



## Mathematics and CS Seminar

# Ramsey properties of random graphs

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A basic result of probabilistic combinatorics, originally due to Erdős and Rényi, is the determination of the threshold at which the random graph  $G_{n,p}$  contains a triangle with high probability. But one can also ask more refined versions of this question, where we ask not just for one triangle but for many triangles which interact in complicated ways. For example, what is the threshold at which we can no longer partition  $G_{n,p}$  into two triangle-free subgraphs? Such questions are the subject of Ramsey properties of random graphs, and a very general conjecture of Kohayakawa and Kreuter predicts an answer to all such questions. In this talk, I will discuss the history of these problems, and present recent progress which proves the Kohayakawa-Kreuter conjecture in almost all cases. Joint work with Eden Kuperwasser and Wojciech Samotij.

**Wednesday, November 8, 2023 01:00pm - 02:15pm**

Mondi Seminar Room 3, Central Building



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