

Workshop III: Mesoscale and Continuum Scale Modeling of Materials Defects

Tuesday November 13, 2012

- 8:00–8:50 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:50–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **Peter Voorhees** (Northwestern University)
Computations and Experiments of Grain Evolution in Four Dimensions
- 10:00–10:15 *Break*
- 10:15–11:05 **Selim Esedoglu** (University of Michigan)
Threshold dynamics for the mean curvature motion of networks with unequal surface tensions.
- 11:15–11:30 *Break*
- 11:30–12:20 **Nele Moelans** (Katholieke Universiteit Leuven)
Quantitative phase-field modeling of grain growth and coarsening in polycrystalline alloys
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Martin Glicksman** (Florida Institute of Technology)
Bias Fields and Pattern Complexity
- 3:30–4:00 *Break*
- 4:00–4:50 **Hervé Henry** (École Polytechnique)
Study of crack instabilities using a phase field model
- 5:00–6:30 *Poster Session & Reception (Hosted by IPAM)*

Wednesday November 14, 2012

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Katayun Barmak** (Columbia University)
Grain Growth and Grain Growth Stagnation in Thin Metallic Films: Comparison of Experiments and Simulations
- 10:00–10:15 *Break*
- 10:15–11:05 **Maria Emelianenko** (George Mason University)
Mutiscale materials modeling: new takes on old problems
- 11:15–11:30 *Break*

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- 11:30–12:20 **Yekaterina Epshteyn** (University of Utah)
Microstructure, Coarsening, Entropy and the Grain Boundary Character Distribution
- 12:30–2:00 *Lunch (on your own)*
- 2:00–2:50 **Giacomo Po** (University of California, Los Angeles (UCLA))
Discrete Dislocation Dynamics in Micro and Nano Crystals
- 3:00–3:15 *Break*
- 3:15–4:05 **Kuo-An Wu** (National Tsing Hua University)
Atomistic Modeling of Materials Defects Using Phase Field Crystal Approach
- 4:15–4:30 *Break*
- 4:30–5:20 **Yunzhi Wang** (Ohio State University Newark)
Microscopic Phase Field Model for Dislocation Core and Grain Boundary

Thursday November 15, 2012

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Jian Wang** (Los Alamos National Laboratory)
Multiscale Perspective of Understanding the Role of Interfaces in Solids
- 10:00–10:15 *Break*
- 10:15–11:05 **Yang Xiang** (Hong Kong University of Science and Technology)
A continuum model for dynamics of dislocation arrays and applications to low angle grain boundaries
- 11:15–11:30 *Break*
- 11:30–12:20 **Hussein Zbib** (Washington State University)
Multiscale Dislocation Plasticity: Discrete to Continuum
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Shlomo Ta'asan** (Carnegie-Mellon University)
Challenges in interpreting HEDM Data
- 3:30–4:00 *Break*
- 4:00–4:50 **Jaafar El-Awady** (Johns Hopkins University)
Multiscale Modeling of Size Effects in Single Crystals Metals

Friday November 16, 2012

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Dana Zoellner** (Otto-von-Guericke-Universität Magdeburg)
Unraveling the nature of grain boundary migration by Potts model simulations
- 10:00–10:15 *Coffee Break*
- 10:15–11:05 **Aaron (Nung Kwan) Yip** (Purdue University)
Crystalline Surface Diffusion
- 11:15–11:30 *Break*
- 11:30–12:20 **Matthew Elsey** (New York University)
Simulations of Polycrystalline Grain Growth with Unequal Surface Energies

