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# Kolloquium über Mathematische Statistik und Stochastische Prozesse

## Moritz Otto

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### 10.06.2025, 16:15 Uhr, Geom Hörsaal H5

## *Central limit theorems for linear eigenvalue statistics of random spatial networks*

**Abstract:**
In this talk, I will discuss central limit theorems for linear eigenvalue statistics of adjacency and Laplacian matrices for different models of random geometric networks built on an underlying Poisson point process. The first model comprises a broad family of stabilizing networks that are of interest in computational geometry, such as Delaunay triangulations and Gabriel graphs. The second model is the random connection model, where edges are put independently between points with a distant-dependent probability. In the first part, I will consider polynomial test functions. If time permits, I will thereafter explain which additional difficulties occur when general test functions are considered. The talk is based on an ongoing collaboration with Christian Hirsch (Aarhus) and Kyeongsik Nam (Seoul).

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