

SUBMIT AN ABSTRACT FOR THE FOLLOWING SYMPOSIUM

DATA-DRIVEN AND COMPUTATIONAL MATERIALS DESIGN

Chemistry and Physics of Interfaces

A detailed understanding of interface phenomena is key to the development of advanced materials with tailored microstructures and optimal properties. While the broad importance of interfaces to materials science has long been recognized, recent advances in computational methods, characterization techniques, and their coupling with artificial intelligence have enabled new discoveries and elucidated insights into the elementary mechanisms by which interfaces form and evolve in response to a multitude of external stimuli.

This symposium aims to bring together researchers with experimental and computational efforts aimed at gaining a fundamental understanding of materials interfaces. The symposium will consider various classes of interfaces, including grain boundaries, crystalline interphase boundaries, solid-liquid interfaces, and free surfaces.

Topics of choice for this symposium include but are not limited to:

- 1. Interatomic potential development and its use to model interfacial properties.
- 2. Advanced characterization techniques and their use in revealing interface structure.
- 3. Fundamental mechanisms underpinning interfacial dynamics.
- 4. Compositional effects on interface properties.
- 5. Grain boundary structure-property relations.
- 6. Solid-liquid interface properties and anisotropy.
- 7. Interface phase transitions and microstructure evolution (grain growth, solidification, recrystallization).

SPONSORED BY:

TMS Functional Materials Division; TMS Materials Processing & Manufacturing Division; TMS Structural Materials Division; TMS Chemistry and Physics of Materials Committee; TMS Mechanical Behavior of Materials Committee; TMS Process Technology and Modeling Committee; TMS Computational Materials Science and Engineering Committee; TMS Integrated Computational Materials Engineering Committee

ORGANIZED BY:

- Nana Ofori-Opoku, McMaster University
- Dierk Raabe, Max-Planck Institute
- Stephanie Lippmann, Friedrich Schiller University Jena
- Sara Adibi, San Diego State University
- Jian Luo, University of California, San Diego
- Santosh KC, San Diego State University
- Kaka Ma, Colorado State University
- Wenwu Xu, San Diego State University

www.tms.org/TMS2026

QUESTIONS? Contact programming@tms.org