ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

INVITATION TO THE DOCTORAL SEMINAR

Forcing Graphs to be Forcing

Aldo Kiem | Zuse Institut Berlin

Chaired by Daniel Brosch | Department of Mathematics

Wednesday, 15 January 2025 | 10:45–11:30

N.1.44

ABSTRACT

Sidorenko's conjecture and its strengthening, the Forcing Conjecture, is a long-standing open conjecture in graph theory. We bring new insights to this by connecting graph theoretic operations like products, blow-ups and subdivisions to order-preserving operators on graph algebras. This allows us to obtain new results about forcing graphs and forcing pairs. For example, we can easily prove that hypercubes are forcing graphs. Our methods are very much inspired by connections to basic notions of category theory. This is joint work with Olaf Parczyk and Christoph Spiegel. The talk will assume no familiarity with graph theory, graph algebras or category theory.

We hope to see you there!