Contribution ID: **40**   Type: **Invited Talk**

Challenges of AI weather models in learning multi-scale dynamics and gray swans

Monday 7 October 2024 16:45 (30 minutes)

AI weather models have shown remarkable success in short- and medium-range forecasting. However, major questions remain about their ability to predict the most extreme events, particularly those that are so rare they were absent from the training set (so-called gray swans). There are also already documented challenges for these models in learning multi-scale dynamics. We will show in-depth analyses of these models' shortcomings for learning gray swans and multi-scale dynamics. We will discuss the implications and present a number of solutions for addressing both.

Primary author: Prof. HASSANZADEH, Pedram (University of Chicago)

Presenter: Prof. HASSANZADEH, Pedram (University of Chicago)

Session Classification: Machine Learning A