

Sunday, January 24, 2016

9.30 12.30 **School and Workshop Registration**

CCMC Space Weather School (Sponsors: CAU/CESSI/COSPAR/ILWS/SCOSTEP-VarSITI/PRL/ISRO)
Introduction to Space Weather: Concepts and Tools
Chair: Maria Kuznetsova (CCMC/NASA)

10:00 10:30 Setting the scene: overview of space weather phenomena, spatial domains and models | M. Kuznetsova

10:30 11:00 Solar magnetism and space weather: A theoretical primer | D. Nandi

11:00 11:30 Flares and CMEs and space weather consequences | A. Taktakishvili

11.30 12.00 **Coffee/Tea Break**

12.00 12.30 Q&A, discussion

12.30 1:00 Coronal holes and space weather consequences | M. Temmer

1:00 1:30 Solar Energetic Particles (SEPs) and impacts | Y. Zheng

1.45 15:00 **Lunch Break**

15:00 15:30 Q&A, discussion

15:30 16:00 Near-Earth particle environment relevant to space weather | I. Daglis

16:00 16:30 Space weather impact on ionosphere/thermosphere | S. Bruinsma

16:30 17:00 Q&A, discussion

17:00 17:30 **Coffee/Tea Break**

17:30 18:00 Space weather impacts on space assets | J. Minow

18:00 18:15 Q&A, discussion

18:15 19:00 Overview of web-based resources for space weather research, analysis, and forecasting | Y. Zheng, M. Maddox, M.Kuznetsova

19:00 21:00 **Opening Reception / Conference Registration / Interaction of Students and Scientists**

Monday, January 25, 2016

8:30	8:45	Opening	Chair: Dibyendu Nandi and Bob Wimmer
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8:45	10:00	Panel Discussion	Chair: Bob Wimmer
		Nat Gopalswamy, President, SCOSTEP	
		Alexi Glover, Chairperson, COSPAR Space Weather Panel	
		S. Seetha, Space Science Program Officer, ISRO	
		Madhulika Guhathakurta, NASA Heliophysics Division	

10:00	10:30	Coffee/Tea Break	
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10:30	12:45	From Sun to Earth and Beyond: CME propagation in interplanetary space	Chair: Manuela Temmer
10:30	10:55	Propagation of Coronal Mass Ejections in the Inner Heliosphere	P. K. Manoharan
10:55	11:10	Pruning of Ensemble CME modeling using Interplanetary Scintillation and Heliospheric Imager Observations	A. Taktakishvili
11:10	11:25	The Hvar Observatory CME-Effectiveness Forecast Tools	Mateja Dumbovic
11:25	11:40	Study of interacting CMEs using STEREO/HI observations	N. Srivastava
11:40	12:05	ICME properties at 1AU: from a generic shape to magnetic field budgets	Miho Janvier
12:05	12:20	Cause and consequences of a prolonged southward IMF-Bz and solar wind density pulses observed at 1 AU	Janardhan Padmanabhan
12:20	12:45	CME initiation and evolution of magnetized CMEs in the heliosphere	Stefaan Poedts

12:45	14:15	Lunch Break	
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14:15	15:15	Plenary Session on Aditya (see also posters on Aditya Mission)	Chair: Dibyendu Nandi
14:15	15:15	The Indian Solar Mission Aditya-L1	S. Seetha
15:15	16:05	Effects of CMEs on Earth and Other Planetary Bodies I	Chair: Hermann Opgenoorth
15:15	15:40	Extreme CMEs in Time: Effects on Earth and Mars	Vladimir Airapetian
15:40	16:05	Influence of Space Weather on Planetary Environments	Anil Bhardwaj

16:05	16:30	Coffee/Tea Break	
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16:30	17:55	Effects of CMEs on Earth and Other Planetary Bodies II	Chair: Manuel Grande
16:30	16:45	Forbush decrease precursors observed using GRAPES-3	Arun Babu K. P.
16:45	17:00	On the cause of electron acceleration and loss in the outer Van Allen belt	Ioannis Daglis
17:00	17:25	Space weather at Mars: MAVEN observations and models	S. Curry/H. Opgenoorth
17:25	17:40	Space Weather Measurements from the Surface of Mars with the RAD Instrument on the Mars Science Laboratory	Don Hassler
17:40	17:55	Impacts of solar events on the surface radiation on Mars	Jingnan Guo

