

Special Issue on Nanomaterials and Nanomechanics

The behavior of materials at the nanoscale and the behavior of nanocomponents such as nanowires and nanotubes have been subjects of increasing research in recent years. The idea of dedicating a special issue of the *Journal of Engineering Materials and Technology* (JEMT) to original research on nanomaterials and nanomechanics was conceived in 2003 and the project began in 2004. The objective is to provide a survey of current research activities and compile a collection of some of the latest research results.

All papers contained in this issue are invited. A wide range of topics in numerical modeling, theoretical development, and experimental analysis are covered, including the mechanical and tribological behavior of carbon nanotubes, transformation-induced novel effects and behavior in metallic nanowires, constitutive theory based on atomistic potentials, behavior of nanocomponents and thin films, nanoscale interfacial effects, strain effects on quantum dot patterning, nonlocal effects at the nanoscale, coupled atomistic and continuum models, determination of continuum properties using atomistic models, and nanoscale surface phenomena. The research reported in the papers is truly interdisciplinary and reflects the converging trend of what are regarded as traditionally physics approaches and traditionally mechanics approaches in materials research.

I would like to thank the authors for their enthusiastic responses to my invitation and for contributing their high-quality work to this special issue. The papers are peer-reviewed following standard JEMT criteria. I owe a special note of gratitude to reviewers who contributed their time in the review process of these papers. Their timely responses are greatly appreciated. Their comments and opinions have been valuable to me and have contributed to enhancing the quality of the issue. I wish to thank Huseyin Sehitoglu, Technical Editor of JEMT, for the opportunity to pursue this project. Finally, I hope this issue proves to be worthwhile for the authors and to be of great interest to readers of JEMT.

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