

**Speaker: Theodore Papamarkou (University of Manchester)**

**Date: 30/11/2022 at 16:00 in 4 West 1.7**

**Title: Machine learning with probability generating functions**

**Abstract:**

A relation between activation functions and probability generating functions (PGFs) exists in the literature. This relation can be used to describe the connection between neural networks and Gaussian processes in the infinite width limit of the networks' hidden layers. It will be demonstrated how results for certain classes of PGFs yield new classes of activation functions and of correlation kernels. Some relevant open research questions will be discussed.