

# International Summer School on Fundamentals and Basic Methods of Crystal Growth

held under the auspices of "INTERNATIONAL UNION OF CRYSTALLOGRAPHY"

Aug 24 – 29, 2009 - "Transilvania" University, Brasov -ROMANIA

Organized by: Romanian Materials Science – Crystal Growth Society; IKZ-LEIBNIZ Institute for Crystal Growth, Berlin, Germany; Transilvania University of Brasov; University of Bucharest - Faculty of Physics; National Institute of Materials Physics Bucharest

In conjunction with ROCAM 2009

## SCOPE OF THE SUMMER SCHOOL

The objective of the school is to provide a comprehensive series of lectures on theoretical and experimental aspects of growth and characterization of semiconducting, oxide, metallic, organic, and biological crystals. A textbook based on the lectures will be available at the School. The level of the school is intended for post-graduate and post-doctoral students as well as researchers from industry and academia who are interested in fundamental knowledge of crystal growth and epitaxy.

### IMPORTANT DATES AND DEADLINES:

May 15<sup>th</sup> - Deadline for submitting applications to the Summer School  
May 30<sup>th</sup> - Notification of acceptance  
July 1<sup>st</sup> - Deadline for early Registration Fee

### ORGANIZING COMMITTEE

#### Chairmen:

Horia Alexandru, University of Bucharest  
Peter Rudolph, Institute of Crystal Growth (IKZ), Berlin  
Florin Stanculescu, University of Bucharest

## COURSE TOPICS & LECTURERS

### PART I: FUNDAMENTALS (9 x 2 = 18 hours)

Opening lecture: "Crystal Growth: an historical and economical perspective"  
Roberto Fornari, IKZ, Berlin, Germany

#### 1.1 Thermodynamics, Phase equilibria, Phase diagrams

M. Muehlberg, Institute of Crystallography, Cologne, Germany

#### 1.2. Nucleation theory (especially for nanocrystals), step dynamics

D. Holland-Moritz, Aerospace Center, Köln, Germany.

#### 1.3. Crystal growth kinetics

P. Rudolph, IKZ, Berlin, Germany

#### 1.4. Self-organization of nanocrystal systems

Knut Deppert, Faculty of Engineering,, Lund University, Sweden

#### 1.5. Morphological stability and pattern formation

Wolfram Miller, IKZ, Berlin, Germany

#### 1.6. Transport of heat and mass - Numeric modelling

J. Derby, University of Minnesota, Minneapolis, U.S.A.

#### 1.7. Defects

P. Rudolph, IKZ, Berlin, Germany

S. Antohe, University of Bucharest, Faculty of Physics, Romania

#### 1.8. Characterization of crystals by photoelectron spectroscopy and SQUID magnetometry, Eva Talik, Univ. Silesia, Katowice, Poland.

## REGISTRATION FEE

**250 EUR** – before July 1, 2009, by bank transfer

**300 EUR** – after July 1, 2009, by bank transfer

## School fee covers:

Access to all School Activities; School Programme & Book of lectures;  
Accommodation; Welcome Party; Dinner Party; School excursion and Meals.

**The School fee does not cover travels and bank commissions.**

## LOCATION

ROCAM 2009 and Summer School will take place in the Transilvania University of Brasov, Romania. The city of Brasov is located in the centre of Romania, about 180 km north of Bucharest.



## PART II: CRYSTAL GROWTH METHODS (9 x 2 = 18 hours)

### 2.1. Methods of Bulk crystal growth - Solution Growth

R. Fornari (4 h), IKZ, Berlin, Germany

H.V.Alexandru, Univ. of Bucharest, Faculty of Physics, Romania

### 2.2. Thin film technologies

T. Kuech, University of Wisconsin - Madison, USA

M. Heuken, Corporate R&D, Aachen, Germany

S.Antohe, University of Bucharest, Faculty of Physics, Romania

### 2.3. Nano-crystallization

Mauro Epifani, Inst for Microelectronics & Microsystems, Lecce, Italy

### 2.4. Protein growth

Abel Moreno, Univ. of Cambridge, Cambridge, UK

### 2.5. Crystallization for photovoltaics

Anca Duta, "Transilvania" University, Brasov, Romania

## APPLICATION INFORMATION

The programme is open to post-graduate, doctoral and post-doctoral students as well as researchers from industry and academia.

**Application** files should include the following:

- **CV** (1-2 pages)
- A recommendation letter from the supervisor, or head of department

The documents should be submitted to the address:

[school2009@fpce1.fizica.unibuc.ro](mailto:school2009@fpce1.fizica.unibuc.ro)

**Deadlines for submitting documents: May 15<sup>th</sup>, 2009**

## CONTACT:

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Summer School website: <http://rocam.unibuc.ro/intschool/>

ROCAM 2009 website: <http://rocam.unibuc.ro/>