

## Geometrically Based High Frequency Wave Methods with Applications

Wednesday April 18, 2001

- 8:30–9:00 *Registration*
- 9:00–9:10 **Eitan Tadmor** (UCLA / University of Maryland)  
*Welcome*
- 9:10–10:00 **Bjorn Engquist** (UCLA)  
*Tutorial I. Geometrical Optics, Computations and Applications*
- 10:00–11:00 **James Ralston** (UCLA)  
*Tutorial II. On the Gaussian Beam Approximation, Part I: Gaussian Beam Approximations for Initial Value Problems for Hyperbolic Systems*
- 11:00–11:30 *Break*
- 11:30–12:30 **Eric Michielssen** (University of Illinois)  
*Plane Wave Time Domain Algorithms: Extension to Lossy and Two-Dimensional Environments*
- 12:30–2:00 *Lunch (on your own)*
- 2:00–3:00 **Kenneth Karlsen** (University of Bergen, Norway)  
*A fast marching method for reservoir simulation*
- 3:00–3:30 *Break*
- 3:30–4:30 **John Hunter** (University of California at Davis)  
*Nonlinear geometrical optics*
- 4:30–5:00 *Break*
- 5:00–6:00 *Dinner (Hosted by IPAM)*

Thursday April 19, 2001

- 9:00–10:00 **James Ralston** (UCLA)  
*Tutorial III. On the Gaussian Beam Approximation, Part II: Gaussian Beams Approximations for Resonances*
- 10:00–11:00 **Bjorn Engquist** (UCLA)  
*Tutorial IV. Geometrical Optics, Computations and Applications*
- 11:00–11:30 *Break*

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- 11:30–12:30 **Clifford Nolan** (Rensselaer Polytechnic Institute)  
*On the role of Fourier integral operators with singular symbols in high-frequency imaging*
- 12:30–2:00 *Lunch (hosted by IPAM)*
- 2:00–3:00 **Ludek Klimes** (Charles University, Prague)  
*Meaning and calculation of travel times*
- 3:00–4:00 **Lambare Gilles** (École des Mines de Paris)  
*Locally coherent events in seismic imaging*
- 4:00–4:30 *Break*
- 4:30–5:30 **Olof Runborg** (Princeton University)  
*High Frequency Wave Propagation by the Segment Projection Method*

### Friday April 20, 2001

- 9:00–10:00 **Jean-David Benamou** (INRIA Sophia Antipolis)  
*Caustic localization and Multi-valued Solution of the Eikonal equation*
- 10:00–11:00 **John Steinhoff** (University of Tennessee, Space Institute)  
*Computation of Short Wave Equation Pulses using a New Method - Dynamic Surface Extension*
- 11:00–11:30 *Break*
- 11:30–12:30 **Hongkai Zhao** (University of California at Irvine)  
*Time reversal acoustics and its applications*

