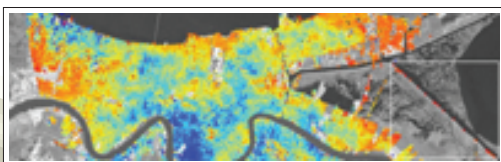


Waves and Imaging

University of British Columbia, Vancouver, Canada

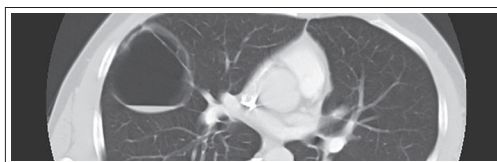
The 2011 Gene Golub SIAM Summer School is the second in a new yearly series of SIAM summer schools on applied and computational mathematics, for graduate students worldwide. The 2011 G2S3 is a satellite event of ICIAM 2011, the International Congress on Industrial and Applied Mathematics, taking place on July 18-22, 2011, in Vancouver.



Radar Imaging

Margaret Cheney

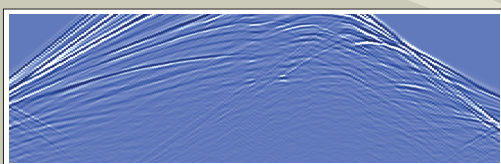
Rensselaer Polytechnic Institute



Computerized Tomography

Frank Natterer

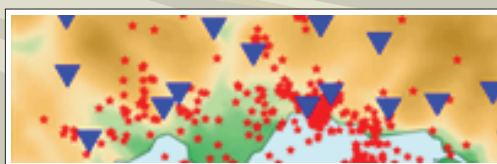
WWU Muenster



Seismic Imaging

Laurent Demanet

Massachusetts Institute of Technology



Imaging in Random Media

Josselin Garnier

Paris VII (Jussieu)

These mini-courses will cover the mathematical underpinnings common to most wave-based imaging modalities, such as wave scattering, integral geometry of Radon and generalized Radon transforms, and statistical stabilization techniques. The computer labs will introduce the participants to various imaging routines in an integrated manner: matched filtering, filtered backprojection, adjoint-state methods, and correlation-based methods. A goal of the summer school is to lead the participants to appreciate the myriad of research-level questions left open in mathematics, numerical methods, and practical applications of imaging with waves.

The summer school targets mathematics graduate students with interests in computational mathematics, partial differential equations, numerical methods, statistical signal processing, image processing, inverse problems, or compressed sensing. Graduate students from engineering, geophysics and other departments who have affinities with mathematics are also strongly encouraged to apply. There is a limit of 50 participating students. There will be no registration fee. Funding for local accommodation and/or local expenses will be available for some of the participants. Limited travel funds may also be available. See the guidelines on how to apply. The application deadline is February 1, 2011.

Note that this is not a conference or a workshop. Participation in the summer school is restricted to students who are currently working toward a M.S., Ph.D., or equivalent degree.