Einladung

Würzburger Mathematisches Kolloquium

Julius-Maximilians-Universität Würzburg • Institut für Mathematik

Siva Athreya

International Centre for Theoretical Sciences–TIFR, Bengaluru, India

Interplay of Vertex and Edge Dynamics for Dense Random Graphs

Dienstag, 8. Juli 2025 • 14:15 Uhr

Seminarraum SE41 • Humboldt-Bau (Emil-Fischer-Straße 41, 97074 Würzburg)

Der Vortrag wird auch als Zoom-Meeting übertragen: go.uniwue.de/ifmcolloquium-zoom

Abstract. The large population limits of voter model in homogeneous populations, on lattices and on general fixed graphs are quite well understood. We consider a process where the graph itself is dynamic and changes in response to the voter model process, thus creating interaction between the two.

More precisely, we consider a dense random graph in which the vertices can hold opinion 0 or 1 and the edges can be closed or open. The vertices update their opinion at a rate proportional to the number of incident open edges, and do so by adopting the opinion of the vertex at the other end. The edges update their status at a constant rate, and do so by switching between closed and open with a probability that depends on their status and on whether the vertices at their ends are concordant or discordant. We understand the large n limit of this co-evolution and describe the limiting evolution.

This is joint work with Frank den Hollander and Adrian Roellin.