Analysis Seminar

Title: Unique continuation from singular hypersurfaces

Speaker: Josef Eberhard Greilhuber (Stanford University)

Date: Tue 27th January 2026 at 3:00PM

Location: E0.32 (beside Pi restaurant)

Abstract: Given a subset of Euclidean space, one may ask for the space of harmonic functions which vanish on it. It turns out that in dimensions three and higher, there exist sets for which this space may be non-trivial but finite-dimensional. The prototypical example of such a set is a hypersurface with a conical singularity. We will also discuss the quantitative analogue of this problem: suppose a harmonic function on the unit ball is small on a hypersurface with conical singularity, can one estimate its supremum over the whole unit ball? This question turns out to be linked to a Diophantine approximation problem.

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