The Fourteenth Edition of the Solar-Terrestrial Physics Symposium (STP14)

York University, Toronto, Canada

July 9 -13, 2018

Oral Program

Sunday July 8

14:00	REGISTRATION – ACW206
20:00	Closing Registration

Monday July 9

8:00	REGISTRATION (Cont'd) – ACW206		
9:00	Inaugural Session Chair: F.-J. Lübken – ACW206		
9:00	Nat Gopalswamy		Welcome SCOSTEP & SOC
9:05	Celia Haig-Brown		Welcome from York University
9:10	Regina Lee		Welcome from Lassonde School of Engineering
9:15	James Whiteway		Welcome from Centre for Research In Earth and Space Science
9:20	Éric Laliberté		Welcome from Canadian Space Agency
9:25	David Boteler	193	Solar Terrestrial Science in Canada
9:50	Kazuo Shiokawa	115	Preliminary review on scientific achievements of the SCOSTEP VarSITI program (2014-2018)
10:15	Marianna Shepherd		Brief Announcement
10:17	*Coffee/Tea Break*		
10:30	Award Ceremony – ACW206		
10:30	DYS: Kok Leng Yeo		Distinguished Young Scientist (DYS) Award Lecture
10:55	DS: Jeffrey Forbes		Distinguished Scientist (DS) Award Lecture
11:20	David Kendall	1	Space Weather in the UN COPUOS Context
12:00	Delores Knipp	60	Extreme Space Weather Effects of the Great Solar and Geomagnetic Storm of May 1967
12:30	*Lunch, Dining Hall, Winters College WC001*		
13:30	Parallel Session: Magnetosphere – Ionosphere – Thermosphere coupling in SC 24 (3.4) Chair: Kazuo Shiokawa – ACW004		
13:30	Gang Lu	120	Global ionosphere and thermosphere response to the March 2015 St. Patrick's Day Storm
13:55	Ajesh Pillai	4	A Case Study on the Response of Thermospheric Nightglow Emissions to Penetrating Electric Field
14:10	Ashik Paul	95	Assessment of multi-frequency GNSS signal outages observed from northern Equatorial Ionization Anomaly (EIA) crest locations
14:25	Goderdzi Didebulidze	39	Lower thermosphere factor in formation of sporadic E under influence of horizontal wind and AGWs
14:40	Konstantin Kabin	110	Electron energization by substorm dipolarizations
14:55	V. Lakshmi Narayanan	97	Comparison of ionospheric response over Brazilian sector during geomagnetic storms of March 2013 and 2015
15:10	*Coffee/Tea Break & Posters (Session 3.4)*		
16:10	David Miles	19	Alfvénic dynamics and fine structuring of discrete auroral arcs: Swarm and e-POP observations
16:35	Wojciech Miloch	180	Plasma density irregularities and their effects on trans-ionospheric radio signals studied with the Swarm satellites

16:50	Yuki Takagi	137	Statistical analysis of SAR arcs detached from auroral oval based on all-sky imaging observations
17:05	Chi Wang	9	Global Space Weather Observational Network: Challenges and China's Contribution
17:30	Abdelhaq Hamza	191	On the Characterization of Ionospheric Scintillation at High Latitudes
17:45	Discussion		
18:00	Adjourn		
13:30	Parallel Session: Space Weather (4.2) Chair: Nariaki Nitta – ACW006		
13:30	Meng Jin	17	Sun-to-Earth Modeling of CMEs with a Global MHD Model: Facilitating Physical Understanding and Space Weather Forecasting
13:55	Nikolay Pertsev	22	Components of the lunar gravitational tide in the terrestrial atmosphere and geomagnetic field
14:10	Nat Gopalswamy	184	Extreme Kinematics of the 2017 September 10 CME and its Heliospheric Consequences
14:25	Noé Lugaz	150	Forecasting Southward Bz Periods Following Shocks
14:40	Olga Khabarova	108	Space weather effects associated with small-scale magnetic islands in the solar wind
14:55	Nishant Narechania	20	An Integrated Solar Wind-MHD Model for Space Weather Forecasting
15:10	*Coffee/Tea Break & Posters (Session 4.2)*		
16:00	Mamoru Ishii	14	Space Weather Research and Operation in NICT
16:25	Craig Rodger	21	New Zealand Long term Geomagnetically Induced Current Observations: Peak Current Estimates for Extreme Geomagnetic Storms
16:40	Martin Connors	153	Large Impulsive Magnetic Events (LIME)
16:55	Lauri Holappa	141	IMF By dependent enhancement in high latitude geomagnetic activity in local winter
17:10	Mark Clilverd	45	Geomagnetically Induced Currents and Harmonic Distortion observed during the 07-08 September 2017 Disturbed Period
17:25	Oleg Troshichev	88	PC index as a standard of magnetoionospheric disturbances in the auroral zone
17:40	Nariaki Nitta	126	Possible Scenario to Effectively Improve Space Weather Predictions from Space based Observations
17:55	Discussion		
18:00	Adjourn		
19:00	*Reception, Dining Hall, Winters College WC001*		

