

JSAC - CALL FOR PAPERS

Stochastic Geometry and Random Graphs for Wireless Networks

Stochastic geometry and the theory of random geometric graphs have emerged as essential tools in the analysis and design of wireless communication networks such as cellular, ad hoc, and sensor networks. In the last decade, these techniques have led to important results and insights such as the connectivity, capacity, and vulnerability of wireless networks, and the coverage of sensor networks. Specifically, point process theory, percolation theory, and probabilistic combinatorics were instrumental in recent breakthroughs.

The aim of this issue is to bring together state-of-the-art research contributions that tackle problems in communication networks using probabilistic combinatorics, geometric probability, and the theory of random graphs — in conjunction with the established techniques from information, communication, and queueing theories. While papers that are of primarily mathematical interest will be considered, the main focus of the issue is on applications of these techniques to real-world communication systems.

The proposed JSAC issue seeks original research papers that use techniques from stochastic geometry and random graphs to address problems in areas including (but not limited to) the following areas:

- Point process models
- Dynamic graph models
- Mobility models
- Interference characterization
- Combinations with information theory
- Spatial and frequency reuse
- Flooding techniques
- Impact of path loss models
- Percolation and connectivity
- Capacity of wireless networks
- Transient behavior of networks
- Propagation delay characterization
- Combinations with queueing theory
- Navigation in random graphs
- Cognitive radio and spectrum sharing
- Extension to non-Poisson models

Prospective authors should follow the IEEE JSAC manuscript format described in the Information for Authors at <http://www.jsac.ucsd.edu/Guidelines/info.html>. Authors should submit a PDF version of their complete manuscript to <http://edas.info> according to the following timetable:

Manuscript Submission:	August 15, 2008
First Round of Reviews:	December 15, 2008
Revised Versions Due:	January 31, 2009
Acceptance Notification:	March 15, 2009
Final Manuscript Due:	April 15, 2009
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