MONASH University

DEPARTMENT OF MATERIALS ENGINEERING

Seminar

COMPUTATIONAL THERMODYNAMICS AND REACTIVE DIFFUSION: APPLICATIONS IN MATERIALS SCIENCE AND ENGINEERING

Prof. Rainer Schmid-Fetzer
Institute of Metallurgy, Clausthal University of Technology
Germany

26th June 2009, 11:00 a.m. – 12:00 noon
Science Lecture Theatre S2

Truly multicomponent and multiphase materials emerged in the focus of quantitative thermodynamic descriptions using the Calphad method in recent years. A great variety of applications of such consistent Calphad-generated databases has been successfully documented in the field of Computational Thermodynamics. These comprise focused alloy development as well as materials processes. Reactive diffusion and interface reactions in the scope of such multicomponent materials also require a sound knowledge of the thermodynamic data and the phase diagrams. The same is valid for solidification processes. Selected examples of our work in this field will be given with an emphasis on applications to magnesium alloys, aluminum alloys, new monotectic alloys and electronic materials.

Visitors are most welcome: Please note the parking arrangements. There is a designated Visitors Car Park (N1) clearly ground-marked by white paint and tickets, at a cost of $3/day, are available from a dispensing machine. ('Blue' permit designated areas are for Monash members only.). It is also possible to park at other designated Visitors Car Parks (E1, S1 and S2) on the Clayton Campus, but tickets are $1.4/hour.

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