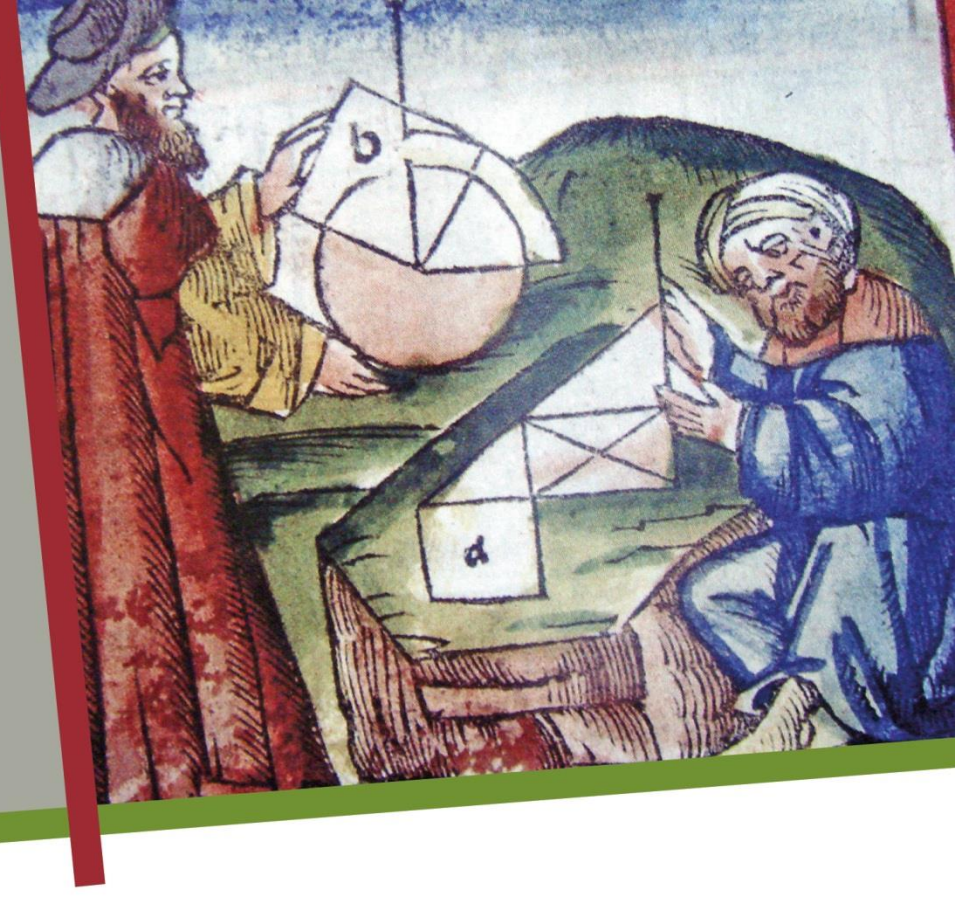
UNIVERSITÀ DEGLI STUDI
DI TRENTO

Dipartimento di Matematica



SEMINARI

Mathematics for Data Science, Artificial Intelligence, and Machine Learning

Wednesday 21 September 2022 – at 12:00 @ Seminar Room – 1 Povo0
and online through the ZOOM platform
https://unitn.zoom.us/j/81698041878 (Passcode: 028649)

Fabio Camilli

(Roma La Sapienza)

A Mean Field Games approach to cluster analysis

Abstract:

Cluster analysis is a classical problem in unsupervised Machine Learning which concerns the repartition of a group of points into subgroups, in such a way that the elements within a same group are more similar to each other than they are to the elements of a different one. Most of the mathematical literature on cluster analysis, and more in general on Machine Learning, is in the framework of the finite-dimensional optimization. In this talk, I will present a multi-population Mean Field Games systems which can be interpreted as an infinite-dimensional version of the classical Expectation-Maximization algorithm in soft clustering. I will discuss the theoretical aspects of the method and the application to some problems in cluster analysis.

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CONTATTI
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