Institut für Analysis und Zahlentheorie

Mathematisches Kolloquium

25.10.2019, 14:00 (13:30 Buffet vor dem HS)

HS BE01, Steyrergasse 30, EG

Cichoń's Diagram and the cardinality of the continuum

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Cichoń's Diagram describes a partial order between 10 uncountable cardinals, among them cov(null), the smallest number of Lebesgue null sets needed to cover all real numbers, or non(meager), the smallest cardinality of a non-meager set (=set of second category), as well as aleph1 (smallest uncountable cardinal) and c (the cardinality of R, the set of all real numbers). In 1963, Paul Cohen invented the method of quot;forcingquot; and used it to show the unprovability of Cantor's Continuum Hypothesis, or in other words: that the continuum does not necessarily have cardinality aleph1. It is still open which values the other cardinal's in Cichoń's Diagram may take, but in a recent paper (with Jakob Kellner and Saharon Shelah) we could for the first time construct a set-theoretic universe in which all cardinals in Cichoń's Diagram have different values. I will talk a bit about the cardinals in Cichoń's Diagram and hint at the methods which allow us to control/manipulate their values.

R. Tichy