Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG

Fakultät für
Mathematik, Informatik
und Naturwissenschaften

Kolloquium über Reine Mathematik

Einladung zu einem Vortrag

Dienstag, 3. Mai 2022

17 Uhr, Geom H4

Dr. Claudius Zibrowius
(Universität Regensburg)

Title:
Conway mutation, Khovanov homology, and Fukaya categories

Abstract:
Knot theory is currently undergoing the same transformative process that algebraic topology went through about 80 years earlier: Just like Noether (and others) in the 1920s replaced the Euler and Betti numbers by homology groups, Khovanov, Ozsváth-Szabó, and Rasmussen around 20 years ago initiated the programme of categorification in low-dimensional topology, replacing basic numerical and polynomial knot invariants by knot homology groups.

In recent years, it has become clear that relative versions of these new homology theories can often be understood via Fukaya categories of simple surfaces. I will discuss why this new perspective is useful, focussing on a very concrete motivating example, namely the behaviour of Khovanov homology under Conway mutation. This is joint work in progress with Liam Watson and Artem Kotelskiy.

Vor dem Vortrag (ab 16.30 Uhr) stehen im Foyer vor Hörsaal H4 Kaffee und Tee bereit.