Tuesday July 10

8:30	High speed streams, Flare impact, Atmospheric coupling – ACW206		
8:30	Larry Paxton	194	A vision for our field and the challenges facing us, future missions and technology challenges Exploration of Earth's Atmosphere from Space
9:10	Kazuo Shiokawa Nariaki Nitta		Summaries of Monday Parallel Sessions
10:00	*Posters, Coffee/Tea Break*		
11:00	Erich Becker	103	Mechanisms of dynamical coupling from the troposphere to the lower thermosphere
11:30	Daniel Baker	46	The Sun-Earth Connection: Solar Forcing of the Earth's Magnetosphere and Atmosphere System
12:00	Aaron Ridley	164	The thermospheric and ionospheric reaction to solar flares
12:30	All		NSP Discussion
13:00	*Lunch, Dining Hall, Winters College WC001*		

14:00	Parallel Session: Regional, hemispheric and inter-hemispheric couplings and transport in the atmosphere (3.3) Chair: F.-J. Lübken – ACW004		
14:00	Marianna Shepherd	188	Dynamical perturbations in O(1D) nightglow, winds and TEC satellite observations at Southern high latitudes
14:15	Gordon Shepherd	57	WINDII observations of a stationary thermospheric high-latitude "wall" of extreme winds
14:30	Erdal Yiğit	168	Physical coupling processes within the Atmosphere-Ionosphere system induced by propagating waves
14:55	William Ward	185	Dynamical variability in the winter polar mesopause region
15:10	*Coffee/Tea Break & Posters (Sessions 3.3 & 3.1)*		
16:00	Samuel Kristoffersen	174	Gravity Wave Observations and Characterization with the ERWIN-II
16:15	Jia Yue	69	Travelling planetary wave coupling of the middle atmosphere and Ionosphere-Thermosphere
16:30	Bernd Funke	160	Mesosphere-stratosphere coupling by polar winter descent of odd nitrogen
16:55	Kazuo Shiokawa	117	Recent results on atmospheric and ionospheric disturbances using the Optical Mesosphere Thermosphere Imagers (OMTIs)
17:10	Thomas Reddmann	101	Modelling the chemical impact of particle precipitation in the middle atmosphere and comparison with observations
17:25	Andrey Perezhogin	147	Lidar backscattering signals of upper precipitation atmosphere during charged particles precipitation
17:40	Discussion		
18:00	Adjourn		
14:00	Parallel Session: Origin, evolution, and Earth impact of high speed streams (1.2) Chair: M. Temmer – ACW005		
14:00	Lan Jian	173	Understanding the Structure and Evolution of Stream Interaction Regions from an Observational Aspect
14:25	Stefan Hofmeister	165	The dependence of the peak velocities of HSS on the colatitudes of their source CHs
14:40	Kazuo Shiokawa	114	Global Pc1 pulsations and purple auroral rays at the CIR arrival on March 21, 2017
14:55	Oleg Troshichev	89	Magnetosphere response to impulse space weather events: relationships between PC, AE and SymH indices
15:10	Rui Pinto	106	New strategies for modeling and forecasting the solar wind
15:35	Tatiana Podladchikova	54	Development of adaptive Kalman filter for solar wind forecast
15:50	Roksoon Kim	156	Space Weather Forecast Using Background Information Generated by Superposed Observations over Previous Carrington Cycles
16:05	*Coffee/Tea Break & Posters (Sessions 1.2, 2.2 & 4.4)*		
16:35	Parallel Session: Origin of solar flares and their impact on Earth's ionosphere/atmosphere (2.2). Chair: K. Cho – ACW005		
16:35	Gaurav Bharti/ MV Sunil Krishna	133	The effect of space weather on sodium airglow emission
16:50	Haris Haralambous	12	Effect of solar flare x-rays on digisonde f_{min} values
17:05	Jean-Pierre Raulin	158	Transient and long-term solar activity: Origin and impact on the Earth's atmosphere
17:30	Nicole Vilmer	65	Radio diagnostics of solar flares and of their impact on Earth
17:45	Discussion		
18:00	Adjourn		
18:00	VarSITI Steering Committee Meeting – PSE 422		

