Spring MIST 2025 schedule

Monday		
10:30	Arrival and Registration	
12:00	Welcome to Spring MIST	
	Session 1: SMILE	
12:15	Jenny Carter	Heavy ion influences at the magnetosheath & the need for Elfen
12:30	Ardra Ramachar	Global MHD and Test-Particle Simulations of Solar Wind Charge Exchange from the Earth's magnetospheric boundaries
12:45	Yasir Soobiah	The SMILE Data Fusion Facility (DFF) and SMILE multi-spacecraft and ground-based studies
13:00	Lunch	
	Session 2: Magnetosphere	
14:00	Maria-Theresia Walach	Finding Magnetospheric Dynamics with Observed Imbalances in Earth's Open and Closed Magnetic Flux
14:15	Fiona Ball	Investigating the spatial extent of the northern magnetospheric cusp using conjugate ground and space based methods
14:30	Gregory Kennedy	Solar Wind Influence on Dual-Lobe Reconnection and Horse-Collar Aurora
14:45	Michaela Mooney	Plasma observations in the distant magnetotail under Northward IMF
15:00	Nawapat Kweeyanun	Preliminary Results from Examination of Cluster Magnetopause Crossings for TPA-IMF Magnetic Reconnection Events
15:15	Coffee Break	
	Session 3: Radiation Belts	
15:45	Sarah Bentley	How do fundamental modelling choices affect radial diffusion in Earth's Radiation Belts?
16:00	Aaron Hendry	Bridging the Data Gap: Deriving Complete Electron Boundary Conditions from Incomplete Satellite Observations
16:15	Dylan J. Weston	Using a Random Forest to understand and accurately predict flux levels in Earth's Van Allen Radiation Belts
16:30	Samuel Hunter	Extending Quasilinear Theory with Second Order Perturbations
16:45	Sarah Glauert	The effect of energy diffusion on electron loss timescales in the Earth's radiation belts

Tuesday		
8:30	Coffee	
	Session 4: Planetary	
9:00	Henrik Melin	Discovery of H3+ and infrared aurora at Neptune
9:15	Paola I. Tiranti	Unveiling Uranus' Upper Atmosphere: H3+ Vertical Profiles from JWST Observations
9:30	Oliver King	JWST/NIRSpec observations of Jupiter's time variable H3+ auroral emissions
9:45	Mark Lester	Space Weather at Mars in May 2024
10:00	Simon Joyce	The Martian ionosphere revealed by 20 years of MARSIS data, and a helpful AI
10:15	Dikshita Meggi	Characterising the spatiotemporal variability of the Martian topside ionosphere over crustal magnetic fields using near-simultaneous MEX and MAVEN observations.
10:30	Coffee Break	
	Session 5: Ionosphere	
11:00	Martin Cafolla	Dynamics of Space-Time TEC High Density Regions seen in JPL GIMs: Variations with Latitude, Season and Geomagnetic Activity

11:15	Anasuya L. Aruilah	The Necessary Synergy Between Modelling and Observations to Achieve the Goal of Forecasting Space Weather
11:30	Benjamin Reid	Instrumental Bias Will Ruin Your Data Assimilation
12:45	David R Themens	Statistical modeling of high latitude sporadic-E climatology: A Sporadic-E module for E-CHAIM
12:00	Kamalam Thillaimaharajan	Multiple structuring processes in fine scale aurora
12:15	Alexandra Ruth Fogg	Diurnal periodicity in Earth's radio emissions
12:30	Lunch	
13:30	Poster session	
15:15	Coffee Break	
15:45	MIST council Update	
	Session 6: Atmosphere	
16:00	Subir Mandal	Gravity Wave Variability in the Arctic Winter Mesosphere
16:15	Matthew K. Brown	A publicly available 70-year simulation of the whole atmosphere
16:30	Rebecca Coulson	Investigating the impact of energetic particle precipitation on middle atmosphere climate chemistry using high altitude measurements of NO in conjunction with AMPERE.
16:45	Laura Aguilar	Operational Impacts of Geomagnetic Storm-Induced Atmospheric Density Changes: Insights from the May 2024 Gannon Geostorm

Wednesday		
8:30	Coffee	
	Session 7: Solar / Heliosphere / Solar Wind	
9:00	Neil Rodgers	Differences in solar wind measurements between L1 (OMNI) and near-Earth (Cluster spacecraft) affecting the accuracy of magnetospheric coupling functions
9:15	Cara L. Waters	Automated Identification of Features in Velocity Distribution Functions during Magnetic Reconnection from the Magnetospheric Multiscale (MMS) Mission
9:30	Helen Norman	Investigating the structure of magnetised Coronal Mass Ejection models
9:45	Joel Richardson	Using Cluster as a Solar Wind Monitor to Investigate Uncertainties in OMNI Time Propagation
10:00	Matthew Billcliff	Extended Lead-Time Geomagnetic Storm Forecasting with Solar Wind Ensembles and Machine Learning
10:15	Nachiketa Chakraborty	Cause-mic Universe : Causal Analysis of Solar Variability
10:30	Coffee Break	
	Session 8: Waves	
11:00	Daniel Ratliff	Modelling the Statistics of Whistler Mode Chorus: Wave Action models in Near-Earth space
11:15	Oliver Allanson	Diffusion coefficients for resonant relativistic wave-particle interactions using the PIRAN code
11:30	Chiara Lazzeri	Analysis of a ULF power enhancement at geosynchronous orbit following an extreme IMF southward turning
12:45	Rachel Black	Investigating chorus wave peak amplitudes on short timescales during the Van Allen Probes era
12:00	Tom Elsden	Theory and Modelling of Large Scale Plasmapause Surface Waves
12:15	Tom Wakefield	MMS Observations of Surface Waves on the Dusk Flank Magnetopause During Northward IMF
12:30	Lunch	

