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TMS 2026

155th Annual Meeting & Exhibition

March 15–19, 2026
San Diego Convention Center
and Hilton San Diego Bayfront
San Diego, California, USA
#TMSAnnualMeeting

SUBMIT AN ABSTRACT FOR THE FOLLOWING SYMPOSIUM

ADVANCED CHARACTERIZATION METHODS

In Tribute to Robert Wagoner: A Pioneer in Metal Forming and Constitutive Modeling

A foundational aspect of metal forming is optimizing product design and addressing challenges encountered in various forming processes through a comprehensive understanding of the underlying plasticity mechanisms. Metal forming analysis is vital for ensuring that products meet stringent quality standards and performance requirements. This symposium will pay tribute to Professor Rob Wagoner for his significant contributions to metal plasticity over the past 40 years. In commemoration of his recent passing, this symposium will highlight the work of Robert Wagoner and his colleagues, along with contributed presentations that focus on the innovative development and application of metal forming and constitutive modeling, as well as those that address practical challenges in the field.

Topics of interest include (but are not limited to) the following areas:

- Novel Methodologies for Metal Forming Analysis: Exploration of new techniques for analyzing metal forming processes, including advancements in computational methods and experimental approaches that enhance process optimization and design validation.
- Dislocation Plasticity Theories and Micromechanics: Development of physics-based, multiscale, multi-physics plasticity models to accurately predict the inelastic behavior of single, multi and polycrystals under various conditions, including quasi-static, dynamic, and cyclic loading.
- Innovative Experiments and Simulations for Anisotropy Characterization: Development of new experimental techniques and numerical methods for characterizing the anisotropic behavior and its evolution in metal alloys.
- Sheet Formability and Springback: Predictions and strategies for mitigating springback and failure in sheet metals, including advanced high strength steels and lightweight automotive alloys.
- Surrogate and Reduced-Order Modeling: Applications of various machine learning techniques in metal forming analysis to facilitate accurate and efficient decision-making in design and analysis.

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