

THE WORLD COMES HERE.
TMS 2025
154th Annual Meeting & Exhibition



March 23–27, 2025
MGM Grand Las Vegas
Hotel & Casino
Las Vegas, Nevada, USA
#TMSAnnualMeeting



SUBMIT AN ABSTRACT FOR THE FOLLOWING TMS2025 SYMPOSIUM:

ADVANCED CHARACTERIZATION METHODS

Characterization of Minerals, Metals and Materials 2025: In-Situ Characterization Techniques

The symposium focuses on the advancements of in situ characterization of the minerals, metals, and materials and the applications of characterization results on the processing of these materials. Subjects include, but not limited to, extraction & processing of various types of minerals, process-structure-property relationship of metal alloys, glasses, ceramics, polymers, composites, semiconductors and carbon using as functional and structural materials. Advanced and multiscale in situ characterization methods, techniques, and new instruments are emphasized.

Areas of interest include, but are not limited to:

- Novel in situ methods and techniques for characterizing materials across a spectrum of systems and processes.
- Characterization of mechanical, thermal, electrical, optical, dielectric, magnetic, physical, and other properties of metals, polymers, ceramics including battery materials.
- Characterization of structural, morphological, and topographical natures of materials at macro-, micro- and nanoscales.
- Characterization of extraction and processing including process development and analysis.
- Advances in instrument developments for microstructure analysis and performance evaluation of materials, such as computer tomography (CT), X-ray and neutron diffraction, electron microscopy (SEM, FIB, and TEM etc.), spectroscopy (EDS, WDS, EBSD) techniques, etc.
- 2D and 3D modelling for materials characterization.

Symposium Dynamics: This symposium encourages, but does not require, 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. In addition, a poster session will be organized at this symposium with awards for best posters.

ORGANIZERS

Zhiwei Peng, Central South University; **Kelvin Xie**, Texas A&M University; **Mingming Zhang**, Baowu Ouyeel Co. Ltd; **Jian Li**, CanmetMATERIALS; **Bowen Li**, Michigan Technological University; **Sergio Monteiro**, Instituto Militar de Engenharia; **Rajiv Soman**, AnalytiChem Group, USA; **Jiann-Yang Hwang**, Michigan Technological University; **Yunus Kalay**, Middle East Technical University; **Juan Escobedo-Diaz**, University of New South Wales; **John Carpenter**, Los Alamos National Laboratory; **Andrew Brown**, Devcom Arl Army Research Office; **Shadia Ikhmayies**, The University of Jordan

SYMPOSIUM SPONSORS

TMS Extraction & Processing Division; TMS Materials Characterization Committee

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QUESTIONS?

Contact programming@tms.org