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TMS2019
 148th Annual Meeting & Exhibition

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

JOIN US FOR THIS TMS2019 SYMPOSIUM:

PHYSICAL METALLURGY

Computational Thermodynamics and Kinetics

In recent years, computational thermodynamics and kinetics (CTK) techniques have been of high significance to the conceptual design and discovery of novel materials systems, and prediction of their properties. Ongoing since 2001, this TMS symposium has highlighted advances in CTK tools and techniques from the atomic to macroscale, and for applications ranging from materials discovery and design to synthesis and processing. This year, we continue to welcome submissions related to novel developments and applications of CTK techniques to explore and understand new phenomena and materials. This symposium will cover topics that continue to provide insights into the properties of materials, expand our understanding of materials design, processing, and optimization, or guide the discovery of fundamentally new materials.

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

- Computational models exploring the thermodynamic and kinetic properties of materials defects.
- Computational models of phase equilibria, non-equilibrium phase formations, transformations, and nano-/micro-structural evolution.
- Computational modeling exploring the thermodynamics and kinetics of processes in applications involving electrochemistry and thermoelectrics.
- Computational techniques for the calculation of diffusion, transport, and thermally activated processes for a wide range of applications, such as alloy design, microstructure control, multi-phase/multi-component systems.
- Thermodynamic and kinetic modeling approaches for materials discovery and design.
- Experimental studies for validation of thermodynamic and kinetic modeling approaches.

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

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