

Einladung

# Würzburger Mathematisches Kolloquium

Julius-Maximilians-Universität Würzburg • Institut für Mathematik

## Anton Freund

Julius-Maximilians-Universität Würzburg – Antrittsvorlesung

# Infinitary Methods in Combinatorics – a Logical Analysis

**Dienstag, 23. April 2024 • 13:15 Uhr**

Lecture Hall (Raum 00.006) • Graduate School of Life Sciences (Beatrice-Edgell-Weg 21, 97074 Würzburg)

Der Vortrag wird auch Zoom-Meeting übertragen: [go.uni-wue.de/ifmcolloquium-zoom](https://go.uni-wue.de/ifmcolloquium-zoom)

**Abstract.** Mathematical logic uses formal methods to investigate what can be computed, defined and proved in various settings. In addition to the intrinsic intellectual interest, this leads to applications such as ultrafilter constructions in algebra or the extraction of bounds in analysis. The present talk explores the role of infinitary methods in combinatorics. In particular, we show that very complex countable sets (akin to Borel sets of high rank) must appear in all proofs of certain theorems about finite orders (related to the notion of better-quasi-order).

