

# MATH SEMINAR SERIES

12:45 PM - 1:45 PM, OCTOBER 31<sup>ST</sup>, 2024

ARMITAGE HALL-ROOM 121

**Professor. Giacomo Borghi**

**Heriot-Watt University, Edinburgh, UK**



**Title: Optimization in Bures-Wasserstein space via interacting particle systems**

Abstract: Motivated by the development of computational algorithms dealing with probabilities, we present in this talk a novel optimization method based on Gaussian particles. The particles interact via a stochastic consensus-type dynamics exploiting the Riemannian structure of the Bures-Wasserstein space. We will also present an extension to the more general case of 2-Wasserstein space and compare the method with gradient flow dynamics in benchmark problems. This is joint work with M. Herty and A. Stavitskiy.



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