

Submission Deadline—August 14, 2020



CALL FOR PAPERS

Advanced Nanomechanical Testing

Small-scale mechanical characterization is essential for ensuring the service performance and lifetime of small components, such as thin films and coatings, electronic sensors, and MEMS. The first mechanical measurements on the submicrometer scale were enabled by the development of nanoindentation in the 1980s. *JMR* has long been the flagship journal for this field. In addition to countless contributed articles, previous Focus Issues published over the past two decades have disseminated the latest in method developments and trends in the field.

In addition to providing a long-expected update, this Focus Issue will expand the scope of nanomechanical testing methods beyond classical nanoindentation. Recent years have seen numerous attempts to access specific materials parameters and to better account for the typical operational conditions of the sample of interest. We therefore welcome contributions related to, but not limited to, focused ion beam (FIB) enabled methods, complex loading conditions, *in-situ* testing, and testing in extreme environments. Application of nanomechanical testing methods to new types of materials are also encouraged. This Focus Issue is a unique opportunity to highlight and share recent significant developments and achievements with the greater nanomechanics community.

Contributing papers are solicited in the following areas:

- ◆ Nanoindentation, micromechanical, and nanomechanical testing
- ◆ New developments, e.g., for the acquisition of the full stress-strain response
- ◆ Application to new types of materials
- ◆ Complex loading conditions (cyclic fatigue, fracture testing)
- ◆ Extreme testing environments (high and low temperatures, irradiation, high strain rates)
- ◆ *In-situ* testing (in scanning electron microscope, transmission electron microscope, or synchrotron)

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MANUSCRIPT SUBMISSION

To be considered for this issue, new and previously unpublished results or review articles significant to the development of this field should be presented. The manuscripts must be submitted via the *JMR* electronic submission system by August 14, 2020. Manuscripts submitted after this deadline will not be considered for the issue due to time constraints on the review process. Please select "Advanced Nanomechanical Testing" as the Focus Issue designation. **Note our manuscript submission minimum length of 3250 words, excluding figures, captions, and references, with at least 6 and no more than 10 figures and tables combined. Review articles may be longer but must be pre-approved by proposal to the Guest Editors via jmr@mrs.org. The proposal form and author instructions may be found at www.mrs.org/jmr-instructions.** All manuscripts will be reviewed in a normal but expedited fashion. Papers submitted by the deadline and subsequently accepted will be published in the Focus Issue. Other manuscripts that are acceptable but cannot be included in the issue will be scheduled for publication in a subsequent issue.

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Please direct questions to jmr@mrs.org

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The Society's interdisciplinary approach to the exchange of technical information is qualitatively different from that provided by single-discipline professional societies because it promotes technical exchange across the various fields of science affecting materials development. MRS sponsors two major international annual meetings encompassing many topical symposia, as well as numerous single-topic scientific meetings each year. It recognizes professional and technical excellence, conducts tutorials, and fosters technical exchange in various local geographical regions through Section activities and Student Chapters on university campuses.

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