

## Material Interfaces and Geometrically Based Motions

**Monday April 23, 2001**

- 8:30–9:20 *Registration*
- 9:20–9:30 **Eitan Tadmor** (UCLA / University of Maryland)  
*Introduction*
- 9:30–10:30 **Dimitri Vvedensky** (Imperial College, London, UK)  
*Interface Motion in Epitaxial Phenomena*
- 10:30–11:00 *Break*
- 11:00–12:00 **Peter Smereka** (University of Michigan)  
*Computations of Polycrystals with Applications to Thin Films*
- 12:00–2:00 *Lunch (on your own)*
- 2:00–3:00 **Robert Kohn** (New York University)  
*A new approach to the continuum modeling of epitaxial growth*
- 3:00–4:00 **Weinan E** (Princeton University)  
*Thermally Activated Switching of Magnetic Thin Films*
- 4:00–4:30 *Break*
- 4:30–5:30 *Dinner (Hosted by IPAM)*

**Tuesday April 24, 2001**

- 9:30–10:30 **Jerry Tersoff** (IBM)  
*Mathematical models and physical mechanisms of epitaxial growth*
- 10:30–11:00 *Break*
- 11:00–12:00 **Christian Ratsch** (UCLA)  
*The Level-Set Method for Modeling Epitaxial Growth*
- 12:00–2:00 *Lunch (on your own)*
- 2:00–3:00 **Alain Karma** (Northeastern University)  
*Phase-Field Modeling of Solidification Patterns*
- 3:00–4:00 **Mark Gyure** (HRL Laboratories)  
*Recent Theoretical Advances in Semiconductor Epitaxy: Modeling the Evolution of Complex Surfaces*
- 4:00–4:30 *Break*

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4:30–5:30     **Aaron (Nung Kwan) Yip** (Purdue University)  
*Continuum Limits of Step Flow Models*

### Wednesday April 25, 2001

9:30–10:30    **David Srolovitz** (Princeton University)  
*Domain Wall Migration in the Presence of Diffusing Impurities*

10:30–11:00   *Break*

11:00–12:00   **Nigel Goldenfeld** (University of Illinois)  
*Phase Field Models, Adaptive Mesh Refinement and Level Sets for Solidification Problems*

12:00–2:00    *Lunch (on your own)*

2:00–5:00     *Social Activity*

### Thursday April 26, 2001

9:30–10:30    **Herbert Levine** (University of California at San Diego)  
*Phase Field Approach For Mode III Dynamic Fracture*

10:30–11:00   *Break*

11:00–12:00   **JianJun Xu** (McGill University)  
*Interfacial Wave Theory Of Dendritic Growth—Global Instability And Limiting-State Selection*

12:00–2:00    *Lunch (hosted by IPAM)*

2:00–3:00     **Michael Ortiz** (California Institute of Technology)

3:00–4:00     **Per Arne Rikvold** (Florida State University)  
*Analytic approximation for the velocity of field-driven Ising and SOS interfaces*

4:00–4:30     *Break*

4:30–5:30     **Guanshui Xu** (University of California at Riverside)  
*Modeling 3D Surfaces of Displacement Discontinuity in General Elastic Solids*

## Friday April 27, 2001

- 9:30–10:30 **Horia Metiu** (UCSB)  
*Simulation of Coarsening of Adsorbate Islands on Free and Strained Surfaces*
- 10:30–11:00 *Break*
- 11:00–12:00 **John Helmsen** (Applied Materials)  
*Fast Level Sets in Photolithography and Plasma Etching*
- 12:00–12:00 *Conclusion*