Wednesday July 11

8:30	CMEs, Whole atmosphere – ACW206		
8:30	Spiro Antiochos	73	The Origins of Major Solar Eruptions
9:10	M. Temmer, K. Cho		Summaries of Tuesday Parallel Sessions
10:00	*Coffee/Tea Break & Posters (Session 3.2)*		
11:00	Noé Lugaz	149	Interplanetary Shocks, their Sources and Some Space Weather Effects
11:30	Alexei Pevtsov	199	New ground based instrument initiatives for solar and solar terrestrial physics
12:00	Rolando Garcia	190	Natural and Anthropogenic Low-frequency and Secular Variability in the Middle Atmosphere
12:30	*Lunch, Dining Hall, Winters College WC001*		
13:30	Parallel Session: Long term variability of the whole atmosphere (3.2) Chair: D. Marsh – ACW004		
13:30	Tim Kruschke	107	Disentangling top-down- and bottom-up-directed contributions of 11-year solar cycle induced climate signals
13:45	William Ball	192	Assessing long-term changes in stratospheric ozone
14:10	Jan Lastovička	30	Long term trends in stratospheric dynamics and temperature derived from four reanalyses
14:25	Gunter Stober	96	Trends in the middle atmosphere from ground based sensors at mid and high latitudes
14:50	Mark Clilverd	44	Long-term climate change in the D-region
15:05	Jens Fiedler	64	Long-term and tidal variations of noctilucent clouds at ALOMAR
15:20	Franz-Josef Lübken	18	Scientific Highlights from ROMIC
15:35	*Coffee/Tea Break & Posters (Session 3.2)*		
16:35	Martin Mlynczak	122	Frontiers in satellite observation of the mesosphere and thermosphere
17:00	Discussion		
18:00	Adjourn		
13:30	Parallel Session: Origin, evolution, and Earth impact of coronal mass ejections (1.1) Chair: J. Zhang – ACW005		
13:30	Manuela Temmer	71	Earth-affecting CME event: combining remote-sensing image data with in-situ measurements supported by modeling
13:45	Qiang Hu	167	Inter-comparison of interplanetary magnetic flux ropes and their solar sources: implication for flux rope models
14:00	Jie Zhang	28	Earth Affecting Coronal Mass Ejections: textbook events versus stealth events
14:15	Christina Kay	195	The Effects of Uncertainty on Deflection, Rotation, and Bz Predictions
14:30	Yihua Yan	193	The CME Initiation Associated with Decimetric Radio Burst Observations with MUSER
14:45	Seiji Yashiro	84	Magnetic environment on the shock driven by the 2012 January 27 coronal mass ejection
15:00	Lan Jian	176	Interplanetary CMEs Observed by Twin STEREO Spacecraft on the Far Side of the Sun
15:15	Kyungsuk Cho	152	Effects of Geometries and Substructures of ICMEs on Geomagnetic Storms
15:30	*Coffee/Tea Break & Posters (Session 1.1)*		
15:45	Anitha Ravishankar	52	New technique to determine Arrival Time based on Maximum Velocity
16:00	Charles Farrugia	26	Small Solar Wind Flux Ropes during Solar Maximum: Distinguishing between Force-Free Models through their Twist
16:15	Linghua Wang	77	The Electron Acceleration by ICME-driven Shocks at 1 AU
16:30	David Boteler	58	Re-examination of the Solar Activity of March 1989 and its Impact on Earth
16:45	Qiugong Zong	196	Fast Acceleration of "Killer" Electrons and Energetic Ions by Interplanetary Shock Stimulated ULF Waves in the Inner Magnetosphere
17:10	Shrikanth Kanekal	125	Rapid energization of radiation belt electrons to Interplanetary Shocks
17:25	Satoko Nakamura	99	Time domain simulation of GIC flowing in power grid in Japan

17:50	Denis Rodkin	90	Properties of solar wind streams in relation to their solar origins
18:05	Adjourn		

