

## Multiscale Geometric Analysis: Theory, Tools, and Applications

### Monday January 13, 2003

- 8:30–9:30 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:30–10:30 **David Donoho** (Stanford University)
- 10:30–11:00 *Break*
- 11:00–12:00 **Peter Jones** (Yale University)  
*Some Results in Multiscale Geometry and Dimensional Reduction*
- 12:00–1:30 *Lunch (on your own)*
- 1:30–2:30 **Guy David** (Universite de Paris-Sud)  
*Hausdorff dimension of uniformly non flat sets with some topology*
- 2:30–3:00 *Break*
- 3:00–4:00 **Gilad Lerman** (New York University/Courant Institute of Mathematical Sciences)
- 4:00–4:30 *Break*
- 4:30–5:30 **Xiaoming Huo** (Georgia Institute of Technology)
- 5:30–7:00 *Wine/Cheese Reception (Hosted by IPAM)*

### Tuesday January 14, 2003

- 9:00–9:30 *Continental Breakfast*
- 9:30–10:30 **Ronald Coifman** (Yale University)  
*Harmonic analysis on data sets*
- 10:30–11:00 *Break*
- 11:00–12:00 **Emmanuel Candes** (California Institute of Technology)
- 12:00–1:30 *Lunch (on your own)*
- 1:30–2:30 **Gerald Kaiser** (Virginia Center for Signals and Waves)  
*Pulsed-beam wavelets and their sources*
- 2:30–3:00 *Break*

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- 3:00–4:00     **Alexander Ramm** (Kansas State University)  
*Random fields estimation and related numerical problems*
- 4:00–4:30     *Break*
- 4:30–5:30     **Achi Brandt** (Weizmann Institute of Science)  
*Multiscale Image Processing: From Segmentation to Recognition*

### Wednesday January 15, 2003

- 9:00–9:30     *Continental Breakfast*
- 9:30–10:30    **Hagit Hel-or** (University of Haifa)  
*Real Time Pattern Matching Using Projection Kernels*
- 10:30–11:00   *Break*
- 11:00–12:00   **Guillermo Sapiro** (University of Minnesota)  
*Distance functions on noisy point clouds*
- 12:00–1:30    *Lunch (on your own)*
- 1:30–2:30     **Gabor Herman** (CUNY)  
*Blob-Representation Of Multidimensional Objects And Surfaces*
- 2:30–3:00     *Break*
- 3:00–4:00     **Michael Elad** (Stanford University)  
*Sparse Representations and the Basis Pursuit Algorithm*
- 4:00–4:30     *Break*
- 4:30–5:30     **Christoph Thiele** (UCLA)  
*Multiscale Methods in Scattering*

### Thursday January 16, 2003

- 9:00–9:30     *Continental Breakfast*
- 9:30–10:30    **Jean-Luc Starck** (CEA Saclay, France)  
*Galaxy Distribution Analysis by 3D Multiscale Methods*
- 10:30–11:00   *Break*

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- 11:00–12:00 **Olivier Forni** (Universite Paris-Sud, France)  
*Multiscale analysis of the Cosmic Microwave Background (CMB)*
- 12:00–1:30 *Lunch (on your own)*
- 1:30–2:30 **Hart Smith** (University of Washington)  
*Wave equations with low regularity metrics*
- 2:30–3:00 *Break*
- 3:00–4:00 **Boris Rubin** (Hebrew University, Jerusalem, Israel)  
*Ridgelet transforms on spaces of constant curvature*
- 4:00–4:30 *Break*
- 4:30–5:30 **Agnes Desolneux** (CNRS, France)  
*Detection of geometric structures in an image by Helmholtz principle*
- 5:30–7:00 *Dinner (Hosted by IPAM)*

### Friday January 17, 2003

- 9:00–9:30 *Continental Breakfast*
- 9:30–10:30 **Minh Do** (University of Illinois at Urbana-Champaign)  
*A Filter Bank Approach for Directional Multiresolution Image Representations*
- 10:30–11:00 *Break*
- 11:00–12:00 **Ery Arias-Castro** (Stanford University)  
*Connect-the-Dots*
- 12:00–1:30 *Lunch (on your own)*
- 1:30–2:30 **Ofer Levi** (Stanford University)  
*Multi-scale Geometric Tools for Three Dimensional Images*
- 2:30–3:00 *Conclusion*

