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Call for Papers

Special Section on Nanomechanics and Micromechanics



Aims & Scope

The *Journal of Engineering Mechanics* (JEM) is the prime venue for Mechanics as related to Civil Engineering in the largest sense. It has been so for more than 60 years, and is currently experiencing an all-time high in terms of contemporary impact metrics. Through the inauguration of a permanent Section on Nanomechanics and Micromechanics, the journal continues its path toward lasting impact, while emphasizing its role as the key scientific home for breakthrough discoveries at the crossroads of physics and engineering enabled through mechanics.

Established as a distinct Section of JEM, the Section on Nanomechanics and Micromechanics is designed for engineering mechanics and physics contributions that derive value and impact from the microscopic and nanoscopic scales, while blurring the traditional boundaries of engineering mechanics and statistical physics. By doing so, the Section is expected to infuse concepts of theoretical and applied (statistical) physics into the rich language of engineering mechanics. The Section will be the intellectual home for engineers to venture into physics, and for physicists to venture into engineering. The Section is expected to open new venues for unprecedented methodological discussions, enabling the identification of strength and limitations of engineering theories based upon fundamental principles of physics; and vice versa new insight into nanoscale phenomena through application of engineering principles. It recognizes that there are open fundamental scientific questions in the molecular-to-continuum transition region (such as the relation between the continuum contact force leading to the stress tensor, and energetical concepts from molecular and coarse-grained levels), and that there is an urgent need to identify the precise semantic overlaps between continuum mechanics and statistical physics and chemistry (e.g. “the microscale” in continuum mechanics actually refers to the “mesoscale” in statistical physics). As such, the section aims at keeping the Civil Engineering community at the very forefront of the most exciting current scientific developments.

In this spirit, we invite engineers and scientists embracing the above vision to submit their latest work in the field to the novel Section on Nanomechanics and Micromechanics of the *Journal of Engineering Mechanics*.

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Submission Guidelines

This is an ongoing call. We invite all types of papers that fall into the aims and scope of the section as described in this call for papers. Article type descriptions (including length limits) and preparation guidelines can be found in "Publishing in ASCE Journals: A Guide for Authors" (<https://ascelibrary.org/doi/book/10.1061/9780784479018>). Authors should follow the guidelines for ASCE journal submission and submit manuscripts electronically through the *Journal of Engineering Mechanics* Editorial Manager website: <https://www.editorialmanager.com/jrnemeng/>

When submitting, authors should indicate in the submission questions that the paper is being submitted in response to this call for papers (Nanomechanics/Micromechanics Special Section) and the Special Section Editors names (Hellmich and Pellenq).

Please note that this is an invitation to submit papers for peer review and does not imply acceptance for publication. Acceptance of submitted papers depends on the results of the normal refereed peer review process of the journal. We will make every effort for a rapid review process.

All accepted papers submitted through this solicitation will be published in regular issues of the journal as they are accepted, and they will be added to a special online section and will be indexed for citations like other regular journal papers of JEM.