ISWI School in Portugal, future activities

Parker Solar Probe in Full Swing!



Solar Orbiter

Parker Solar Probe was launched on August 12, 2018

The Solar Orbiter will be launched on Feb 9, 2020 aboard a United Launch Alliance Atlas V 411 rocket from Space Launch Complex 41 at Cape Canaveral Air Force Station in Florida. The launch window will open at 11:03 p.m. EST.
The spacecraft will fly as close as 26 million miles to the Sun (.3 AU).
Will take a peek at the solar poles
Will make remote-sensing and in situ measurements of the Sun, solar wind plasma, magnetic fields, waves and energetic particles from new vantage points.

#1 Introduction & Report (chair)

- New developments from AWESOME, CALLISTO, and SEVAN (annexure 1)
- ISWI cosponsored the 2019 African Geophysical Society Conference On Space Weather, 25-28 March 2019, Cairo, Egypt
- ISWI supported the space weather meeting held in San Juan, Argentina, in occasion of the total solar eclipse on 2 July 2019
- ISWI workshop at the Abdus Salam International Center for Theoretical Physics (ICTP) during May 20-24, 2019
- More than 12 papers being reviewed for *Sun & Geosphere*
- UN report: A/AC.105/1215 (annexure 2)
- ISWI Supported COSPAR capacity building workshop in Kodaikanal India (Jan 6-17, 2020) (annexure 3)
- ISWI workshop to be hosted by the Space Physics Laboratory Vikram Sarabhai Space Centre, Thiruvananthapuram, Kerala, India in November 2020

#11. ISWI Workshop Nov 2020

- India Statement to UNCOPUOS/STSC
- Skype presentation by Dr. Radhika Ramachandran

#11 UN/ISWI/India workshop

- The International Space Weather Initiative (ISWI) is a program of international cooperation to advance space weather science under United Nations Office for Outer Space Affairs (UNOOSA). The International Space Weather Initiative (ISWI) holds different thematic workshops across the globe. One such ISWI workshop with about 100 international participants has been proposed at SPL/VSSC (ISRO) during November 2020 under the aegis of ISWI/UNOOSA. This workshop apart from bringing the Space weather research of India under one umbrella, will also work in unison with ISRO's DSSAM plans to group together the various activities of existing space weather research in India and facilitate to develop new technologies and systems required for hazard-warning capabilities.

(Part of the statement from the Indian Delegation to STSC on Feb 4, 2020 under Space Weather Agenda item)

Skype Presentation to the Steering Committee

- Dr. Radhika Ramachandran & Tarun Kumar Pant called via Skype
- Dr. Sreelekha, an Indian delegate participated in person in Vienna
- Dates fixed as Nov 2-6, 2020
- Venue SPL/VSSC Thiruvananthapuram, Kerala, India
- Topics: Solar&heliospheric Physics, Interplanetary and solar Wind, Magnetosphere, Ionosphere, Atmosphere, Modeling, Instrumentation and Capacity Building
- Other activities: Session with science teachers; visit to local high schools
- Abstract deadline: June 2020

#2. Secretariat update (P. Doherty)

Schools and Workshops

P. Doherty, ISWI Workshop Coordinator

- **ISWI Workshop 2019**
  - Trieste, Italy; 20-24 May 2019
  - http://indico.ictp.it/event/8682/
  - 115 participants, 47 countries
- **African Geophysical Society Conference on Space Weather**
  - Cairo, Egypt; 25-28 March 2019
  - http://spaceweather.edu.eg/AGS2019.html
  - 80 participants, 12 countries
- **Space Weather Meeting, San Juan, Argentina**
  - Total Solar Eclipse, 2 July 2019
- **COSPAR Capacity Building Workshop**
  - Kodaikanal Solar Observatory, 6-17 January 2020
  - Coronal Interplanetary Shocks: Analysis of Data from Space and Ground-based Instruments
- **Planning ISWI/UNOOSA Workshop at ISRO**
  - Trivandrum, India; November 2020
- **Future Activities – Schools in Portugal, Uganda…**

#2. Secretariat update (Katya Georgieva)

- ISWI-secretariat.org Webmaster Mitko Danov promptly provides updates and maintains. The Web site has
- Presentations
- Data
- Data policy
- Contact information on Instruments and Instrument providers
- Maps of ISWI instruments and sites that access ISWI web site
- Archive of ISWI Newsletters
- Meetings info
- Sun and Geosphere (free to authors and readers) online 13th year
- ISWI papers published in Sun and Geosphere

#3. Steering Committee update

- welcome Manuela Temmer and Mamoru Ishii
- Temmer is European coordinator
- Mamoru Ishii: Liaison to AOSWA and NiCT
- Need to support a Trust Fund at UNOOSA to support ISWI-related travel to deserving members
- Preliminary discussion with USA (Chris Cannizzaro), Pierre Langloise (Canada), Mamoru Ishii (Japan), and Jens Bedermann (Germany)

