

# New Mathematical Frontiers in Network Multi-Resolution Analysis

● November 17 – 21, 2008

**ORGANIZING COMMITTEE:** **Robert Calderbank** (Princeton University), **Anna Gilbert** (University of Michigan), **Peter Jones** (Yale University), **Steven Low** (California Institute of Technology), **Mauro Maggioni** (Duke University), **Matthew Roughan** (University of Adelaide), **Denis Zorin** (New York University)

## ● Scientific Overview

This workshop will bring together researchers in mathematics, computer science, electrical engineering, and statistics to develop new mathematical foundations in network-centric multiresolution analysis and to explore and define new mathematical or algorithmic techniques in network MRA. These techniques include methods of analysis, representation, and synthesis of large networks, as well as visualization, analysis, and representation of network measurements.

Some of the speakers will be 'practitioners' or representatives from industry with both experience and applications, who will address situations in which novel mathematical techniques are necessary and are already being developed in a real-world setting. Other speakers will be academic researchers at the forefront of foundational research.

## ● Confirmed Speakers

**Robert Calderbank** (Princeton University), **Lawrence Carin** (Duke University), **Augustin Chaintreau** (Thomson Paris Research Laboratory), **Mung Chiang** (Princeton University), **Mark Coates** (McGill University), **Christophe Diot** (Institut National de Recherche en Informatique Automatique (INRIA)), **Petros Drineas** (Rensselaer Polytechnic Institute), **Anna Gilbert** (University of Michigan), **Peter Jones** (Yale University), **Steven Low** (California Institute of Technology), **Mauro Maggioni** (Duke University), **Matthew Roughan** (University of Adelaide), **Raanan Schul** (University of California, Los Angeles (UCLA)), **Kevin Tang** (Cornell University), **Patrick Thiran** (Ecole Polytechnique Federale de Lausanne (EPFL)), **Dahai Xu** (AT&T Technologies, Engineering Research Center), **Yin Zhang** (University of Texas at Austin)

## ● Long Program Schedule

- Tutorials, September 8 – 12, 2008
- Workshop 1: Multiscale Representation, Analysis and Modeling of Internet Data and Measurements, September 22 – 26, 2008
- Workshop 2: Applications of Internet Multi-Resolution Analysis to Cyber-Security, October 13 - 17, 2008
- Workshop 3: Beyond Internet Multi-Resolution Analysis : Networks of Networks, November 3 - 7, 2008
- **Workshop 4: New Mathematical Frontiers in Network Multi-Resolution Analysis, November 17 - 21, 2008**
- Culminating Workshop at Lake Arrowhead Conference Center, December 8 - 12, 2008

## ● Participation

Additional information about this workshop including links to register and to apply for funding, can be found on the webpage listed below. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission, and we welcome their applications.

● [www.ipam.ucla.edu/programs/mrows4](http://www.ipam.ucla.edu/programs/mrows4)



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