
The Minerals, Metals & Materials Series

Aaron P. Stebner · Gregory B. Olson
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Proceedings of the International Conference on Martensitic Transformations: Chicago

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Editors

Aaron P. Stebner
Colorado School of Mines
Golden, CO
USA

Gregory B. Olson
Northwestern University
Evanston, IL
USA

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Preface

The International Conference on Martensitic Transformations (ICOMAT) was held on July 9–14, 2017, at the Hyatt Regency in Chicago, Illinois, USA. The event was hosted by the Chicago-based CHiMaD Center for Hierarchical Materials Design in downtown Chicago.

Located on the shores of Lake Michigan in the heart of the Great Lakes Region of North America, the city of Chicago is truly an epitome of the “melting pot” reputation of the United States, evidenced by a diverse array of cultural, economic, and social experiences that draw tourism, science and technology, arts, and music to its streets year-round. The “Chicago School” represents a unique tradition of innovation across many fields, notably including materials, as the birthplace of Materials Science in the 1950s and Materials Design in the 1990s.

ICOMAT 2017 was organized around the central theme of “Martensite by Design.” Symposia included design for microstructures, properties, advanced manufacturing, and performance. Topics included:

- Theory & Methods for Martensite Design
- Interactions of Phase Transformations and Plasticity
- Quenching and Partitioning of Martensite and Other Advancements in Steels
- Novel Shape Memory Alloys
- Novel Functional Behaviors: Beyond Shape Memory Effect & Superelasticity
- Martensitic Transformations in Non-Metallic Materials
- Size Effects in Martensitic Transformations
- Advanced Characterization of Martensite—3D & High Resolution
- Quasimartensitic Modulations
- Advanced Processing Techniques: Additive, Porous, and Others
- Engineering Applications and Devices
- MSMnet: Magnetomechanics of Magnetic Shape Memory Alloys

The next ICOMAT conference will be held in 2020 in Jeju Island, South Korea.

Aaron P. Stebner
Gregory B. Olson

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