PrExDA: Predicting Extremes by Data-Driven Analytics

All times US Eastern, UT-4

Sep 30, Wednesday

Session A

09:00 am	Surja Sharma, University of Maryland Welcome, Workshop Plan and Tasks
09:10 am	Chaitan Baru, NSF Office of Integrated Activities NSF Convergence Accelerator Program
09:30 am	Nick Watkins, London School of Economics From Rocket Science to Anomalous Time Series: Concepts, history, applications and inference
10:00 am	Jan Eichner, Munich Re (Re-)Insurance's view on extreme events and how they are managed
10:30 am	Dolores Knipp, University of Colorado A Historical Perspective on Space Weather Effects on Communication & Navigation Signals
11:00 am	Misha Sitnov, Johns Hopkins University Applied Physics Lab Empirical reconstruction of extreme geomagnetic storms: Breaking the data paucity curse
11:30 am	Misha Balikhin, University of Sheffield NARMAX modelling and forecasting with multiple data sets
12:00 pm	Discussion
12:15 pm	Lunch Break

Session B

01:00 pm	Surja Sharma, University of Maryland Prediction and Predictability of Complex Systems
01:30 pm	Juan Valdivia, University of Chile Combined System Science and Machine learning for space physics
02:00 pm	V. Krishnamurthy, George Mason University Prediction of intraseasonal climate and extreme events
02:30 pm	Discussion: Complex Systems Framework for Modeling and Prediction
03:00 pm	Adjourn

Oct 1, Thursday

Session A

09:00 am	M S Santhanam, IISER Pune Extreme events in correlated series and on complex networks
09:30 am	Leon Wei, University of Sheffield Data-Driven Modelling and Prediction using Transparent, Interpretable and Parsimonious Machine Learning
10:00 am	Reinaldo Rosa, INPE, Sao Jose dos Campos Modeling and predicting extreme events from p-model and RNN-LSTM: limitations and perspectives
10:30 am	Ian Richardson, NASA GSFC and University of Maryland Solar wind drivers of extreme space weather
11:00 am	Lauren Orr, University of Warwick Directed network modelling of geomagnetic activity
11:30 am	Simon Wing, JHU Applied Physics Lab Using information theory to improve predictive modeling
12:00 pm	Lunch Break

Session B

01:00 pm	Eugenia Kalnay, University of Maryland How can we improve Predictability in Earth System Models (not just for Climate)?
01:30 pm	Erin Lynch, NOAA STAR and University of Maryland Ensemble forecasting of extreme events
02:00 pm	Eviatar Bach, University of Maryland Overcoming the curse of dimensionality: Combining data-driven forecasting with physical models for Earth system prediction
02:30 pm	Discussion
03:00 pm	Adjourn

Oct 2, Friday

Session A

09:00 am	Xi Shao, NOAA STAR and University of Maryland NOAA NPP VIIRS imaging data of natural hazards
09:30 am	Dimitris Vassiliadis, NOAA NOAA Spacecraft for solar wind monitoring
10:00 am	Raj Pandya, American Geophysical Union Using community priorities to guide actionable science: Examples from Thriving Earth Exchange
10:30 am	Surja Sharma, University of Maryland Integrating Modeling, Prediction and Predictability
11:00 am	Discussion: Ideas and concepts for convergence ecosystems
11:30 am	Framework for partnerships
12:00 pm	Adjourn