



## Kolloquium über Reine Mathematik

Einladung zu einem Vortrag

**Dienstag, 25. April 2023**

17 Uhr, Geom H4

**Prof. Dr. Julia Plavnik**  
(Indiana University)

**On the classification of modular categories**

Abstract:

Modular categories are intricate organizing algebraic structures appearing in a variety of mathematical subjects including topological quantum field theory, conformal field theory, representation theory of quantum groups, von Neumann algebras, and vertex operator algebras. They are fusion categories with additional braiding and pivotal structures satisfying a non-degeneracy condition. The problem of classifying modular categories is motivated by applications to topological quantum computation as algebraic models for topological phases of matter.

In this talk, we will start by introducing some of the basic definitions and properties of fusion, braided, and modular categories, and we will also give some concrete examples to have a better understanding of their structures. I will give an overview of the current situation of the classification program for modular categories and mention some open directions to explore.

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