

**Minisymposium Title**

Computational Mechanics for Nano-/Bio-Structures and Materials in Engineering Applications

**Description**

The past decade has witnessed exciting advances in the understanding of mechanical behaviors of synthetic and biological materials with low-dimensional and nanoscale building blocks, which demonstrate great potential in a wide range of engineering applications in the energy, environment and biomedical industry. Their rational design within the space of microstructural hierarchy and complexity urges the development of novel theoretical frameworks and advanced computational methods. Promising achievements have been made by bridging the atomic description of materials and continuum-level structural analysis, as well as a wide variety mesoscale approaches such as dislocation dynamics, coarse-graining, front-tracking and event-driven models. This symposium will focus on the research in computational mechanics for nano- and bio-structures and materials, including but not limited to carbon nanostructures, two-dimensional materials, biopolymers and their composites, to represent the cutting-edge multidisciplinary research across multiple length and time scales.

**Lead Organizer:**

Prof. Shu-Wei Chang, Department of Civil Engineering, National Taiwan University, TAIWAN

Email: [changsw@ntu.edu.tw](mailto:changsw@ntu.edu.tw)

Prof. Zhiping Xu, Department of Engineering Mechanics, Tsinghua University, Beijing, CHINA

Email: [xuzp@tsinghua.edu.cn](mailto:xuzp@tsinghua.edu.cn)

**Co-organizers:**

Prof. Chuin-Shan David Chen, Department of Civil Engineering, National Taiwan University, TAIWAN

Email: [dchen@ntu.edu.tw](mailto:dchen@ntu.edu.tw)