



Seminar/Talk

Computations of the slice genus and the unknotting number of links via machine learning

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Host: Tamas Hausel

Links are disjoint unions of circles smoothly embedded in the 3-sphere. I will explain how we used reinforcement learning and Bayesian optimisation to obtain new upper bounds on several link invariants that are not known to be algorithmically computable: the slice genus and the unknotting number for links, and the strong slice genus for algebraically split links. I will also discuss lower bounds using known invariants. Combining the upper and lower bounds, we obtain new exact values in many cases. Our unknotting agents can reproduce the non-additivity of the unknotting number for several counterexamples due to Brittenham and Hermiller, in some cases finding new unknotting trajectories. This is joint work with Yutong Dai, Oliver Hayman, and Ludovico Morellato.

Thursday, October 22, 2026 01:15pm - 03:30pm

Office Bldg West / Ground floor / Heinzel Seminar Room (I21.EG.101)



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

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