

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:

MATERIALS SYNTHESIS AND PROCESSING

Advances in Bcc-Superalloys

Bcc-superalloys are a nascent class of material, with a microstructure comprising a body-centered-cubic matrix (eg refractory metal, Fe, Ti) reinforced by ordered-bcc superlattice precipitates (eg B2 NiAl), with analogy to the highly successful gamma gamma-prime in fcc nickel based superalloys. Bcc-superalloys offer a new design approach to achieving improved performance for a variety of high temperature applications, from gas turbines to fusion energy.

This symposium seeks to bring together this growing community, with topics including, but not limited to:

- refractory metal bcc-superalloys (e.g. for W)
- bcc refractory metal high entropy superalloys (RSAs and Naka+Khan type RHEAs)
- Beta-Ti superalloys, Cr bcc-superalloys, Ferritic superalloys, A2-B2 eutectics / composites.

We welcome papers across the topics of: bcc-metals, Refractory Metals, High Temperature Materials and High Entropy Alloys, with a focus on the bcc-superalloy microstructural template; including: design, production, characterisation and property demonstrations.

ORGANIZERS

Alexander Knowles, University of Birmingham; **Christopher Zenk**, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU); **Howard Stone**, University of Cambridge; **Oleg Senkov**, Air Force Research Laboratory; **Eric Lass**, University of Tennessee-Knoxville; **Thomas Hammerschmidt**, Ruhr University Bochum

SYMPOSIUM SPONSORS

TMS Structural Materials Division, TMS High Temperature Alloys Committee, TMS Refractory Metals & Materials Committee

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QUESTIONS?

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