

Submission Deadline—May 1, 2017



## Mechanical properties and microstructure of advanced metallic alloys—in honor of Prof. Hael Mughrabi

Understanding the correlation between the microstructure and the mechanical behavior of materials has always been one of the key challenges in materials science. This is the case in particular for cyclic deformation behavior, creep properties, and high temperature behavior. Recent years have seen significant progress in these fields through the widespread use of new microscopic techniques such as focused ion beam, high resolution TEM, nanomechanical testing approaches, atom probe microscopy, *in-situ* testing, and multiscale simulations.

Contributions by Prof. Hael Mughrabi, who will turn 80 in 2017, have been key to the development of these fields. His seminal contributions in understanding fatigue mechanisms and to the new field of very high cycle fatigue are particularly well-known. The fatigue behavior of ultrafine-grained materials was another focus of his interests. Mughrabi also made significant advances in the field of high temperature materials, where his work to an improved understanding of the influence of the lattice misfit and raft formation process. To honor Hael Mughrabi's long lasting contributions in materials research, manuscript submissions are invited particularly in the following fields:

- ◆ Cyclic deformation behavior and fatigue mechanisms including the VHCF regime
- ◆ Deformation behavior of high-temperature materials as for example TiAl alloys, Ni and Co-based superalloys and coatings
- ◆ Mechanical behavior of nano, ultrafine-grained, and nanolamellar materials

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To be considered for this issue, new and previously unpublished results significant to the development of this field should be presented. The manuscripts must be submitted via the *JMR* electronic submission system by **May 1, 2017**. Manuscripts submitted after this deadline will not be considered for the issue due to time constraints on the review process. **Submission instructions may be found at [www.mrs.org/jmr-instructions](http://www.mrs.org/jmr-instructions)**. Please select "Focus issue: *Mechanical properties and microstructure of advanced metallic alloys—in honor of Prof. Hael Mughrabi*" as the manuscript type. **Note our manuscript submission minimum length of 6000 words, with a maximum of 6-8 figures**. 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 of *JMR*.

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