Thursday July 12

8:30	Energetic Particles, Long-term solar variability (1.3, 2.1, 4.1) – ACW206		
8:30	Irina Mironova	93	Origin Energetic Particles and their Impact on Earth
9:10	J. Zhang, D. Marsh		Summaries of Wednesday Parallel Sessions
10:00	*Coffee/Tea Break & Posters (Session 3.4)*		
11:00	Jie Jiang	80	Solar magnetism and its long-term behavior from the point of view of dynamo theory
11:30	Monica Laurenza	86	Contribution of galactic and solar cosmic rays to the interplanetary and near-Earth particle radiation environment
12:00	Christopher Russell	33	What is the Time Series of Sunspot Numbers Telling Us about Magnetic Flux Transport?
12:30	*Lunch, Dining Hall, Winters College WC001*		
13:30	Parallel Session: Origin, evolution, and Earth impact of energetic particles from solar, magnetospheric and galactic sources (1.3) Chair: S. Kanekal – ACW004		
13:30	Lingling Zhao	112	Transient galactic cosmic ray modulation during solar cycle 24
13:45	Pertti Makela	116	Small SEP events with metric type II radio bursts
14:00	Nariaki Nitta	127	The Relation of Solar Electron Events with EUV Waves Revisited for Solar Cycle 24 Events
14:15	Kaiti Wang	35	Observations of energetic protons by Van Allen Probes at radiation belts during solar proton events
14:30	Allison Jaynes	102	The fascinating dynamics of the high-energy Van Allen radiation belts
14:55	Craig Rodger	43	Improved empirical model to provide long-term datasets of radiation belt medium energy electron precipitation
15:10	Kazuo Shiokawa	119	Recent results of EMIC/ELF/VLF wave measurements at Athabasca (L=4.2), Canada
15:25	*Coffee/Tea Break & Posters (Session 1.3)*		
16:25	Miriam Sinnhuber	100	Energetic electron precipitation impact on the composition and dynamics of the upper and middle atmosphere
16:50	MV Sunil Krishna	128	Influence of solar proton event on the infrared radiative cooling by Nitric Oxide
17:05	Daniel Marsh	40	A novel approach to quantifying EPP Influences on the Budgets of stratospheric NOy and ozone
17:20	Mark Clilverd	47	Electron precipitation from the outer radiation belt during the St Patrick's Day storm
17:35	Discussion		
18:00	Adjourn		
13:30	Parallel Session: Long-term solar variability (magnetism, total irradiance, and spectral irradiance) and its impact on geospace and Earth (2.1+4.1) Chair: K. Georgieva – ACW005		
13:30	Sushant Mahajan	143	Spying on the heart of the solar dynamo
13:45	Deniz Ölçek	34	Long-term variability and distinct modes in a hybrid Babcock-Leighton solar dynamo model
14:00	Petrus Martens	118	Evolution Signatures of a Sustained Massive Solar Wind
14:15	Melinda Nagy	79	How 'rogue' active region emergences affect the variation of the Solar Cycle?
14:30	Tibebu Getachew	170	Hemispheric asymmetry of the photospheric magnetic field
14:45	Kalevi Mursula	177	Heliospheric impacts of the long-term solar activity (space climate)
15:10	Ilya Usoskin	67	A new ADF (active-day fraction) method of sunspot number calibration
15:25	*Coffee/Tea Break & Posters (Sessions 2.1, 4.1 & 4.3)*		

16:00	Alexander Shapiro	168	Long-term variations of solar irradiance
16:25	Luc Damé	91	Variability of ultraviolet solar spectral irradiance over Cycle 24 with SOLAR/SOLSPEC 9 years of data
16:40	Pauli Väisänen	29	Analysis of power spectral density slopes of neutron monitor measurements in 1953-2016
16:55	Jih-Hong Shue	53	Which interplanetary magnetic field orientation is for the true ground state of the magnetosphere?
17:10	Nikolay Pertsev	27	On different response of mesopause region characteristics to long-term and short-term solar variability
17:25	Nazario Tartaglione	142	Impact of the solar and geomagnetic activity on atmospheric variables: A study with WACCM
17:40	Jose-Dias do Nascimento	197	Kappa 1 Ceti as a proxy of the young Sun and its evolution and activity
18:05	Adjourn		
19:00	*Conference Dinner - Dining hall, Winters College, WC001*		

Friday July 13

8:30	Geospace response to variability of the lower atmosphere (3.1) Chair: William Ward – ACW206		
8:30	S. Kanekal, K. Georgieva		Summaries of Thursday Parallel Sessions
9:20	Sharon Vadas	144	Gravity wave penetration into the thermosphere and ionosphere
9:50	Jaeheung Park	76	Irregularities in quiet-time low-/mid latitude upper thermosphere: both propagating upward from below and those driven in-situ
10:15	*Coffee/Tea Break*		
10:30	Bruce Tsurutani	15	Solar/Interplanetary Effects and Possible Consequences for Atmospheric Vorticity
10:45	Fabrizio Sassi	82	The Impact of Upper Atmospheric Observations on Simulations of Short-term Variability in the Thermosphere-Ionosphere System
11:10	Yongliang Zhang	50	Global wave structures in the thermosphere observed by TIMED/GUV
11:25	Alexander Medvedev	68	Ion Friction and Geomagnetic Influence on Gravity Wave Propagation in the Thermosphere-ionosphere
11:40	Will Cycle 25 be special? (4.3) Chair: K. Georgieva		
11:40	Robert Cameron	48	Physical basis for solar cycle predictions and cycle 25
12:05	Ilya Usoskin	66	The Sun's near future: predictions or divinations?
12:35	Closing		
12:45	*Lunch, Dining Hall, Winters College WC001 & End of STP14*		

Keynote Speaker
Plenary Speaker
Invited Speaker
Parallel Session