Tuesday, January 26, 2016

8:30	18:45	Down to Earth: Coupling Space Weather and Atmospheric Response	Chair: David Jackson
8:30	8:55	The Drivers of Space Weather in the Thermosphere Ionosphere System	Tim Fuller-Rowell
8:55	9:20	Energetic particle impact on the atmosphere and the link to regional climate: Observational constraints and current understanding	Bernd Funke
9:20	9:45	Upper atmospheric dynamics: influence of solar radiation versus forcing from below	D. Pallamraju
9:45	10:00	Uncertainty Quantification of Ionosphere-Thermosphere Predictions	Ja Soon Shim

10:00	10:30	Coffee/Tea Break	
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10:30	12:15	From Cradle to Grave: Particle Energization and Space Environmental Effects	Chair: Arnaud Masson
10:30	10:55	New Results Concerning Particle Energization in Earth's Van Allen Radiation Belts	Daniel N. Baker
10:55	11:10	Dynamics of the radiation belt during the two largest geomagnetic storm of solar cycle 24	Yihua Zheng
11:10	11:35	Space weather effects on ionospheric radio propagation and mitigation methods.	N. Jackson-Booth
11:35	11:50	Turbulence and particle acceleration by inertial Alfvén waves in auroral ionosphere	Nitin Yadav
11:50	12:15	Geospace Exploration Project: ERG	Yoshizumi Miyoshi

12:15	13:30	Lunch Break	
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14:00	17:30	CCMC Integrated Space Weather Analysis (iSWA) system: a Web-based tool for space weather monitoring, analysis, event studies, and system science: demo and hands-on	M. Maddox, Y. Zheng
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Wednesday, January 27, 2016

8:00	15:00	Excursion	
16:00	17:55	Towards improved specification and nowcasting/forecasting of the particle radiation environment I	Chair: Yannis Daglis
16:00	16:25	The use of event-specific models in DREAM3D	Gregory Cunningham
16:25	16:50	Operational Control of Radiation Conditions Provided by Space Monitoring Centre of Moscow State University	Vladimir Kalegaev
16:50	17:05	New Probabilistic Forecast Models of Solar Flares and CMEs	Kangjin Lee
17:05	17:30	Multivariate autoregressive (AR) prediction of MeV electron flux variation in Geostationary and Medium Earth orbits	Tsutomu Nagatsuma
17:30	17:55	Radiation Environment Specification Models: Engineering needs, Uses, Uncertainties and Reliability	Hugh Evans

17:55	18:30	Coffee/Tea Break	
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18:30	18:45	Towards improved specification and nowcasting/forecasting of the particle radiation environment II	Chair: Tsutomu Nagatsuma
18:30	18:45	SPRING network for realtime space weather prediction	Sanjay Gusain
18:45	20:15	From Convective Zone to Heliosphere: CME precursors, initiation, and onsets I	Chair: Jörg Büchner
18:45	19:10	Keynote Lecture: Evolution of solar magnetic flux tubes from the interior to the lower atmosphere of the Sun	Sami Solanki
19:10	19:25	Predicting solar magnetic activity and its implications for global dynamo models	Nishant Singh
19:25	19:50	Simulation of active region flux emergence, formation of delta-sunspots and the convective dynamo	Fang Fang
19:50	20:15	Eruptions driven by magnetic flux emergence	Klaus Galsgaard

20:30	23:00	Dinner	
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Thursday, January 28, 2016

8:30	9:00	From Convective Zone to Heliosphere: CME precursors, initiation, and onsets II	Chair: Jörg Büchner
8:30	8:45	Observational diagnostics of the energy release in the confined X-class flares of October 2014	Astrid Veronig
8:45	9:00	CME propagation - where does aerodynamic drag take over	Prasad Subramanian
9:00	10:05	Predicting Energetic Solar Phenomena and the Geospace response	Chair: Nat Gopalswamy
9:00	9:15	Climatological response of Low latitude ionosphere to Space Weather events	N. Dashora
9:15	9:40	Forecasting the magnetic field configurations of CMEs	Volker Bothmer
9:40	10:05	MAG4: A Near-Real-Time Method of Forecasting Flares and CMEs from HMI Vector Magnetograms of Active Regions	David Falconer

