Center for Scientific Computation And Mathematical Modeling

University of Maryland, College Park

A Program Announcement

"Nonequilibrium Interface Dynamics: Theory and Simulation from Atomistic to Continuum Scales"

April 23 - 27, 2007

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INVITED PARTICIPANTS

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SCIENTIFIC BACKGROUND

The scientific understanding of nonequilibrium surface and interface dynamics in crystalline materials has become increasingly important. The past few years have witnessed the important role of applied mathematics in research on surface dynamics. Contributions from applied mathematics include rigorous derivation of analytical models, multiscale analysis, model reduction, the design of numerical techniques for very large systems etc. It is clear that this trend will continue. Precise mathematical concepts, quantitative mathematical theories, and innovative simulation techniques should continue to be developed for interfacial and surface properties in complex systems.
At the same time experimental techniques become more advanced. The motion of small defects can now be monitored quite precisely. The role of such defects in the macroscopic evolution of surfaces and interfaces can be demonstrated in the laboratory setting.

This program will bring together leading physicists, materials scientists, computational scientists, and applied mathematicians to: review the recent developments in research on materials surfaces and interfaces, from experimental highlights to theory to simulation; identify critical scientific issues in the understanding of the fundamental principles and basic mechanisms of interface and surface dynamics in crystalline systems far from equilibrium; accelerate the interaction of applied mathematics with physics and materials science, and promote highly interdisciplinary research on new materials interface and surface problems with emerging novel applications; develop and foster international collaborations; and initiate the training of research task force for the grand challenge in nanoscience.

This is the second CSCAMM workshop on this topic, following our Fall 2003 meeting.

A limited number of openings are available
To apply please RSVP at
http://www.cscamm.umd.edu/programs/nid07/

Additional information is posted at
http://www.cscamm.umd.edu/programs/nid07/
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