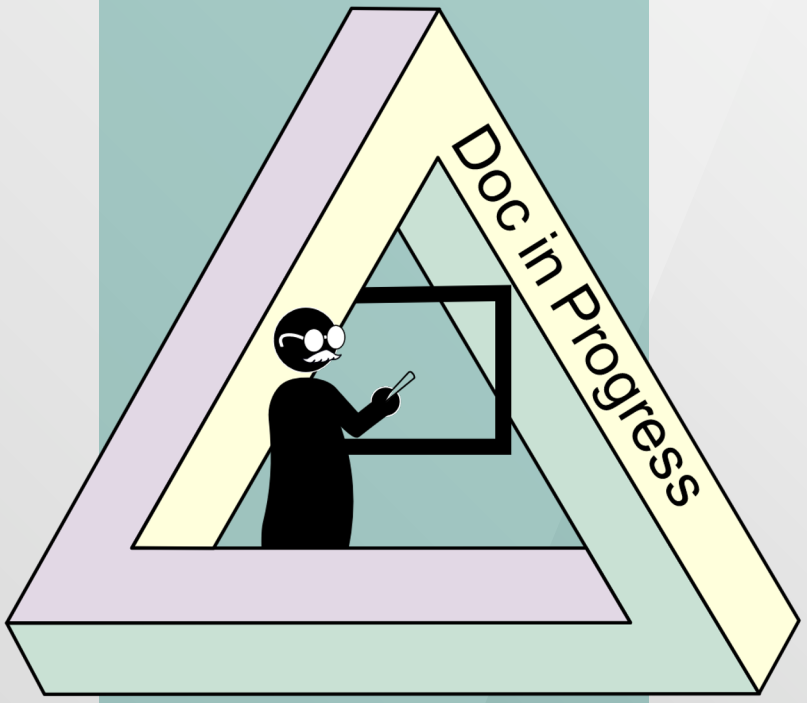
UNIVERSITÀ DI TRENTO
Dipartimento di Matematica



PhD in Mathematics

"Doc in Progress" is pleased to introduce you to

Marta Fochesato

ETH Zürich

PhD in Information Technology and Electrical Engineering

Robust risk-aware dynamic programming

Stochastic optimal control has numerous applications in engineering and science. It refers to a sub-field of control theory that deals with the existence of uncertainties that drive the evolution of a system in an unpredictable manner, posing several issues in terms of computational tractability and robustness.

On one side, the computational issue is dealt with in the literature relying on parametric value function approximations. On the other side, the robustness has been recently addressed borrowing tools from the field of distributionally robust optimization.

In this context, armed with tools from optimal transport theory, we propose a new computationally efficient dynamic programming paradigm, showing improved out-of-samples performance. Additionally, we extend the framework so as to handle probabilistic constraints in the state, proposing a primal-dual risk-aware formulation.

Thursday, May 19 – at 16:30 CET

The seminar will be held both in presence in Seminar Room "-1" (Department of Mathematics) and online via Zoom.

To join the event, please contact docinprogress.unitn@gmail.com using an institutional e-mail address for both reserving a sit in the seminar room or obtaining login credentials.