#4. ISWI National Coordinators

- Sri Lanka: Chandana Jayaratne
- Chile: Juan Alejandro Valdivia
- Presentation by Christine Amory (annexure 4)
- Presentation by Richard Marshall (annexure 5)
- Presentation from Aleksei Parnowski (Ukraine), annexure 5.1

#5. ISWI Instruments update

- Christian Monstein (annexure 6)
- Keith Groves (annexure 7)
- Jean-Pierre Raulin (annexure 8)
- Jens Bedermann (annexure 9)
- Babatunde Rabiu (annexure 10)
- Shing Fung (annexure 11)

#6. Data Subcommittee Report (Shing Fung)

- See annexure 12

#7. ISWI – UNOOSA/ICG Collaboration (Sharafat Gadimova)

- 5-16 Oct 2020 Africa GNSS meeting in Morocco (Rabat) UN Regional center collaboration with Boston College and ICTP
- 9-month course on GNSS in Regional centers
- Add Space Weather topic to the 9-month courses
- Regional centers to function as ICG info centers

#8. Expert Committee on Space Weather – summary of activities (Ian Mann)

- Report available (see annexure 13)

#9 ISWI/NASA Report (Jim Spann, NASA HQ)

- Space Weather Science Application
- Space Weather Strategy for Heliophysics
- Space Weather Science and Application ROSES
- Space Weather Science and Application SBIRs & Joint solicitations

Space Weather Science Application

Enabling Solar and Space Physics to Empower a Technological Society and Space Exploration

- Fulfill our responsibility for the Nation enabling advances in space weather
- Build innovative missions to achieve this goal
- Strategically advance understanding of solar and space physics that enable better SWx forecasting
- Collaborate with other national and international agencies, and partner with user communities
- Play a critical role in Exploration supporting the Artemis mission
- Lean forward for success in the next decade

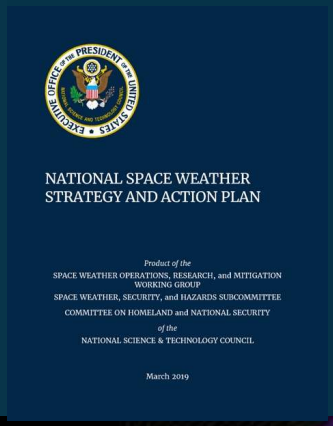
Space Weather Strategy for Heliophysics

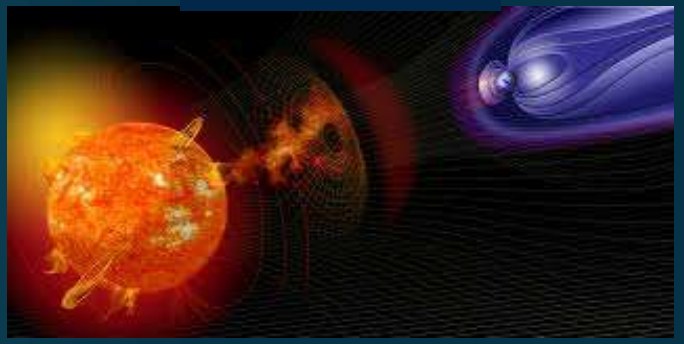
- *Develop the space weather forecasting capability that the nation requires in partnership with other Federal Agencies including NOAA, NSF, and the U.S. Air Force*
- The resulting national comprehensive space weather forecasting capability must be:
  - operational and yield an operational forecast capability that serves the needs of the users and the nation;
  - based on and employ innovative technologies for instruments, spacecraft, data handling, model development, launch vehicles, etc.;
  - sustainable, containing elements that build a sustainable program, beginning with elements that can be executed immediately and yield demonstrable improvements in forecast accuracy.
- **First step:** develop a comprehensive design study of a capable, cost-effective space system of Heliophysics missions, which will lead the way to close the gap between the current inadequate capabilities and the nation's needs.
  - The system will include a comprehensive space weather observing system that leads to a fully integrated forecasting capability, based on modern data assimilation techniques and comprehensive forecast models that make full use of these observations.

