



Institute for Pure and Applied Mathematics
University of California, Los Angeles presents

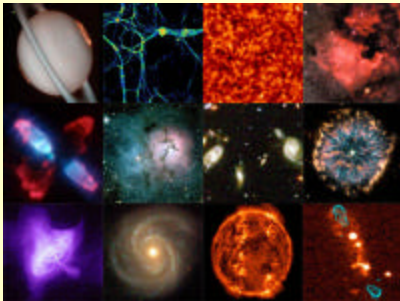
Multiscale Geometry and Analysis in High Dimensions

Workshop I: Multiscale Geometry in Image Processing and Coding

September 20 – 24, 2004

Members of the Organizing Committee include **Francois Meyer** (University of Colorado) (Chair), **Jean-Luc Starck** (CEA, Saclay), **Stephane Mallat** (Ecole Polytechnique), and **Naoki Saito** (UC Davis)

Workshop I: Multiscale Geometry in Image Processing and Coding is part of an active program of research activities, seminars and workshops throughout the **September 7 - December 17, 2004** period and core participants will be in residence at IPAM continuously for these thirteen weeks. The program will open with tutorials, and will be punctuated by 5 major workshops and a culminating workshop at UCLA's Lake Arrowhead Conference Center. Several distinguished senior researchers will be in residence for the entire period. Between the workshops there will be a program of activities involving the long-term and short-term participants, as well as visitors.



Scientific Overview:

Understanding the geometry of object boundaries has long played an important role in the literature of **image processing**. Also, multiscale thinking has been very important in understanding statistics of natural images. Hence, the importance of geometry and multiscale thinking is well-established. Recently, a wide range of more explicit interactions between multiscale methods and geometry have been developed, bearing names like bandelettes, curvelets, warplets, wedgelets, contourlets, ridgelets and beamlets.

In this workshop, we will gather together experts in these multiscale techniques, along with image analysis and image processing experts having cognate interests.

Semester Program Schedule:

- Tutorials:** September 8 – 11: September 13-15, 2004
- ? **Workshop 1: September 20 – 24: Multiscale Geometry in Image Processing and Coding**
- Workshop 2:** October 19 – 23: Multiscale Geometry in Scientific Computing
- Workshop 3:** October 25 – 29: Multiscale Structures in the Analysis of High-Dimensional Data
- Workshop 4:** November 8 – 12: Multiscale Geometric Methods in Astronomical Data Analysis
- Workshop 5:** November 15 – 19: Mathematical Analysis and Multiscale Geometric Analysis

Participation:

Financial support for this workshop is available for participants at all academic levels, and recent PhD's, graduate students, and researchers in the early stages of their career are especially encouraged to apply. An online application for support is available at <http://www.ipam.ucla.edu/programs/mgaws1>. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission and we welcome their applications. Applicants who are interested in becoming core participants and participating in the semester program (September 7 - December 17, 2004) should apply at <http://www.ipam.ucla.edu/programs/mga2004>.

Please visit our website at

<http://www.ipam.ucla.edu/programs/mgaws1>

or email questions to mgaws1@ipam.ucla.edu

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