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**TMS 2020**

**149<sup>th</sup> Annual Meeting & Exhibition**

February 23-27, 2020 • San Diego, California, USA



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## Nanostructured and Heterostructured Materials

### Ultrafine-grained and Heterostructured Materials (UFGH XI)

Ultrafine-grained and heterostructured materials have been drawing great attention from the materials research community because of their superior mechanical and functional properties. Heterostructures with UFG domains as a major microstructural feature represents a new approach to further enhance the properties of UFG materials produced by severe plastic deformation. It has been reported to be able to produce unprecedented combinations of mechanical properties that are not accessible to homogeneous materials. More importantly, heterostructured materials can be produced using industrial facilities for large-scale production at low cost. Significant research has been conducted in recent years to understand the underlying mechanisms that control the mechanical behaviors of UFG and heterostructured materials.

This symposium focuses on all aspects of the science and technology of heterostructured and UFG materials and covers a broad scope, ranging from fundamental science to their industrial applications.

Specific topics include but are not limited to:

- Fundamental issues in processing UFGH materials including, but not limited to, medium to severe plastic deformation techniques
- Deformation mechanisms of UFGH materials
- Novel UFG and heterostructures
- Mechanical and physical properties of UFGH materials
- Radiation-tolerant UFGH material
- Multiscale modeling of deformation and fracture
- Other processing methods for UFGH materials, such as powder processing and rapid-solidification, mechanical and/or thermal processing

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