BIO, NANO AND MICRO MECHANICS AND MATERIALS

TRACK NUMBER (1100)

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Key words: Bio Mechanics, Nano Mechanics, Micro Mechanics, Materials

ABSTRACT

Simulation-Based Engineering Science (SBES) is playing an increasingly important role in
the evolution of global economy. In particular, computational efforts in bio nano and micro
mechanics and materials have found their way into biomedical and modern engineering
applications, such as MEMS devices and energetic composite systems for alternative energy
sources. The new generation of bio materials has unique structures and properties, and could
revolutionize not only the medical practice in particular but also the life science and
engineering in general. Understanding the behavior of bio, nano and micro systems is of great
scientific interest and technological importance, which requires concurrent development of
experiments, theory, modeling, and simulation. The aim of this mini-symposium is to provide
an exposition of the current state of the art on model-based simulation of diverse responses of
bio, nano and micro systems. We particularly welcome contributions highlighting the
integration of modeling, simulations, and experiments in bio, nano and micro mechanics and
materials with applications. Presentations are solicited in all the subtopics related to bio, nano
and micro mechanics and materials in SBES.