

Freitag, 12.06.26 10:30-11:30, Seminarraum 2 (Raum 204)

Marc Kegel (Sevilla)

Algorithms in 4-manifold topology

Abstract: In this talk, we will survey an old theorem of Markov stating that there exist 4-manifolds that are algorithmically unrecognizable, in a sense that will be made precise during the talk. We will then discuss recent work showing that there exists an algorithm that takes as input two closed, simply connected, topological 4-manifolds and decides whether or not these 4-manifolds are homeomorphic.

This second result is joint work with Stefan Bastl, Rhuaidi Burke, Rima Chatterjee, Subhankar Dey, Alison Durst, Stefan Friedl, Daniel Galvin, Alejandro García Rivas, Tobias Hirsch, Cara Hobohm, Chun-Sheng Hsueh, Frieda Kern, Shun Ming Samuel Lee, Clara Löh, Naageswaran Manikandan, Léo Mousseau, Lars Munser, Mark Pencovitch, Patrick Perras, Mark Powell, José Pedro Quintanilha, Lisa Schambeck, David Suchodoll, Martin Tancer, Annika Thiele, Paula Truöl, Matthias Uschold, Simona Veselá, Melvin Weiß, and Magdalena von Wunsch-Rolshoven.