Space Weather Science Application

Develop the space weather forecasting capability that the nation requires in partnership with other Federal Agencies including NOAA, NSF, and the U.S. Air Force

- Expanded role for NASA in space weather science
  - Work in concert with the OSTP Space Weather Operations, Research, and Mitigation (SWORM) Working Group and in accordance to the 2019 National Space Weather Strategy and Action Plan (NSW-SAP)
  - Engagements with NOAA, NSF, DoD, ESA, others
- Space Weather Operations-to-Research (SWO2R)
- Small Business Innovation Research (SBIR) Program for Space Weather
- Interplay with Artemis, Lunar Gateway





Space Weather Science and Application ROSES

- 3 calls were made between ROSES 2017 and ROSES 2018 in Space Weather Operations-to-Research (SWO2R)
  - 8 NASA & 2 NOAA selections made for ROSES 2017 SWO2R
    - Focus: Improve predictions of background solar wind, solar wind structures, and CMEs
  - 9 selections made for ROSES 2018 (1) SWO2R
    - Focus: Improve specifications and forecasts of the energetic particle and plasma encountered by spacecraft
  - 7 selections made for ROSES 2018 (2) SWO2R
    - Focus: Improve forecasts of solar energetic particles and heavy ions
- ROSES 2019 call released – no focus topic
  - Step 2 proposals due 02/13
- ROSES 2020 call in preparation

Space Weather Science and Application SBIRs & Joint solicitations

- Small Business Innovation Research (SBIR) Program for Space Weather
  - 2018 – Selected 2 Phase II
  - 2019 – Selected 4 Phase I
  - 2020 – Language for Call has been approved
- NSF-NASA joint solicitation:
- Next Generation Software for Data-driven Models of Space Weather with Quantified Uncertainties (SWQU)
- Proposals due to NSF via Fastlane on March 20, 2020
- https://www.nsf.gov/pubs/2020/nsf20519/nsf20519.htm

#10. ISWI/ICTP 2019 Workshop report (Nat Gopalswamy)

- Workshop Topics
- Publications (Sun & Geosphere)
- Editors

International Space Weather Initiative Workshop

TRIESTE, ITALY, 20 - 24 MAY 2019

Organized by the International Centre for Theoretical Physics (ICTP) and supported by the United Nations Office for Outer Space Affairs

Co-organized and co-sponsored by the International Committee on Global Navigation Satellite Systems (ICG), the Boston College, the Scientific Committee on Solar-Terrestrial Physics (SCOSTEP), the Institute of Navigation (ION) and the National Aeronautics and Space Administration (NASA)

AVAILABLE INFORMATION

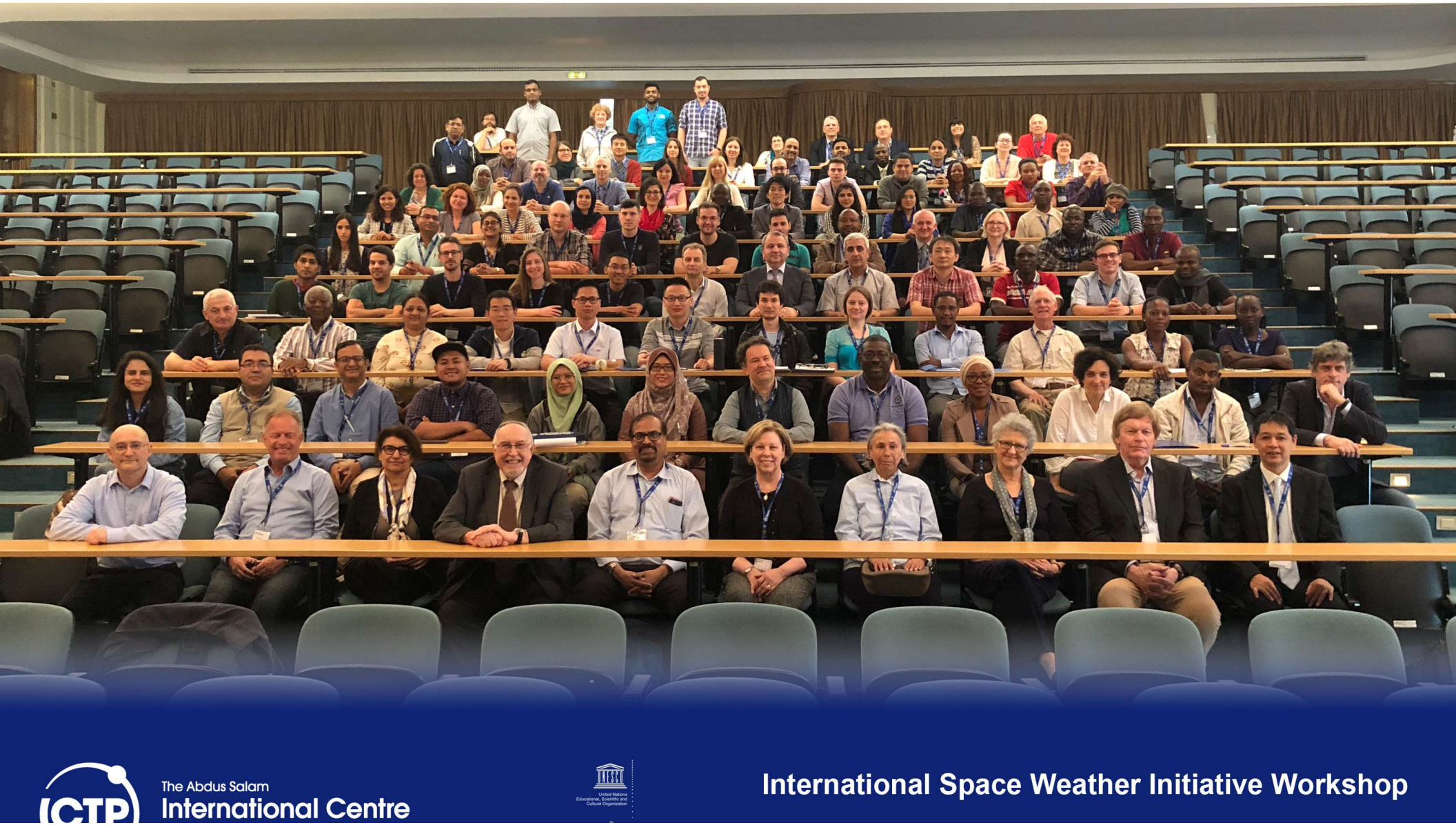
- Workshop website
- Online Presentations
- Programme
- Useful Information for Participants

