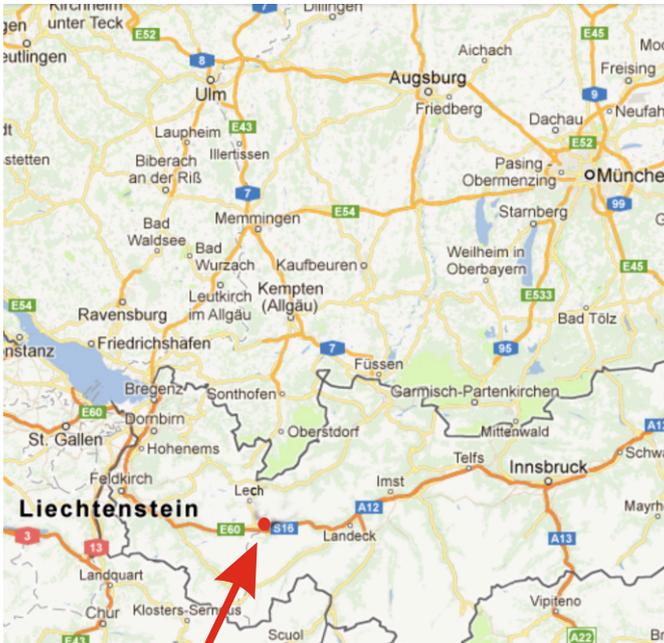


How to find:



SKI AUSTRIA ACADEMY

St. Christoph Nr. 10
A-6580 St. Anton am Arlberg
Austria

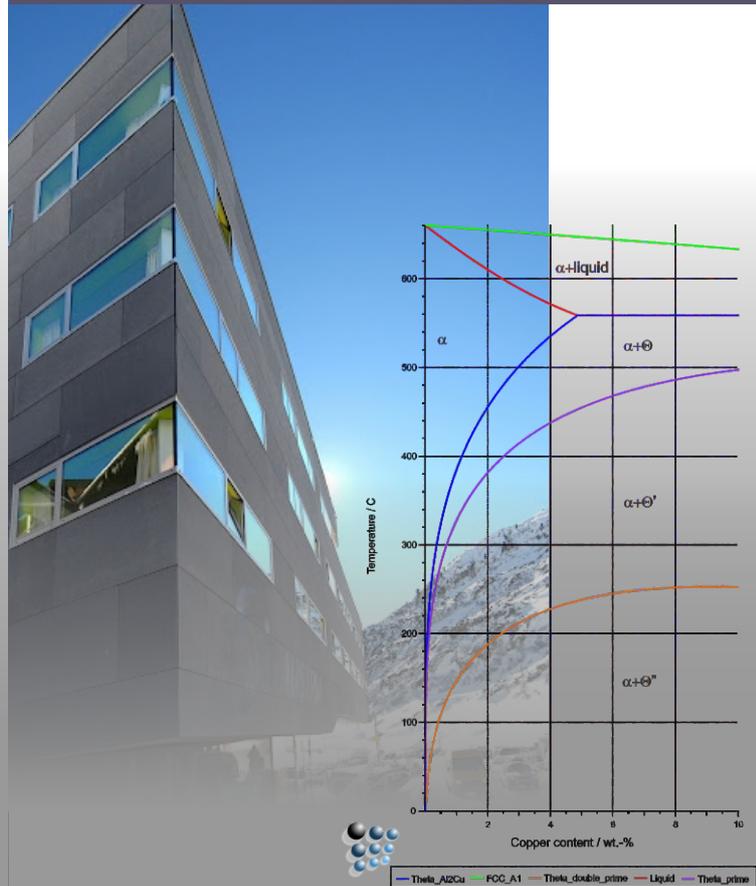
For the exercises classes we ask the participants to bring their own laptop

Vienna Computational Materials Laboratory



Winter School
St. Christoph am Arlberg
February 25th - March 1st 2013

Phase stability and phase transitions
in soft and hard materials



Aims

The school provides the participants with the theoretical foundations, rooted in thermodynamics and statistical mechanics, necessary to understand phase stability and phase transitions and to teach them modern computer simulation algorithms. Introductory lectures, covering the basic subjects are complemented with advanced lectures on current topics ranging from phase transitions in hard and soft matter to micromagnetic simulations. The methods presented in the lectures will be applied and practiced by the students in special exercise classes.

The school is geared towards graduate students of physics, chemistry and materials science, but postdoctoral researchers working in these fields can also benefit from attending the school.

The fee for the winterschool including accommodation, breakfast and dinner is **EUR 500,-**.

Registration: download the application form on our website: <https://vicom.univie.ac.at/winter-school/> complete, sign and e-mail your application to: dagmar.fischer@tuwien.ac.at

Further information: Dagmar Fischer
dagmar.fischer@tuwien.ac.at (+43 1 58801 30860)

Closing Date for application: 1st December 2012

Organizers:

C. Dellago (University Vienna)
G. Kahl (TU Wien)
E. Kozeschnik (TU Vienna)
R. Podloucky (University Vienna)
T. Schrefl (FH St.Pölten)
D. Suess (TU Vienna)

Program

Monday, 25th February 2013

- 8:30 - 12:00 **Stefan Müller, TU Hamburg**
Thermodynamics and ordering phenomena of alloys
- 17:00 - 18:30 **Gus Hart, Brigham Young University Utah**
19:30 - 21:00 Cluster expansion

Tuesday, 26th February 2013

- 8:30 - 12:00 **Nigel Wilding, University of Bath**
Free energies from Monte Carlo and molecular dynamics simulations
- 17:00 - 18:30 **Dario Alfe, University College London**
Phase diagrams from ab initio simulations

Wednesday, 27th February 2013

- 8:30 - 12:00 **Baron Peters, UC Santa Barbara**
Transition state theory and classical nucleation theory
- 17:00 - 18:30 **Phillip Geissler, UC Berkeley**
Thermodynamics and kinetics of self-assembly

Thursday, 28th February 2013

- 8:30 - 12:00 **Peter Bolhuis, University of Amsterdam**
Simulating rare events
- 17:00 - 18:30 **Ulrich Nowak, University of Konstanz**
Magnetic systems at finite temperature – Langevin dynamics

Friday, 1st March 2013

- 8:30 - 12:00 **Bob Stamps, University of Glasgow**
Magnetization dynamics in nanomagnets

