UNIVERSITÀ DI TRENTO

Dipartimento di Matematica
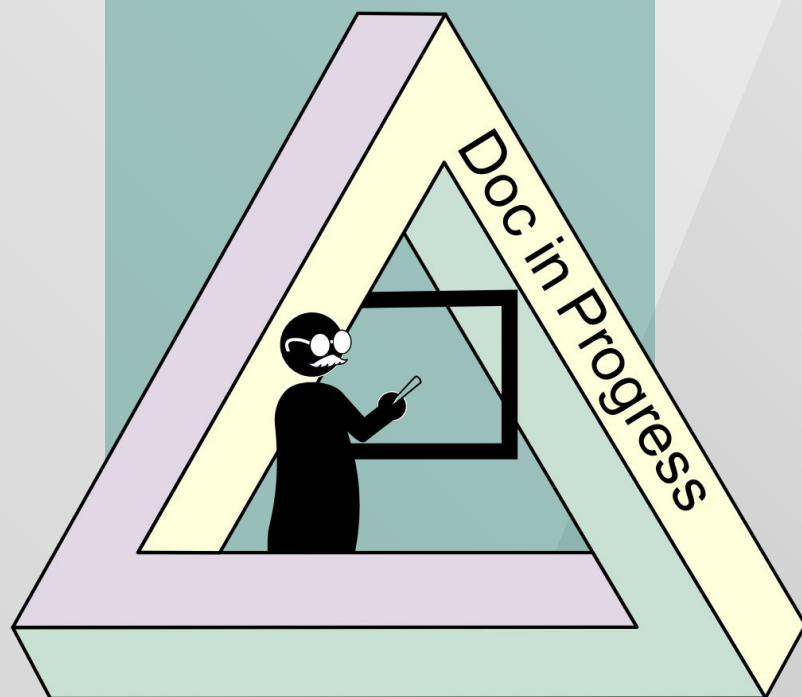
Doc in Progress

PhD in Mathematics

Margherita Pagano

Universiteit Leiden

Obstructions to rational points on varieties

A way to study integer solutions to diophantine equations is by looking at the reduction of the equation modulo prime numbers. It follows from this idea that it is possible to study rational points on a variety by looking at their image in the p-adic points. During this talk, I will give an overview of this strategy and explain the role that cohomological obstructions play.

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Claudio Meggio

Universitetet i Oslo

An introduction to reinforcement learning using "Connect 4" as case study

After briefly introducing the field of Reinforcement Learning and its mathematical formalism, I will explain Q-learning, one of the most famous model-free algorithms as well as its "deep" version developed at Deep Mind. I will then present a case study which shows why the Reinforcement Learning problem is drastically harder in the multi-agent case compared to the classical single agent case, even when the multi-agent system is a simple zero-sum game with only 2 agents. In particular, I will explain how I applied some variants of Q-learning algorithms to the game of Connect 4 showing, as one might expect, that Independent Q-learning leads to instability, while minimax-Q converges to the optimal minimax strategy.

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Thursday, April 21 – at 15:30 CET

The seminar will be held both in presence in A208 room (Povo 1) and online via Zoom.