

MECHANICS OF NANOSTRUCTURED MATERIALS

I-LING CHANG^{*}, TAKAYUKI KITAMURA[‡], TAKAHIRO SHIMADA[‡], CHUIN-SHAN D. CHEN[†]

^{*}Department of Mechanical Engineering, National Cheng Kung University
No. 1 University Road, Tainan, 701 Taiwan
ilchang@mail.ncku.edu.tw

[‡]Department of Mechanical Engineering and Science, Kyoto University
C3, Kyoto Daigaku Katsura, Nishikyo-ku, Kyoto, 615-8246 Japan
kitamura@kues.kyoto-u.ac.jp
shimada@me.kyoto-u.ac.jp

[†]Department of Civil Engineering, National Taiwan University
No. 1, Sec. 4, Roosevelt Road, Taipei, 10617 Taiwan
dchen@ntu.edu.tw

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ABSTRACT

This symposium aims to provide a forum for international researchers, specializing in computational materials/mechanics, to exchange research results in modeling and simulation of microscopic behaviors of nanostructured materials. The modeling and simulation approaches of interest include quantum mechanics calculations, molecular dynamics simulations and continuum calculations. The nanostructured materials can be individual nanomaterials, such as nanowires and nanotubes, or integrated nanostructures, such as nanograined films and nanocomposites.

Targeted Themes

Specific topics of interest are, but not limited to:

- Elastic/plastic deformation and fracture mechanisms of nanoscale materials
- Dynamic or extraordinary behaviors of nanostructured materials
- Energy transport mechanisms in nanostructured materials
- Multiscale, multiphysics modeling approaches

- Quantification of uncertainties and margins in computational analysis
- Experimental approaches for model verification and simulation validation