10:05	10:30	Coffee/Tea Break	
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10:30	11:35	Predicting Energetic Solar Phenomena and the Geospace response	Chair: Lika Guhathakurta
10:30	10:45	Solar wind Magnetosphere Ionosphere Link	Escoubet C. P.
10:45	11:10	MHD simulation of interplanetary propagation of multiple coronal mass ejections with internal magnetic flux rope (SUSANOO-CME)	Daikou Shiota
11:10	11:35	Observations of solar induced variability in the mesosphere and thermosphere over the past 14 years – and longer!	Martin Mlynczak
11:35	12:50	Space Weather and the Solar Cycle	Chair: Dibyendu Nandi, Manuela Temmer
11:35	12:00	Explorations of Solar Activity and the Heliophysical Environment	Lika Guhathakurta
12:00	12:25	Simulation and Prediction of Solar Cycles	Mausumi Dikpati
12:25	12:50	Models and Data Combined to Progress Towards a Better Understanding of the Magnetism of Solar-type Stars	Laurene Jouve
12:50	13:05	Solar Surface Convection and the Solar Cycle	Arnold Hansmeier
13:05	13:15	Kinematics of Slow and Fast CMEs in Solar Cycle 23 and 24	Dipankar Banerjee

13:15	14:00	Lunch Break	
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14:00	17:30	CCMC Runs-on-request system: demo & hands-on	A. Glocer, M. Kuznetsova, J-S.Shim
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18:00	20:00	Poster Session (see separate sheet "posters")	
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20:00	22:30	Conference Dinner	
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Friday, January 29, 2016

10:00	10:50	Metrics to Assess Space Weather Predictions I	Chair: Masha Kuznetsova
10:00	10:25	Adapting meteorological verification techniques for space weather at the UK Met Office	Suzy Bingham
10:25	10:50	Performance Verification of Solar-Flare Prediction Models: from Climatology to Skill and from Forecast Probabilities to Certainty	Manolis Georgoulis

10:50 11:15 Coffee/Tea Break

11:15	12:00	Metrics to Assess Space Weather Predictions II	Chair: David Jackson
11:15	11:40	Community-wide validation of geospace model local K-index predictions to support model transition to operations	Alex Glocer
11:40	11:55	How would the thermosphere and ionosphere respond to an extreme space weather event and how would we validate a modeled response?	Tim Fuller-Rowell
11:55	12:15	Metrics for space weather: needs, challenges, initiatives, coordination, path forward (discussion)	Maria Kuznetsova

12:15 14:00 Lunch Break

14:00	15:30	Space Weather Effects on Technological and Biological Systems	Chair: Alexi Glover
14:00	14:25	The semi-empirical thermosphere model DTM201	Sean Bruinsma
14:25	14:50	Spacecraft Charging and Auroral Boundary Predictions in Low Earth Orbit	Joseph I Minow
14:50	15:15	Radiation Exposure Analysis for Crewed Missions	Guenther Reitz
15:15	15:30	Modeling the Impact of Geomagnetic Disturbances on New York State Power Transmission System	Ouedraogo Djibrina

15:30 16:00 Coffee/Tea Break

16:00	17:00	Closing Session	Chair: Bob Wimmer
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Poster Session (Chair: Bob Wimmer)

