

Workshops IV: New Mathematical Frontiers in Network Multi-Resolution Analysis

Monday November 17, 2008

- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–10:00 **Anna Gilbert** (University of Michigan)
The Very Small World of the Well-connected
- 10:00–10:15 *Break*
- 10:15–11:15 **Matthew Roughan** (University of Adelaide)
Bigfoot, Sasquatch, the Yeti and Other Missing Links: What We Don't Know About the AS Graph.
- 11:15–11:30 *Break*
- 11:30–12:30 **Mauro Maggioni** (Duke University)
Multiscale analysis on graphs
- 12:30–2:00 *Lunch (on your own)*
- 2:00–3:00 **Petros Drineas** (Rensselaer Polytechnic Institute)
Randomized Algorithms for Linear Algebraic Computations and Applications to Network Analysis
- 3:00–3:30 *Break*
- 3:30–4:30 **Yin Zhang** (University of Texas at Austin)
Interference-Aware Wireless Network Optimization
- 4:30–6:00 *Poster Session & Reception (Hosted by IPAM)*

Tuesday November 18, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–10:00 **Denis Zorin** (New York University)
Kernel-independent fast multipole method and its applications
- 10:00–10:15 *Break*
- 10:15–11:15 **Mark Coates** (McGill University)
Efficient Network-wide Available Bandwidth Estimation through Active Learning and Belief Propagation
- 11:15–11:30 *Break*

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- 11:30–12:30 **Dahai Xu** (AT&T Labs-Research)
On the optimality of link-state routing protocols
- 12:30–2:00 *Lunch (on your own)*
- 2:00–3:00 **Jonathan Mattingly** (Duke University)
The spread of randomness through dimensions
- 3:00–3:30 *Break*
- 3:30–4:30 **Chuanyi Ji** (Georgia Institute of Technology)
Learning for Heterogeneous Networks: Hierarchical Modeling, Analysis and Management

Wednesday November 19, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–10:00 **Daniel Rubenstein** (Columbia University)
Ultra-low Power Message Summarization
- 10:00–10:15 *Break*
- 10:15–11:15 **Ramesh Govindan** (University of Southern California (USC))
Rate control for multi-hop wireless networks
- 11:15–11:30 *Break*
- 11:30–12:30 **Mung Chiang** (Princeton University)
Random Access Can Be Optimal
- 12:30–2:00 *Lunch (on your own)*
- 2:00–3:00 **Kevin Tang** (Cornell University)
Queue Dynamics with Window Flow Control
- 3:00–3:30 *Break*
- 3:30–4:30 **Steven Low** (California Institute of Technology)
Reverse Engineering TCP/IP-like Networks using Delay-Sensitive Utility Functions

Thursday November 20, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–10:00 **Patrice Abry** (École Normale Supérieure de Lyon)
Revisiting an old friend: On the observability of the relation between Long Range Dependence and Heavy Tail
- 10:00–10:15 *Break*

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- 10:15–11:15 **Pierre Borgnat** (École Normale Supérieure de Lyon)
Multiresolution and random projections for Internet traffic characterization and anomaly detection
- 11:15–11:30 *Break*
- 11:30–12:30 **Nick Feamster** (Georgia Institute of Technology)
Detecting and Diagnosing Network Performance Degradations with Statistical Methods
- 12:30–2:00 *Lunch (on your own)*
- 2:00–3:00 **Lawrence Carin** (Duke University)
Exploiting Structure in Wavelet-Based Compressive Sensing
- 3:00–3:30 *Break*
- 3:30–4:30 **Patrick Thiran** (École Polytechnique Fédérale de Lausanne (EPFL))
Locating IP congested links with unicast probes

Friday November 21, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–10:00 **Augustin Chaintreau** (Thomson Paris Research Laboratory)
Exploiting Mobility for Opportunistic Communication
- 10:00–10:30 *Break*
- 10:30–11:30 **Raanan Schul** (University of California, Los Angeles (UCLA))
Multi-resolution Analysis, the Traveling Salesman problem, and Data Parameterization.
- 11:30–11:45 *Break*
- 11:45–12:45 **John Doyle** (California Institute of Technology)