	Session 9: Geomagnetism and GICs	
13:30	Andy Smith	Why do Some Sudden Commencements Generate “Disproportionate” Geomagnetically Induced Currents?
13:45	John Coxon	Field-aligned currents observed from the ground
14:00	Kendra Gilmore	Spatial-temporal implications of high latitude magnetometer measurements
14:15	Mervyn Freeman	Investigating the seasonal influence on the auroral electrojets using magnetically conjugate measurements in Greenland and the British Antarctic Territory
14:30	Gemma Bower	Importance of one second magnetometer data when investigating geomagnetic disturbances.
14:45	Cameron Patterson	Exploring the impact of railway track circuit design on their susceptibility to geomagnetic disturbances

Posters		
	Author	**Title**
1	Kate Barton	Extreme Neutral Temperature Changes in the Aurora
2	Alina Bendt	The energy transfer rate of coherent structures in the kinetic and inertial ranges of solar wind turbulence
3	Matthew K. Brown	Thermospheric impacts and modelling of the May 2024 G5 and October 2024 G4 geomagnetic storms
4	Ishbel Carlyle	In search of the substorm onset instability
5	Gareth Chisham	Using vorticity to characterise meso-scale ionospheric flow variations
6	Eliot Dable	Integrating Machine Learning for Auroral Image Analysis and Wind Predictions in the Scandinavian Region
7	Tom Daggitt	Exploring UBK coordinates in realistic field models
8	Nathaniel Edward-Inatimi	Adapting Ensemble-Calibration Techniques to Probabilistic Solar-Wind Forecasting
9	Emily Grant	Investigating the statistical properties of critical variables that govern whistler-mode chorus wave-particle interactions
10	Dechen Gyeltshen	Coronal Mass Ejection Arrival Time Predictability Varies With the Solar Cycle Due to Solar Wind Structure
11	Caitlin Hanna	Long-term variations in Mars' radiation environment using highly-energetic particles over two solar cycles
12	Maria Hasler	AI-driven analysis of dangerous space weather: Combining ground- and space-based measurement
13	Rosie Hodnett	Observations and electrodynamics of an omega band aurora at Tromsø, Norway
14	Caitriona Jackman	What to do when you don't have a solar wind monitor.
15	Rosie Johnson	A novel method to remotely analyse Jupiter's ionospheric flows
16	Andrew J. Kavanagh	Variability in the auroral ionosphere: observations from EISCAT from days to years
17	Nawapat Kaweeyanun	Potential Detection of Dual Lobe Reconnection Associated with Horse-Collar Auroras via Near-Magnetopause Cluster Observations
18	Mai Mai Lam	Quantification of D-region energetic electron precipitation energies and fluxes due to EMIC waves using multi-instrument observations

19	Matthew Lang	Incorporating data assimilation into BAS-RBM
20	Steve Milan	New dynamics of NBZ auroras
21	Michaela Mooney	Orbyts Research in School Partnerships: At the Heart of Great Science is Opportunity
22	Simona Nitti	Tracking composition changes in the solar wind through spectral analysis of SXI/SMILE data.
23	Atlas Patrick	Understanding the most extreme types of space weather: geomagnetic storms
24	Brad Ramsey	Comparing TS04 with Dipole Approximations Under Varying Geomagnetic Conditions
25	Hao Ran	A Solar Orbiter Data Preperation Pipeline for Instability Analysis of the Solar Wind
26	Sam Rennie	A Statistical Study on the Azimuthal Wave Numbers of Pc5 ULF Waves
27	Alexandre Santos	Assessing the Variability of the Magnetic and Plasma Environment Upstream of Ganymede and Europa
28	Katerina Stergiopoulou	Escaping plasma structures in the Martian magnetotail as observed during two special MARSIS high-altitude campaigns
29	Emma Thomas	Unexpected heat on Uranus
30	Rong Tian	The Martian ionosphere response to the S1222a Marsquake
31	Yihui Tong	Global MHD and Test-Particle simulations of outer radiation belt flux drop- out events
32	Adam Toulson	Wave-Particle Interactions in Whistler-Mode Chorus waves: Theory and Simulations of High Energisation
33	Simon Walker	Characteristics of the Auroral Kilometric Radiation During Substorms
34	Sarah Watson	Solar Wind Interactions With Comets
35	Samuel Wharton	Observing the Magnetopause with SMILE
36	Emma Woodfield	Combining diffusion and convection in the electron radiation belt of Saturn