MGA Program Tutorials: Two Sessions

Wednesday September 8, 2004

6:00	*Wavelet Constructions*
8:30–9:15	*Check-In/Light Breakfast (Hosted by IPAM)*
9:15–9:30	*Welcome and Opening Remarks*
9:30–10:30	**Jan-Olov Strömberg** (KTH (Royal Institute of Technology), Stockholm) *Continuous and discrete wavelet transforms*
10:30–11:00	*Break*
11:00–12:00	**Jan-Olov Strömberg** (KTH (Royal Institute of Technology), Stockholm) *Wavelet packets*
12:00–1:30	*Lunch (on your own)*
1:30–2:30	**David Donoho** (Stanford University) *Tilings and wave packets*
2:30–3:00	*Break*
3:00–4:00	**David Donoho** (Stanford University) *Mathematical inspirations/recent developments*
4:00–6:00	*Wine/Cheese Reception (Hosted by IPAM)*

Thursday September 9, 2004

6:00	*Wavelet Applications*
9:00–9:30	*Check-In/Light Breakfast (Hosted by IPAM)*
9:30–10:30	**Francois Meyer** (University of Colorado) *Image Compression*
10:30–11:00	*Break*

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11:00–12:00 **Naoki Saito** (University of California at Davis)
Feature extraction, noise removal

12:00–1:30 *Lunch (on your own)*

1:00 *Multiscale Analysis*

1:30–2:30 **Christoph Thiele** (UCLA)
Problems in multiscale analysis I

2:30–3:00 *Break*

3:00–4:00 **Christoph Thiele** (UCLA)
Problems in multiscale analysis II

Friday September 10, 2004

6:00 *Geometric Multiscale Constructions*

9:00–9:30 *Check-In/Light Breakfast (Hosted by IPAM)*

9:30–10:00 **Xiaoming Huo** (Georgia Institute of Technology)
Beamlets, wedglets, etc.

10:00–10:30 **Michael Wakin** (Rice University)
Beamlets, wedglets, etc.

10:30–11:00 *Break*

11:00–12:00 **Emmanuel Candes** (California Institute of Technology)
Curvelets, etc. I

12:00–1:30 *Lunch (on your own)*

1:30–2:30 **Emmanuel Candes** (California Institute of Technology)
Curvelets, etc. II

2:30–3:00 *Break*

3:00–4:00 **Naoki Saito** (University of California at Davis)
Geometric tilings

Saturday September 11, 2004

6:00	*Applications*
9:00–9:30	*Check-In/Light Breakfast (Hosted by IPAM)*
9:30–10:30	**Ery Arias-Castro** (Stanford University) *Detection problems*
10:30–11:00	*Break*
11:00–12:00	**Richard Baraniuk** (Rice University) *Image Compression*
12:00–1:00	*Lunch (on your own)*
1:00–2:00	**Jean-Luc Starck** (CEA Saclay, France) *Image Enhancement, Geometric Separation I*
2:00–2:30	*Break*
2:30–3:30	**Jean-Luc Starck** (CEA Saclay, France) *Image Enhancement, Geometric Separation II*
3:30–4:00	*Break*
4:00–5:00	**Laurent Demanet** (California Institute of Technology) *Curvelets and Wave Equations*

Monday September 13, 2004

6:00	*Geometric Analysis/Harmonic Analysis*
9:00–9:30	*Check-In/Light Breakfast (Hosted by IPAM)*
9:30–10:30	**Peter Jones** (Yale University) *Beta Constuction Operators on curves and beta I*
10:30–11:00	*Break*
11:00–12:00	**Peter Jones** (Yale University) *Beta Constuction Operators on curves and beta II*
12:00–1:30	*Lunch (on your own)*
1:30–2:30	**Assaf Naor** (Microsoft Research) *Embedding of metric spaces in R^n*
2:30–3:00	*Break*
3:00–4:00	**Hart Smith** (University of Washington) *Parabolic scaling and beyond in analysis*

Tuesday September 14, 2004

6:00	*Geometric Analysis/Harmonic Analysis*
9:00–9:30	*Check-In/Light Breakfast (Hosted by IPAM)*
9:30–10:30	**Terence Tao** (UCLA) *Problems in multiscale analysis III*
10:30–11:00	*Break*
11:00–12:00	**Jean-Luc Starck** (CEA Saclay, France) *Astronomical Image Processing*
12:00–1:00	*Lunch (on your own)*
1:00–2:00	**Gregory Beylkin** (University of Colorado) *Operators and Fast Algorithms*
2:00–2:30	*Break*
2:30–3:30	**Gregory Beylkin** (University of Colorado) *Unequally spaced FFT and fast Radon transform as applied to seismic migration and imaging*
3:30–4:00	*Break*
4:00–5:00	**David Donoho** (Stanford University) *Selecting Sparse Representations From Overcomplete Representations*

Wednesday September 15, 2004

6:00	*Multiscale Analysis and Applications*
9:00–9:30	*Continental Breakfast*
9:30–10:30	**Ronald Coifman** (Yale University) *Geometric harmonic analysis I*
10:30–11:00	*Break*
11:00–12:00	**Ronald Coifman** (Yale University) *Geometric harmonic analysis II*
12:00–1:00	*Lunch (on your own)*
1:00–2:00	**Felix Herrmann** (University of British Columbia, Vancouver) *Seismic imaging using curvleets*
2:00–2:30	*Break*

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2:30–3:30 **Francois Meyer** (University of Colorado)
Seismic data compression

3:30–4:00 *Break*

4:00–5:00 **Naoki Saito** (University of California at Davis)
Multiscale problems in geophysics

5:00 *Conclusion*