

NEW JOURNAL EXTREME MECHANICS LETTERS

A fractal nano-truss made by the Greer group at Caltech

EXTREME MECHANICS

LETTERS

ASSOCIATE EDITORS:

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"THERE IS AN URGENT NEED FOR A FORUM THAT FACILITATES. **RAPID COMMUNICATION OF NEW CONCEPTS, COMPLEX** PHENOMENA, AND NOVEL TOOLS IN MECHANICS, WHICH CAN BE ACHIEVED WITH SHORT, LETTER-SIZED ARTICLES." SAID PROFESSOR HSIA. "THE EXISTING MECHANICS JOURNALS OFTEN FAVOR LONG FORMAT, WITH RELATIVELY LONG TURNAROUND TIME, AND CANNOT FULLY SERVE THE **COMMUNITY'S NEEDS."**

The launch of this new journal is driven primarily by rapid advances at the forefront of applied sciences, such as: micro and nanotechnologies, biotechnologies, soft materials, smart sensing/ actuation, manufacturing, device fabrication, many of them depend heavily on mechanics tools.

Extreme Mechanics Letters will serve as forum for novel research featuring the important role of mechanics in interdisciplinary and multi-disciplinary areas across materials science, physics, chemistry, biology, medicine and engineering.

- Letter-sized articles
- Fast publication: 6-8 weeks publication time
- Interdisciplinary and multi-disciplinary

Extreme Mechanics Letters will be edited by three distinguished scientists who will jointly share the role of Editor-in-Chief:

DR. K. JIMMY HSIA, is W. Grafton and Lillian B. Wilkins Professor of Mechanical Science and Engineering, and of Bioengineering at the University of Illinois at Urbana-Champaign, USA

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EXTREME MECHANICS LETTERS

AIMS & SCOPE

Extreme Mechanics Letters (EML) enables rapid communication of research that highlights the role of mechanics in multidisciplinary areas across materials science, physics, chemistry, biology, medicine and engineering. Emphasis is on the impact, depth and originality of new concepts, methods and observations at the forefront of applied sciences.

EML publishes letter-sized articles, as well as invited reviews and articles on topics of special interest. The goal is to have the papers published online within 6-8 weeks upon submission.

EML covers experimental, theoretical, and computational mechanics of processes at all size and time scales. Of particular interest is the progress in mechanics that advances the fields of vital importance to the society, including, but not limited to, health science, energy systems, the environment, food and water, climate, and security.



EXTREMELY FAST EXTREMELY SMALL EXTREMELY LARGE EXTREMELY SOFT EXTREMELY HARD EXTREMELY NEW EXTREMELY USEFUL EXTREMELY INTERESTING

AMONG THE TOPICAL AREAS OF INTEREST ARE:

- Materials of extreme properties, such as exceptional hardness or softness
- Materials under extreme conditions, such as high temperature and high loading rate
- Stretchable, wearable, or implantable electronics for entertainment or healthcare
- Soft robots in manufacturing, surgery and assisted living
- Robots that crawl, run, swim or fly
- Biomimetics that perceive, act, learn and remember
- Active materials in response to mechanical, chemical, electrical, thermal stimuli
- Instability and large deformation in nature and engineering systems
- Force-induced configurational changes of proteins leading to cascades in cellular responses
- Deformation, transport and fracture in high-efficiency batteries
- Interfacial phenomena in interactions between fluids and solids, deformation and failure of materials, and processes of living cells
- Self-assembly of materials and devices
- Thin-membrane origami and kirigami
- Mechanics of 3D printing
- Materials and structures of hierarchical architectures
- Hybrid systems of air, liquids, and solids
- Earthquakes and hydraulic fracture
- Foldable, lightweight structures for space exploration

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