

SEMINAR NOTICE

Department of Physics and Engineering Physics University of Saskatchewan

SPEAKER: Dr. Ray Spiteri
Department of Computer Science

TOPIC: *Hybridization of Physical and Data-Driven Models for Weather Prediction.*

DATE: Tuesday January 27th, 2026

TIME: 3:30-4:30 p.m.

The Weather Alliance—a consortium of eight Canadian universities, Environment and Climate Change Canada, and various public and private partners—is developing a new data-driven numerical weather prediction model called PARADIS. By combining semi-Lagrangian methods with machine learning modelling for non-local information transformation to impose a dynamical bias in a learned latent space, this method overcomes limitations of purely data-driven approaches such as respect for physical laws/structure like positivity, mass and energy conservation, entropy production. This talk will detail our design approaches to these next-generation forecasting systems and the new problems that arise in the development of hybrid data-driven models.