

**Short Course: Sparse Representations and High Dimensional Geometry : In conjunction with the AMS 2007 Von Neumann Symposium**

**Wednesday May 30, 2007**

- 8:00–8:45 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:45–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **Joel Tropp** (University of Michigan)  
*An Introduction to Matching Pursuits: Lecture I*
- 9:50–10:00 *Break*
- 10:00–10:50 **Joel Tropp** (University of Michigan)  
*An Introduction to Matching Pursuits: Lecture II*
- 10:50–11:20 *Break*
- 11:20–12:10 **Joel Tropp** (University of Michigan)  
*An Introduction to Matching Pursuits: Lecture III*
- 12:10–2:00 *Lunch (on your own)*
- 2:00–2:50 **Roman Vershynin** (University of California, Davis (UC Davis))  
*Analysis of Random Measurements: Lecture I*
- 2:50–3:20 *Break*
- 3:20–4:10 **Roman Vershynin** (University of California, Davis (UC Davis))  
*Analysis of Random Measurements: Lecture II*
- 4:10–4:20 *Break*
- 4:20–5:10 **Roman Vershynin** (University of California, Davis (UC Davis))  
*Analysis of Random Measurements: Lecture III*
- 5:15–7:00 *Reception (Location: IPAM Lobby)*

**Thursday May 31, 2007**

- 8:00–9:00 *Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Anna Gilbert** (University of Michigan)  
*What makes sublinear algorithms so fast? Lecture I*
- 9:50–10:00 *Break*

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- 10:00–10:50 **Anna Gilbert** (University of Michigan)  
*What makes sublinear algorithms so fast? Lecture II*
- 10:50–11:00 *Break*
- 11:00–11:50 **Anna Gilbert** (University of Michigan)  
*What makes sublinear algorithms so fast? Lecture III*
- 12:00–1:00 *Lunch (on your own)*
- 1:00–1:50 **Michael Mahoney** (Yahoo! Research)  
*Randomized algorithms for optimization, learning, and data*
- 1:50–2:00 *Break*
- 2:00–2:40 **Michael Mahoney** (Yahoo! Research)  
*Randomized algorithms for optimization, learning, and data*
- 2:40–2:50 *Break*
- 2:50–3:40 **Jared Tanner** (University of Utah)  
*Convex Relaxation and Polytopes: Lecture I*
- 3:40–3:50 *Break*
- 3:50–4:40 **Jared Tanner** (University of Utah)  
*Convex Relaxation and Polytopes: Lecture II*
- 4:40–4:50 *Break*
- 4:50–5:40 **Jared Tanner** (University of Utah)  
*Convex Relaxation and Polytopes: Lecture III*

## Friday June 1, 2007

- 8:00–9:00 *Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Justin Romberg** (Georgia Institute of Technology)  
*Uncertainty Principles and Sparse Recovery: Lecture I*
- 9:50–10:00 *Break*
- 10:00–10:50 **Justin Romberg** (Georgia Institute of Technology)  
*Uncertainty Principles and Sparse Recovery: Lecture II*
- 10:50–11:20 *Break*

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- 11:20–12:10 **Justin Romberg** (Georgia Institute of Technology)  
*Uncertainty Principles and Sparse Recovery: Lecture III*
- 12:10–2:00 *Lunch (on your own)*
- 2:00–2:50 **Jing Zou** (University of Maryland)  
*The Super Fast Sparse Fourier Algorithms: Lecture I*
- 2:50–3:00 *Break*
- 3:00–3:50 **Jing Zou** (University of Maryland)  
*The Super Fast Sparse Fourier Algorithms: Lecture II*
- 3:50–4:20 *Break*
- 4:20–5:10 **Bedros Afeyan** (Polymath Research, Inc.)  
*Exploiting Sparsity While Extracting Morphological Diversity in Physics and Technology*
- 5:10–12:00 *Conclusion*

