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**TMS2019**  
 148<sup>th</sup> Annual Meeting & Exhibition

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March 10–14, 2019  
 San Antonio, Texas, USA

**JOIN US FOR THIS TMS2019 SYMPOSIUM:**

**CHARACTERIZATION**

**Characterization of Minerals, Metals, and Materials**

The symposium focuses on the advancements of characterization of the minerals, metals, and materials and the applications of characterization results on the processing of these materials. Subjects include, but are not limited to, extraction & processing of various minerals, process-structure-property relationship of metal alloys, glasses and ceramics, polymers, composites, and carbon as functional and structural materials such as fibers, biomaterials, electronic, magnetic and optical materials, energy materials, newly developed advanced materials, pollutants, recycled, insulation materials, etc. Advanced characterization methods, techniques, and instruments are emphasized.

Areas of interest include, but are not limited to:

- Novel methods, techniques, and instruments for characterizing materials
- Characterization of mechanical, thermal, electrical, optical, dielectric, magnetic, physical, and other properties of materials
- Characterization of structural, morphological, topographical, and tomographical natures of materials at micro- and nano- scales
- Characterization of extraction and processing including process development and analysis of various processes
- Nondestructive evaluation of engineering materials and components using ultrasonic testing, acoustic emission, infrared thermography, radiography, etc.
- Instrumental developments for microstructure analysis and performance evaluation of materials, such as process integration, computer tomography (CT), X-ray diffractometry, various microscopies (TEM, AFM, SEM, FIB, etc.), spectrophotometries, TG/DTA/DSC, etc.
- 2D and 3D Modeling for materials characterization

This symposium encourages, but does not demand, accompanying proceedings papers for each oral presentation. Awards will be presented for individuals who provide the best combination of oral presentation and written proceedings paper, and a poster session will be organized with awards for best posters. Selected papers could be recommended for publishing in TMS journals such as *JOM*.

**ORGANIZERS**

**Bowen Li**, Michigan Technological University, USA  
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**Pasquale Spena**, Free University of Bozen-Bolzano, Italy  
**Ramasis Goswami**, Naval Research Laboratory, USA

Nearly 4,000 presentations are planned  
 at more than 80 symposia at TMS2019.

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 today to register and book housing.