



SPEAKER: Ben Nachman

TITLE: **Advanced Machine Learning for Classification, Regression, and Generation in Jet Physics**

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PLACE: 40-S2-A01 - Salle Anderson

ABSTRACT

There is a deep connection between machine learning and jet physics - after all, jets are defined by unsupervised learning algorithms. Jet physics has been a driving force for studying modern machine learning in high energy physics. Domain specific challenges require new techniques to make full use of the algorithms. A key focus is on understanding how and what the algorithms learn. Modern machine learning techniques for jet physics are demonstrated for classification, regression, and generation. In addition to providing powerful baseline performance, we show how to train complex models directly on data and to generate sparse stacked images with non-uniform granularity.