

DISCRETE AND CONTINUUM MODELS OF NETWORK DYNAMICS AND PROCESSES ON NETWORKS

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ABSTRACT

This minisymposium will bring together researchers studying dynamic processes on networks using both discrete and continuum approaches. Networks serve as fundamental models in diverse fields, from biology and epidemiology to social sciences and engineering. Discrete models capture fine-scale structure and individual interactions, while continuum models offer analytical tractability and insight into large-scale behavior. The interplay between these modeling paradigms is critical for understanding diffusion, synchronization, control, and other complex dynamics. The minisymposium aims at showcasing recent theoretical advances, computational techniques, and applications in various disciplines. Particular emphasis will be placed on bridging discrete and continuum perspectives, identifying unifying principles, and exploring multi-scale modeling strategies. The session will foster interdisciplinary dialogue and highlight challenges and opportunities in modeling real-world networked systems.