



Institute for Computational and Experimental Research in Mathematics

SEMESTER PROGRAM: SPRING 2014

Network Science and Graph Algorithms February 3, 2014 - May 9, 2014

Organizing Committee:

Andrea Bertozzi, University of California, Los Angeles
Jonathan Kelner, Massachusetts Institute of Technology
Philip Klein, Brown University
Claire Mathieu, CNRS/Ecole Normale Supérieure/Brown University
David Shmoys, Cornell University
Eli Upfal, Brown University

Description:

The study of computational problems on graphs has long been a central area of research in computer science. However, recent years have seen qualitative changes in both the problems to be solved and the tools available to do so. Application areas such as computational biology, the web, social networks, and machine learning give rise to large graphs and complex statistical questions that demand new algorithmic ideas and computational models. A wide variety of techniques are emerging for addressing these challenges: from semidefinite programming and combinatorial preconditioners.

Workshops:

- Semidefinite Programming and Graph Algorithms (February 10-14, 2014)
- Stochastic Graph Models (March 17-21, 2014)
- Electrical Flows, Graph Laplacians, and Algorithms: Spectral Graph Theory and Beyond (April 7-11, 2014)
- Eigenvectors in Graph Theory and Related Problems in Numerical Linear Algebra (May 5-9, 2014)

Research Clusters:

- Geometric Analysis Methods for Graph Algorithms (February 3-28, 2014)
- Graphs with Incomplete Information (February 17-March 14, 2014)
- Towards Efficient Algorithms Exploiting Graph Structure (April 24-May 2, 2014)



Program details:
<http://icerm.brown.edu>

About ICERM: The Institute for Computational and Experimental Research in Mathematics is a National Science Foundation Mathematics Institute at Brown University in Providence, Rhode Island. Its mission is to broaden the relationship between mathematics and computation.

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