INTRODUCTION TO ALLOY THERMODYNAMICS: THE CALPHAD APPROACH AND BEYOND COURSE

SUNDAY, MARCH 11, 2018 • 8:30 A.M. TO NOON

CALPHAD (Calculation of Phase Diagrams) is one of the most powerful techniques for Materials Genome and Integrated Computational Materials Engineering (ICME) modeling. The development of the CALPHAD-based method has taken place so quickly that it is not described adequately in conventional textbooks, nor is it covered properly in the majority of existing undergraduate or graduate degree courses in materials science. This workshop will highlight the developments and application of the CALPHAD method in four distinct topic areas:

1. Overview of the CALPHAD methodology
2. Density functional theory calculations and CALPHAD approach for alloy thermodynamics and diffusion
3. Advanced experimental techniques including high throughput experiments, for materials database development
4. Case studies: examples of the use of CALPHAD for a range of materials applications.

INSTRUCTORS
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SPONSORED BY
TMS Alloy Phases Committee; Integrated Computational Materials Engineering Committee

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