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**MARCH 14-18, 2021 • ORLANDO WORLD CENTER MARRIOTT
ORLANDO, FLORIDA, USA
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SUBMIT AN ABSTRACT TO:

MATERIALS DESIGN

HUME-ROTHERY SYMPOSIUM: ACCELERATED MEASUREMENTS AND PREDICTIONS OF THERMODYNAMICS AND KINETICS FOR MATERIALS DESIGN AND DISCOVERY

This symposium will be held in honor of the 2021 William Hume-Rothery Award recipient, JC Zhao, in recognition of his development of groundbreaking methodologies for systematic measurements of phase-based properties for the understanding of a very large number of alloy systems. The goal of the symposium is to assess the current state of the art in experimental measurements and first-principles calculations of phase-based properties, especially thermodynamic and kinetic properties, which are essential information for computational alloy design and process optimization. High-throughput experimental and computational methods are key for the timely establishment of databases of phase-based properties for ICME (Integrated Computational Materials Engineering). The close integration of experimental and computational approaches, especially with the help of materials informatics and machine learning (data analytics) tools, is becoming increasingly effective in both database establishment and computational alloy design.

One of the awardee's passions is industrial applications of novel methodologies and databases in designing new alloys for real-world impact. This symposium will provide an overview of the state-of-the-art methodologies for high-throughput experimentation, accurate property predictions, integration of experimental and computational approaches, and real-world applications of new tools for materials design and discovery.

The presentations in this symposium are by invitation only. The topics will cover:

- Computational thermodynamics and diffusion kinetics.
- High-throughput and accelerated experimentation
- First-principles calculations of phase-based properties
- Materials informatics and machine learning tools
- Materials genome and ICME methods
- Accelerated materials design for advanced manufacturing

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**Abstract Deadline is July 1, 2020. Submit online at
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Questions?
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