# CALL FOR AUTHORS

## *BIO- AND NANO- MEDICAL DEVICES AND MATERIALS*

## *CONCISE MONOGRAPH SERIES*

Invitation

Authors are welcomed from a broad range of **science and engineering disciplines**; in academia, research institutions or industry, who are involved in the conception, design, development, analysis and operation of biomedical and biotechnological systems, materials and applications are invited to contribute.

New type of publication

ASME Press, which is the book publishing imprint of the American Society of Mechanical Engineers, is planning a new series of **concise** (50-100 pages) monographs related to Bio- and Nano- Medical Devices and Materials. This is a new publishing approach that will contain elements of both a traditional book series and a periodical publication. http://www.asmepress.org/.

A minimum of 40 concise monographs is planned for the series, and each book volume will be issued as available, until the entire series is completed. Customers may "subscribe" to the entire series collection in advance, purchase each volume individually, or purchase the entire series as a collection upon completion. Each book will be available in a softcover, printed edition, as well as in eBook formats. The series will be co-published with Momentum Press, to maximize international and electronic distribution.

Each monograph will be similar to an expanded journal article or technical paper, with the addition of applications or industry-related content, such as case studies. Sources for these concise monographs may include previously published journal articles, conference papers, and even book chapters. The books will aim to provide a mixture of theoretical and practical content that will appeal to engineers in both academia and industry.

Series Editor

Ahmed Al-Jumaily, Professor of Biomechanical Engineering & Director of the Institute of Biomedical Technologies, Auckland University of Technology.

Submission

To submit a proposal for consideration, please send an outline or extended abstract, along with a relevant writing sample (e.g. recent journal article), your current C.V. with publishing history and list of potential reviewers to: Dr. Nigel Hollingworth, commissioning editor at bionano.asme@gmail.com.

Proposals and manuscripts will be subject to peer-review and acceptance for publication is based on approval of both.

Author benefits

Published authors will receive an honorarium, plus choice of PDF of the published work or printed copies. Books will be submitted to the Thomson Reuters *Book Citation Index* an integral part of *Web of Science* for comprehensive visibility, citation indexing and metrics of published content.

# *BIO- AND NANO- MEDICAL DEVICES AND MATERIALS*

Scope

This **concise** monograph series focuses on the implementation of various engineering principles in the conception, design, development, analysis and operation of biomedical, biotechnological and nanotechnology systems and applications. Authors are encouraged to submit their work in the following particular

areas:

## 1. BIOMEDICAL AND BIOTECHNOLOGY

This includes but not limited to:

- Trauma Analysis
- Vibration and Acoustics in Biomedical Applications
- Innovations in Processing, Characterization and Applications of Bioengineered Materials
- Viscoelasticity of Biological Tissues and Ultrasound Applications
- Dynamics, and Control in Biomechanical Systems
- Clinical Applications of Bioengineering
- Transport Phenomena In Biomedical Applications
- Computational Modeling and Device Design
- Safety and Risk Analysis of Biomedical Engineering
- Modeling and Processing of Bioinspired Materials and Biomaterials

## 2. NANOTECHNOLOGY

- **Bio Nano Materials**
  Topics covered: Self-assembly of bionanoparticles, Responsive bionanomaterials, Biomimetics bionanomaterials, Cellular & nanostructure material interactions, Interfaces & coatings for biotechnology applications, Cell supports & scaffolds, Nanoscale Lipid Assemblies, Modeling & simulation of bionanomaterials, Synthesis & application of novel bionanomaterials.

- **Nano Medical Sciences**
  Topics covered: Nanomedicine, Nanomedicine clinical trials, Nanotech for cellular & subcellular processes, Nanotech approaches to drug design, Modeling & simulation of biological systems, Protein-protein Interactions, Phage nanotechnology.

- **Materials for Drug & Gene Delivery**
  Biocompatible materials with nano-scale structure hold great promise as controlled release reservoirs for delivery of both small-molecule drugs and various classes of biomacromolecules, such as peptides, proteins, plasmid DNA and synthetic oligodeoxynucleotides. Topics covered: Targeting at Molecular, Cellular & Higher Levels, Novel Delivery Systems, Modes of Entry, Controlled Release Systems, Microcapsules, Liposomes, Polymer-based delivery systems, Antibody Targeting, Protein/Peptide Delivery, Pharmacodynamics, Nanomedicine clinical trials: challenges & results.

- **Nanotechnology for Central Nervous System**
  Nano-medicine - the interaction and integration of cells and tissues with engineered nanomaterials has significant potential in the diagnosis, monitoring and treatment of Central Nervous System (CNS) disorders. Topics covered: Nanomaterials for CNS regeneration, Nanoscale Visualization for CNS disorders, CNS drug delivery, Nano-neural interfaces Novel applications of nanotechnology for CNS diseases.

- **Nanomaterials & Living Systems Interactions**
  Investigating and understanding how nanomaterials interact within living systems (cells, tissues, organisms, humans) and understanding the mechanisms and spatiotemporal aspects of nanoparticle (NP) interactions with living systems. Topics covered: Mechanisms of NP uptake by cells, imaging approaches to monitor nanomaterials in cellular environments, NP-protein interactions & the development of biomolecule coronas, Mathematical modeling/simulation of NP impacts on living systems.

- **Biosensing, Diagnostics & Imaging**
  Topics covered: Nanoparticles in Imaging Technologies, Clinical/Health Applications, Defense Applications, and Environmental Applications

- **Cancer Nanotechnology**
  Topics covered: Cancer Diagnostics, Cancer Biomarkers, Cancer Immunotherapeutics, Cancer Ligands, and Drug Delivery

- **Micro & Nano Fluidics**
  Topics covered: Fluid Transport, Hydrophobic & Hydrophilic Filling & Dispensing, Flow, Dispersion & Mixing, Particle & Cell Transport, Electroosmosis /Electrophoresis, Micro Fluidic Devices, Nano Fluidic Devices, Bio Fluidic Devices; Fluidic Device Simulation

- **Environmental Health & Safety**
  Topics covered: Nanoparticle Biocompatibility & Toxicity, Neurotoxicity of Nanomaterials, Methods & Models for Nano Toxicity Screening, Nanoparticle release during the life cycle of consumer products & nanocomposites, EHS aspects of products containing Ag Nanoparticles, Societal perceptions of risk from nanotechnology, Interactions between nanomaterials & living systems

- **Soft Nanotechnology & Colloids**
  Many soft or fluid consumer products, such as foods, paint, lubricants, detergents, personal care products, and cosmetics, contain nanometer to micron scale structures. Topics covered**:** Applications of Colloidal Materials, Applications of Liquid Crystalline Materials, Microstructure design, Rheology & Nanorheology, Emulsions & Nanoemulsions, Lipid Nanocapsules & Active Delivery, Food Nanostructure, Applications Cosmetics & Personal Care, Applications in Optics & Photonics, Modeling Soft Nanostructured Materials.