

# International Conference on Martensitic Transformations

June 29 - July 05, 2008



## THEME

We aspire to new heights in bringing the International Conference on Martensitic Transformations (ICOMAT) to Santa Fe's elevation of 7000 feet. The area boasts a unique multicultural fusion of Spanish, Pueblo Indian, and Wild West Cowboy, fostering a spirit of creative innovation best expressed in its famous art colonies.

This creative spirit grounded in intellectual diversity transcends art in the historic and current role of the region's national laboratories of Los Alamos and Sandia, pacing the forefront of interdisciplinary science-based technology creation.

In the spirit of Santa Fe, a central theme of this ICOMAT is INTEGRATION across many dimensions. First and foremost is the tighter integration of science and engineering in the adaptation of predictive science to the creation of new martensitic materials.

Second is the integration of diverse scientific disciplines in the creative science that has so effectively advanced our fundamental understanding of martensitic phenomena.

Third is the transfer of fundamental knowledge across classes of materials and areas of applications. Our fourth dimension is the integration of theory

and experiment as both computational power and novel instrumentation continue to advance in parallel. An allied local theme of COMPLEXITY draws on the leading role of Santa Fe Institute and Los Alamos scientists in bringing the predictive theory of complex systems to a new level of realism in support of technological applications.

The allied theme of INNOVATION appeals to the culture of intellectual diversity that underpins human creativity in art, science and engineering, offering the greatest potential to deliver responsible technology meeting our ever-evolving societal needs. A "Grand Masters" panel discussion is planned for senior contributors to our field to assess lessons learned from historic creative innovations in the science and technology of martensite.

We will also honor the seminal contributions of the WLR (Wechsler-Lieberman-Read) and Bowles-McKenzie theories in substantially advancing the field of martensite.

## SCOPE

While invited speakers will be selected to emphasize these conference themes and contributed papers are also encouraged for consideration, we welcome papers from the full range of topics traditionally covered by the ICOMAT conference series.

This includes:

- (i) the science and technology of martensitic transformations across all classes of materials including biological systems,
- (ii) other displacing transformations including coupled displacive and diffusional transformations,
- (iii) aging and tempering of martensitic materials,
- (iv) shape-memory,
- (v) ferroic and multiferroic materials,
- (vi) from fundamentals of kinematics, structure, thermodynamics, mechanisms and kinetics to
- (vii) diverse technological applications.
- (viii) New theoretical approaches and novel experimental methods are especially encouraged.

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