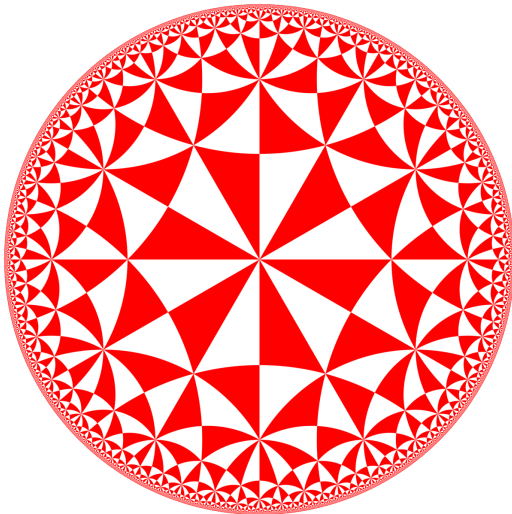


Friday 9 June 2023 at 14:15

FU Berlin, Computer Science Building, Room T9.028

Tea & Cookies starting at 13:00!

© Tom Ruen

Sven Raum

(U Potsdam)

Operator algebraic group theory

Operator algebras were introduced almost 90 years ago by Francis Murray and John von Neumann in order to create a mathematical formalism for quantum mechanics and a framework to study unitary representation theory of groups. In view of their origin, operator algebras and group theory always enjoyed a close interaction. For example, in one direction, groups provide examples, such as in McDuff's work 1969 exhibiting infinitely many pairwise non-isomorphic, infinite dimensional, simple operator algebras, which solved a 30-year old problem of the time. In the other direction, work of Mackey and Glimm from the 1950s and 1960s used operator algebraic language in order to describe groups whose representation theory is fully determined by irreducible representations, which at least in principle can be classified.

This talk is an invitation to modern aspects of the interaction of group theory and operator algebras. It focuses on simplicity and decomposition results for various algebras arising from groups and their interpretation in representation theoretic terms.

Sven Raum is professor for algebra at the University of Potsdam. After his PhD at KU Leuven in 2013, he held postdoctoral scholarships at ENS Lyon, RIMS (Kyoto University) and the University of Münster before he was appointed inducteur at EPFLausanne in 2016. He became associate professor at Stockholm University in 2018 and assumed his present position in April 2023. ▲