

"Computational Design and Modeling in Nanotechnology"

Young-Kyun Kwon
University of Massachusetts Lowell
YoungKyun_Kwon@uml.edu

ABSTRACT

Nanostructured materials, which are expected to be building blocks of future nanotechnology due to their low-dimensionality and unique physical properties, display a wide spectrum of unusual phenomena.

Advanced theoretical and computational physics allows us to predict various properties of nanostructured materials, to understand unknown phenomena observed, and to design potential applications in nanotechnology. I will present some of results and demonstrate that our computational studies can be directly related to applications in nanotechnology, for example, nanotube-based memory devices, hydrogen storage materials, and various device/sensor platforms.