Habilitation

Fachbereich Mathematik und Informatik

E I N L A D U N G

zum Habilitationsvortrag

Im Rahmen seines Habilitationsverfahrens wird

Herr Dr. Jean-Philippe Labbé

am **Freitag**, d. **12. Juni 2020**

um **10:00 Uhr** via WebEx

einen Vortrag über das Thema:

Jones Unknotting Conjecture

halten.

Der Vortrag wird ca. 45 Minuten dauern (Zusammenfassung s.u.).

Die Universitätsöffentlichkeit ist dazu herzlich eingeladen.

gez. Prof. Dr.-Ing. R. Klein

Dekan des FB Mathematik und Informatik

Abstract:
Temperley and Lieb presented a transfer-matrix approach to study problems related to the study of percolation and coloring problems on an infinite 2-dimensional lattice. They noted that the transfer matrices respected a certain list of relations, which led to the introduction and study of the so-called Temperley--Lieb algebras. Temperley--Lieb algebras are intimately related to knot theory. The Jones polynomial of a knot can be derived from a representation of the braid group into the Temperley-Lieb algebra, the so-called Burau representation. The "Jones unknotting conjecture" states that Jones polynomials distinguish the unknot from nontrivial knots. In this talk, we will introduce Jones polynomials through Temperley-Lieb algebras and describe a current program that aims to find a nontrivial knot with a trivial Jones polynomial through Burau's unfaithful representation.