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NEBRASKA CENTER FOR MATERIALS AND NANOSCIENCE
2014 SEMINAR SERIES PRESENTS

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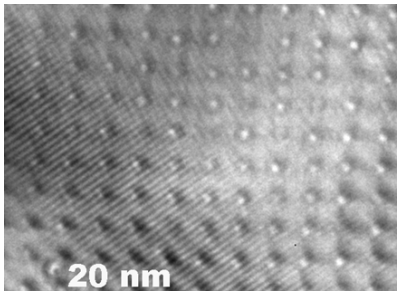
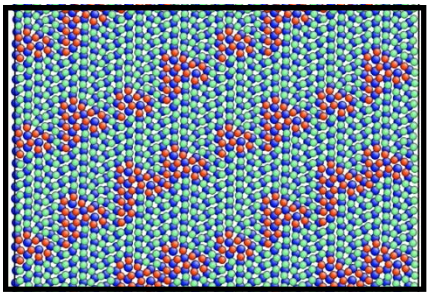
Prof. Michael Nastasi

Director, Nebraska Center for Energy Sciences Research
Elmer Koch Professor, Department of Mechanical and Materials Engineering, University of Nebraska-Lincoln

Extreme Irradiation Tolerant Materials via Atomic Scale Design of Nanostructure Interfaces





A major challenge to developing materials with radically extended performance limits at irradiation extremes will require designing and perfecting atom- and energy- efficient synthesis of revolutionary new materials that maintain their desired properties while being driven very far from equilibrium. A primary aspect associated with this challenge is to develop a fundamental understanding of how atomic structure and energetics of interfaces and surfaces contribute to defect and damage evolution in materials. To this end, recent experimental and modeling work has shown that interface structure influences hydrogen absorption as well as point defect recombination. This presentation will focus on these results and their implications.

Dr. Michael Nastasi is the Director of the Nebraska Center for Energy Sciences Research (NCESR) at the University of Nebraska-Lincoln (UNL). He is also the Elmer Koch Professor of Mechanical and Materials Engineering. Mike received his BS (1981), MS (1983) and PhD (1986) degrees from the Materials Science and Engineering Department at Cornell University. Prior to coming to UNL in January 2012, Mike was a Laboratory Fellow, staff scientist, and Director of the *Energy Frontier Research Center on Materials at Irradiation and Mechanical Extreme* at Los Alamos National Laboratory (1985 – 2011)

Mike's personal research interests include ion-solid interactions, irradiation induced phase transformations, ion irradiation and plasma modification of materials, ion beam analysis of materials, synthesis and properties of high strength nanolayered composites, and surface mechanical properties.

Wednesday, December 3, 4:00 pm
Room 136 Jorgensen Hall
3:45 pm—Refreshments served in Jorgensen Atrium area

Host:
Prof. Bai Cui
Department of Mechanical & Materials Engineering

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