



universität  
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Fakultät für Mathematik

## Mathematisches Kolloquium

Mittwoch, 11. März 2020

Sky Lounge

### EINLADUNG

**Martin Goldstern & Jakob Kellner**

(TU Wien)

„Cichoń’s Maximum“

## „Cichoń’s Maximum“

### **Abstract:**

*In 1877, Cantor conjectured the so-called Continuum Hypothesis (CH), namely, that there are only two possible "sizes" or "cardinalities" of infinite sets of real numbers: Countable, or "continuum", i.e. equinumerous with the whole real line.*

*We now know that CH can neither be proved nor refuted from ZFC, the usual "axioms of mathematics".*

*Since then, several concrete uncountable cardinalities of size at most continuum have been defined,*

*motivated by questions in measure theory or*

*analysis, such as "How many real numbers do you need to get a non-measurable set"?*

*Cichoń's Diagram contains the twelve most important of these cardinalities and describes the relations between them.*

*Two of them turn out to be provably equal to others.*

*In a recent paper (joint with Saharon Shelah) we show that all remaining ten entries of this diagram can simultaneously take ten different values.*

**15.45 Uhr: Kaffeejause**

**16.15 Uhr: Vortrag**

**vinum cum pane im Anschluss**

Roland Donninger  
Christian Krattenthaler