



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

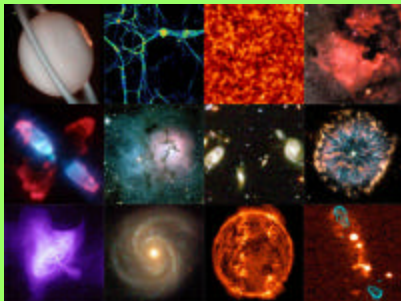
Multiscale Geometry and Analysis in High Dimensions

Workshop V: Math Analysis and Multiscale Geometric Analysis

November 15-19, 2004

Members of the Organizing Committee include **Peter Jones**, Chair (Yale), **Hart Smith** (University of Washington), **Terence Tao** (UCLA) and **Christoph Thiele** (UCLA)

Workshop V: Math Analysis and Multiscale Geometric Analysis 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:

This workshop will explore several developing areas of mathematical analysis where geometry and multiscale analysis intersect. On the one hand, we will explore recent progress in multiscale geometric representations of operators, such as wave and other hyperbolic operators, and also various multilinear operators such as those associated with 3-point correlation functions; emphasizing recent results that show sparse representations of such operators by curvelets (parabolic scaling-based decompositions). On the other hand, there has recently been a great deal of progress in the areas of Analytic Capacity and Kakeya sets. We will gather experts in these and related areas to discuss recent advances and open problems.

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/mgaws5>. 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/mgaws5>

or email questions to mgaws5@ipam.ucla.edu

IPAM is an NSF funded Institute