Berlin Mathematical School

BMS Friday Colloquium

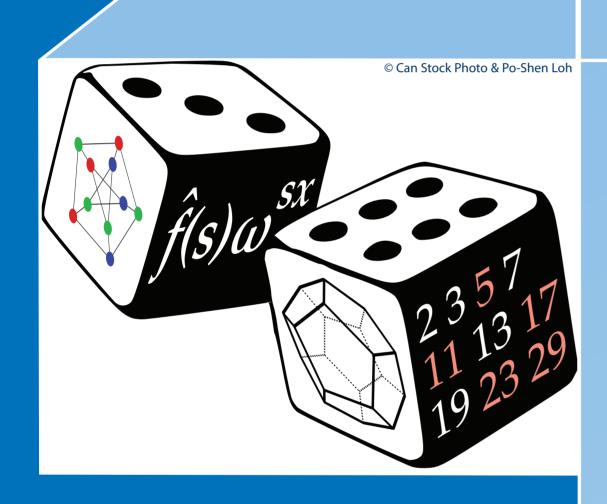## Friday 23 January 2015 at 14:15
Tea & Cookies starting at 13:00

ZIB Hörsaal, Takustr. 7, 14195 Berlin Dahlem

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Angelika Steger
(*ETH Zürich*)

The Determinism of Randomness and its Use in Combinatorics

Many areas of science, most notably statistical physics, rely on the use of probability theory to explain key phenomena.

In her talk, Steger will explore the role of probability in combinatorics. More precisely, the aim of this talk is to cover a wide range of topics which illustrates the various roles that probability plays within combinatorics: from just providing intuition for deterministic statements, like Szemerédi's regularity lemma or the recent container theorems, to statements about random graphs with structural side constraints, all the way to neuroscience.

Angelika Steger is a professor of computer science at ETH Zürich and her research interests include graph theory, combinatorics and randomized algorithms. Steger completed her doctorate in 1990 and habilitation in 1994 at U Bonn. She then held positions at U Kiel and U Duisburg before accepting a professorship at TU München in 1996. Steger has been a full professor at the Institute of Theoretical Computer Science at ETH Zürich since October 2003. From 2005 to 2013, she served on the board of the research council of the Swiss National Science Foundation and she was elected member of the German Academy of Sciences Leopoldina in 2007. In 2014, she was invited to give a talk at the International Congress of Mathematicians in Seoul, Korea.

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