



UNIVERSITÀ DEGLI STUDI  
DI MILANO

GARGNANO, ITALY



18-23 APRIL, 2010

# Adsorption, Absorption and Crystal Growth

International AIC-IUCr School



Second Circular



## Aim of the School

The School Adsorption, Absorption and Crystal Growth is aimed at introducing the interested people to the adsorption phenomena occurring at the interface between crystals and their surrounding mother phase (vapour, solution or melt). An important place will be given to the equilibria between an adsorbed phase on both "foreign" and "reactive" substrates. The modification of the growth modes of crystal faces will be related to the foreign adsorption (solvent and impurities effects). The crystal-chemical specificity of the 2D-epitaxy will be considered for the understanding of the habit change of crystals.

The kinetics of crystal nucleation and growth will be detailed according to whether the foreign adsorption remains at the crystal surface or is followed by the absorption into the crystal lattice where either usual or anomalous mixed crystals originate.

Owing to its methodological character, the School is open to the topics of the crystal growth research which concern the Materials Science, the Bio-crystallization and mineralization, the Earth Sciences and all other fields where crystallization is a key step (pharmaceuticals, scaling and water treatment, etc).

The School is of interest to graduate and post-graduate students, PhD students, post-doctorate fellows, and senior researchers as well as researchers from industry.

## Speakers & Topics

**M. Rubbo** (3 hours) - Basic introduction to crystal growth

**B. Mutaftschiev** (3 h) - Statistical-thermodynamic view on adsorption and crystal growth

**R. Kern** (3 h) - Adsorption/absorption versus crystal growth

**H.E. L. Madsen** (2 h) - Thermodynamic modelling of adsorbed layers in solution growth

**A. Gavezzotti** (3 h) - Molecular simulation of crystal formation

**M. Bruno** (2 h) - Dipolar surfaces: the need of reconstructing before the adsorption

**D. Aquilano** (2 h) - Adsorption, absorption and anomalous mixed crystals

**J.M. García Ruiz** (2 h) - Adsorption effects in self-assembled biomimetic materials

**G. Falini** (2 h) - The strategic role of adsorption phenomena in biomineralization

**A.E.S. Van Driessche** (2 h) - In situ measurement of step dynamics in pure and contaminated solutions by Confocal Microscopy and Atomic Force Microscopy

**B. Kahr** (2 h) - Applications of Differential Polarization Imaging to crystal growth

**A. Sassella** (2 h) - Organic epitaxial layers on organic substrates

**R.A. Wogelius** (2 h) - Adsorption and co-precipitation reactions at the mineral-fluid interface: natural and anthropogenic processes

**G. Artioli** (1 h) - Crystallization in cements: an introduction

**J. Bullard** (1 h) - Reaction chemistry and the role of adsorption in cements: a multipurpose modelling programme

## Directors of the School

**D. Aquilano**

**M. Moret**

## Organizing Committee

**M. Moret** - chair

**S. Rizzato** - chair

**A. Zappettini** - chair

**F.R. Massaro** - secretariat, webmaster

More information can be found on the school website

<http://www.mater.unimib.it/utenti/moret/>