2011 SHORT COURSES

Computational Thermodynamics using Thermo-Calc

Diffusion Modeling and Simulation using DICTRA

October 3-6, 2011

State College, Pennsylvania

Introduction

These short courses are designed to acquaint individuals in industry and academia with fundamental concepts and computational techniques now available in the areas of thermodynamics and diffusion of materials.

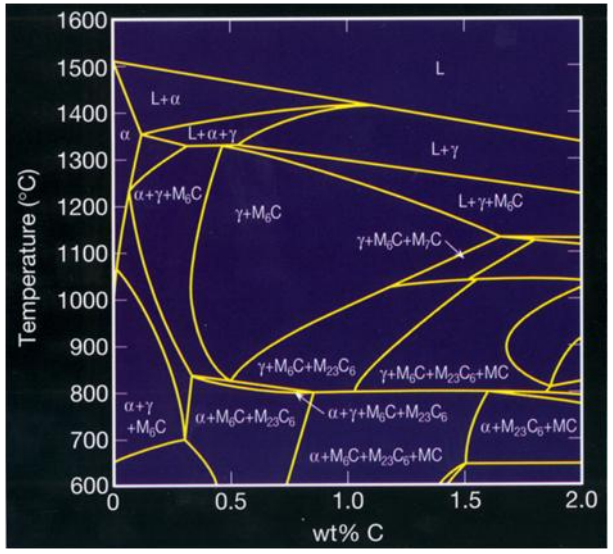
Computational Thermodynamics and kinetics use computer software and thermodynamic/kinetic databases to perform realistic calculations of thermodynamic properties, chemical behaviors, and phase transformations in multi-component systems.

Courses will be delivered by Dr. Zi-Kui Liu, Professor of Materials Science and Engineering at The Pennsylvania State University. Prof. Liu is an expert on computational thermodynamics and kinetics, phase equilibria, and database development and has been teaching the short courses in the US since 1996. He is the Editor-in-Chief of the international journal, CALPHAD.

Organized by:

MaterialsGenome® Inc.

Thermo-Calc Software Inc



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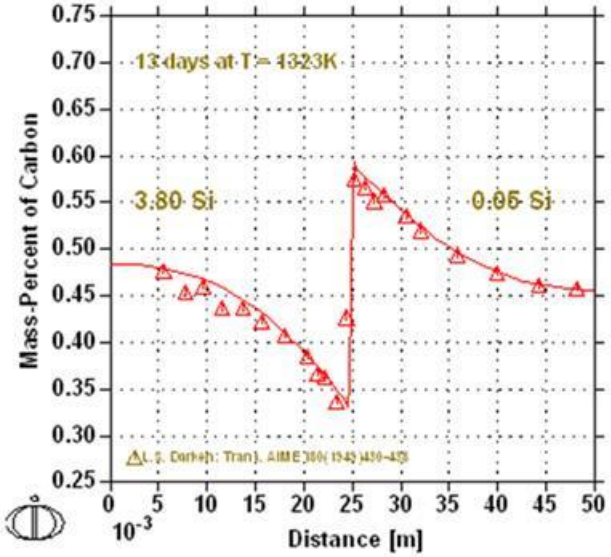
Course Descriptions

Computational Thermodynamics using Thermo-Calc.
October 3-4, 2011

In this course, fundamental thermodynamic principles will be reviewed in the framework of computational schemes. Hands-on experience will be provided, step-by-step, through interpreting practical cases in thermodynamic language and implementing them in Thermo-Calc Classic and Windows. Participants are encouraged to bring their own cases to the class for discussion. The objective of this class is to learn how to utilize computational thermodynamics in materials research, development, and manufacturing.

Diffusion Modeling and Simulation using DICTRA.
October 5-6, 2011

Diffusional phase transformations play important roles in processing control. The interplay of thermodynamics and atomic mobility / diffusivity will be presented for multicomponent systems in this course. DICTRA, a software package for simulation of DIffusion Controlled TRAnsformations in multicomponent systems, will be used. This course is aimed to study how to combine thermodynamics and kinetics to simulate processes of practical importance such as homogenization, precipitation, and dissolution using DICTRA.



Course Registration

Fees

Price is available on request. Multiple participants from the same nonacademic organization can receive 15% to 25% discount. Participants from academia receive 50% discount and no multi-participant discount.

Web site

http://www.materialsgenome.com/course.html

E-mail course2011@materialsgenome.com

Fax (586) 283 4152

Participants Testimonials

- *Prof. Liu did a great job keeping the participants involved all the time.*
- *Thank … very much for his passion, help and knowledge.*
- *Very pleasant experience, very effective organization.*
- *I loved the thermodynamics review.*
- *Very well done. I look forward to solving my own research problems by tying TC & Dictra together.*