

Computer Science Seminar Series, 2009

National Capital Region

From Atoms to Material Properties: Basic Physics in the Development of New Nano-materials

Speaker: Diana Farkas
Virginia Tech

Friday, October 9, 2009
1:00PM- 2:00PM, NVC 325

Abstract

This talk will discuss the basic techniques of multi-scale simulation at the atomic scale. The simulations start with a description of interatomic forces and utilize large scale parallel computing techniques to develop virtual testing of various materials with features at the nano scale. Examples will be presented of the use of these techniques in the understanding of hardness and fracture resistance of metallic materials with nano scale features.

Biography

Diana Farkas received a B.S. in Physics, Instituto de Física "J. A. Balseiro", Bariloche, Argentina, 1975 and a Ph.D., Applied Sciences in Metallurgy, University of Delaware. She also holds a M.S., Economics, Virginia Polytechnic Institute, on the impact of technology transfer to the steel industry. She joined the Materials Science and Engineering department in 1982. She has over 190 Publications. She has also held Visiting Positions in Mexico, Germany, Brazil, Argentina, and the International Centre for Theoretical Physics, Trieste, Italy. She was also Visiting Professor at Brown University and Massachusetts Institute of Technology. Her honors and awards include a Max Planck Fellowship, Fulbright Scholar, the Dean's Award for Excellence in Research, the Alumni Award for Research Excellence at Virginia Tech. She is a Fellow, American Society for Metals. Currently she is a Jefferson Science Fellow at the Department of State.