Report of the Workshop

Topics:
Instrumentation;
Solar Physics;
Magnetosphere, Ionosphere, and Thermosphere;
Solar-Terrestrial Coupling and Space Weather;
Space Weather effects on Global Navigation Satellite Systems (GNSS);
New Space Weather scientific results;
Capacity-Building, Education and Outreach.

Symbol	Year	Title	Available languages
A/AC.105/1215	2019	Report on the workshop on the International Space Weather Initiative *(Trieste, Italy, 20–24 May 2019)*	عربي 中文 English Français Русский Español

https://www.unoosa.org/oosa/en/ourwork/psa/schedule/2019/2019-iswi-workshop.html



The Abdus Salam International Centre

United Nations Educational, Scientific and Cultural Organization

International Space Weather Initiative Workshop

Special Issue of Sun & Geosphere

- Edited by Susanna Finn (USA), Sneha Yadav (India), Babatunde Rabiu (Nigeria), Pertti Mäkelä (USA), and Nat Gopalswamy (USA)
- Working with Atila Ozguc, editor in chief
- Several papers accepted
- Publication expected in 1-2 months

The COSPAR Capacity Building Workshop on Coronal and Interplanetary Shocks

- At Kodaikanal Solar Observatory January 6-17, 2020

Detailed report available (annexure 14)

https://www.iiap.res.in/COSPAR_KSO2020/

#12. Space weather agenda in WMO (Werner Balogh)

- See Annexure 15

#13. VarSITI Report (Katya Georgieva)

- See Annexure 16

#14. SCOSTEP/PRESTO Report (Kazuo Shiokawa)

SCOSTEP

Scientific Committee on Solar-Terrestrial Physics

PRESTO:

Predictability of the variable Solar-Terrestrial Coupling (2020-2024)

Detailed documentation is available at:
http://www.issibj.ac.cn/Publications/Forum_Reports/201404/W020190620592906717714.pdf

The mission of PRESTO is to identify predictability of the variable solar-terrestrial coupling performance metrics through modeling, measurements, and data analysis and to strengthen the communication between scientists and users.

PRESTO chair and co-chairs

Co-chair
Katja Matthes
Germany

Chair
Ramon E. Lopez
USA

Co-chair
Jie Zhang
USA

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Pillar 1. Sun, interplanetary space and geospace

Co-leaders of Pillar 1

Allison Jaynes
(USA)

Emilia Kilpua
(Finland)

Spiros Patsourakos
(Greece)

Pillar 2. Space weather and the Earth's atmosphere

Co-leaders of Pillar 2

Loren C. Chang
(Taiwan)

Duggirala
Pallamraju
(India)

Nick M. Pedatella
(USA)

Pillar 3. Solar activity and its influence on the climate of the Earth System

Co-leaders of Pillar 3

Odele Coddington (USA)

Jie Jiang (China)

Eugene Rozanov (Switzerland)

#15 Future Activities

- Uganda ISWI Workshop: March/April or late: Oct/Nov 2021 (Florence Dujanga). Looks Oct/Nov 2021 more realistic
- Iberian Space Science Summer School ‘2021 (Teresa Barata & Consuelo Cid)
- First Edition with ISWI. Future schools annual, alternating between Portugal and Spain
- Possible COSPAR Capacity Building in Sri Lanka 2021

#16 Any Other Business

- Sharafat Gadimova to explore setting up of the UNOOSA Trust fund for ISWI
- Presentation by Pakistan (annexure 17)