Poster	1 st Author	Title	Session
1	Ansari, Iqbal A	Study of Low Latitude Pc3 Magnetic Pulsations in South-East Australia and Their Dependence on Solar Wind Velocity	6
2	Aslam, Muhammed	Geo--effectiveness of magnetic clouds and their associated features	1
3	Bhatt, Nipa J	Sunspot cycle 24: Validation of our prediction model	8
4	Bhowmik, Prantika	Solar Cycle Predictions with a Surface Flux Transport Model	8
5	Büchner, Joerg	Models and data-driven simulation of solar eruptions	5
6	Cho, KyungSuk	Minor and Major geomagnetic storms driven by similar CMEs	2
7	Daglis, Ioannis	Pre-processing methods for energetic particle measurements	3
8	Daglis, Ioannis	Data Unfolding using Neural Networks	3
9	Daglis, Ioannis	Calibration of Radiation Monitors	3
10	Djibrina, Ouedraogo	Modeling the Impact of Geomagnetic Disturbances on New York State Power Transmission System	10
11	Escoubet, C. P.	THOR – Turbulence Heating Observer	2
12	Georgoulis, Manolis	Magnetic-Field Magnitude of CMEs: Near-Sun Value and Evolution to 1 AU	1
13	Gopalswamy, Nat	Sun-to-Earth Propagation and Geoeffectiveness of CMEs	8
14	Goyal, Ravinder	Temporal evolution of linear kinetic Alfvén waves in inhomogeneous plasmas and turbulence generation	8
15	Grande, Manuel	The Europlanet Horizon 2020 Planetary Space Weather Service	1
16	Ibrahim, M.Syed	Interplanetary parameters of ICME/IP shock associated with solar eruptive events	1
17	Johri Abhishek	Interplanetary propagation of CME in the inner Heliosphere	1
18	K. Suresh	Investigation of Coronal and Interplanetary Shocks and their associated Solar activities	1
19	Kuznetsova, Maria	Successes and Challenges in Assessment of Space Science Models for Space Weather Applications	7
20	Lohf, Henning	CIRs Observed by MSL/RAD on the Martian Surface	2
21	Masson, Arnaud Daniel	Magnetic reconnection vs. Kelvin-Helmholtz instability: is the debate really over?	3
22	Moon, Yong-Jae	Lessons from empirical space weather forecast models based on solar data	2
23	Pal, Sanchita	Investigating the cause of fewer geomagnetic storms during the higher peak of the double-peaked sunspot cycle 24	6
24	Pandya, Megha	Investigation of Major Solar Eruptions of Solar Cycle 23 & 24 and their geoeffectiveness	8
25	Panja, Mayukh	Developing a Magnetofrictional model to study the solar corona	5
26	Pant, Vaibhav	Automated Detection of CMEs in the heliosphere	1
27	Saranathan, Sudharshan	Kinematics of CMEs seen through the Heliospheric Imager	1
28	Sharma, Prachi	Nonlinearity and turbulence in plasmas	8
29	Sharma, Swati	Localization of Circularly Polarized Dispersive Alfvén Wave in Solar wind plasmas	8

30	Singh, Ram	Equatorial and low latitude Ionospheric Response to Some of the Space Weather Events over Indian region	9
31	Srivastava, Nandita	Validation of the CME Arrival Time and Geomagnetic forecast alerts under COMESEP	1
32	Temmer, Manuela	Thermospheric and geomagnetic responses to interplanetary coronal mass ejections observed by ACE and GRACE: Statistical results	2
33	Tomislav, Žic	The drag-based model application	1
34	V, Aparna	Temperature of a Hot Flux Rope	5
35	Vemareddy, Panditi	Sun--Earth Connection of an Earth Directed CME Magnetic Flux--Rope	1
36	Wimmer-Schweingruber, R.	Tracing Heliospheric Structures to Their Solar Origin	6
37	Wimmer-Schweingruber, R.	Zenith-Angle Dependence of the Martian Radiation Environment at Gale Crater Altitudes	2
38	Yadav, Nitin	Science of Turbulence and Reconnection interplay and its Effect on Particle Acceleration in the Magnetosphere	3
39	Zheng, Yihua	Space Weather Research, Education and Development Initiative (SW REDI) at CCMC	4
40	Agrawal, Vivek Kumar	HEL1OS (High Energy L1 Orbiting X-ray Spectrometer) on Aditya-L1	Aditya
41	Banerjee, Dipankar	Visible Emission line Coronagraph on board Aditya L1	Aditya
42	Goyal, Shiv Kumar	Developmental status of Supra Thermal & Energetic Particle Spectrometer (STEPS), a subsystem of ASPeX payload	Aditya
43	K.P. Subramanian	Solar Wind Ion Spectrometer (SWIS) onboard ADITYA-L1 Mission	Aditya
44	Krishnamoorthy, Subhlakshmi	Magnetometer Payload in ADITYA L1 Mission	Aditya
45	Sankarasubramanian	Solar Low Energy X-ray Spectrometer (SoLEXS) on-board Aditya-L1	Aditya
46	Thampi,R. Satheesh	Solar wind exploration using Plasma Analyser Package for Aditya (PAPA) payload onboard Aditya-L1	Aditya
47	Tripathi, Durgesh	The Solar Ultraviolet Imaging Telescope on board Aditya-L1 Mission	Aditya