

**Pyun SI. (Republic of Korea)**

"Anomalous Behaviour in Hydrogen Diffusion through Palladium and Metal Hydrides"

**Rabkin E. (Israel)**

"Application of Scanning Probe Microscopy for Studying of Interfacial Kinetics"

**Sikorski K. (Poland)**

"Electron Probe Microanalysis in the Study of Diffusion in Solids"

**Siwy Z. (Poland)**

"Ionic Transport in Nano-voids"

**Somers M. (Denmark)**

"The Role of Reaction Diffusion in Surface Engineering"

**Sprengel W. (Germany)**

"Thermal Defects and Diffusion"

**Straumal B.B. (Russia)**

"Grain Boundary Phase Transitions. Influence on Diffusion and Transport Processes"

**Szyszkiewicz K. (Poland)**

"Mathematical Model of Interdiffusion in Cell Membranes"

**Thomas O. (France)**

"Mechanical Stresses and Interfacial Mixing in Metallic Multilayers"

**Trujillo F.J.P. (Spain)**

"High Temperature Diffusion Coatings by CVD in Fluidized Bed Reactor"

**Tu King-Ning (USA)**

"Electromigration in VLSI Interconnects"

**Uematsu M. (Japan)**

"Unified Simulation of Diffusion in Silicon and Silicon Dioxide"

**Vogl G. (Austria)**

"Diffusion over Long Distances and in Cages: Atoms, Animals, Men, Ideas"

**Wang Y. (USA)**

"Phase Field Modelling in Diffusion Studies"

**Weron K. (Poland)**

"Scaling Properties of the Diffusion Process Underlying the Havriliak-Negami Relaxation Response"

**Wuerschum R. (Austria)**

"Diffusion and Thermal Vacancy Formation in Nanocrystalline Materials"

**Zięba P. (Poland)**

"Atomic Transport Measured by Analytical Electron Microscopy Technique"

**Conference Registration**

Participants are kindly requested to register online via: <http://www.dimat2004.agh.edu.pl/reg.html> or send registration form by mail.

**Different Variants of Conference Fee****Conference fee: 450 EUR (after 31.03.2004 550 EUR)**

(including: Get-Together Party, lunches, coffee breaks, Conference Dinner, Proceedings, Guided tour)

**Student fee: 90 EUR (after 31.03.2004 140 EUR)**

(including: Get-Together Party, coffee breaks)

**Reduced conference fee: 250 EUR**

**(after 31.03.2004 350 EUR)**

(including: Get-Together Party, coffee breaks)

**1 day conference fee: 100 EUR**

**(after 31.03.2004 120 EUR)**

(including: coffee breaks)

**Accompanying Person: 150 EUR**

**(after 31.03.2004 200 EUR)**

(including: Get-Together Party, lunches, coffee breaks, Conference Dinner, Guided tour)

**PLEASE NOTE THAT EARLY REGISTRATION FEES ARE AVAILABLE UNTIL 31 MARCH 2004**

Further information is available online at: <http://www.dimat2004.agh.edu.pl>

**Bank Account**

BPH-PBK SA, Krakow, Poland  
SWIFT Code BPHK PL PK  
Account number: PL84 10600076 0000320000467994  
Account name: Politechnika Krakowska - DIMAT 2004

**Visas and Formal Invitations**

Participants who need a formal invitation letter from the conference organizers for visa application should present a request together with their registration.

**Manuscripts and Proceedings**

The full proceedings of the conference will be published by Trans Tech Publication, Uetikon-Zuerich, Switzerland, in Defect and Diffusion Forum.

**Deadlines**

**REGISTRATION FOR THE CONFERENCE AND AN ABSTRACT SUBMISSION IS STILL POSSIBLE.**

- 31 January 2004 - Applications for financial support for young scientists
- 27 February 2004 - Notification of acceptance of papers
- 27 February 2004 - Notification of persons awarded financial support
- 31 March 2004 - Payment of early registration fee
- 18 July 2004 - Submission of papers

**Accommodation**

Participants can either make their own lodging arrangements or use the assistance of the travel agency of the conference Orbis via: <http://www.orbis.krakow.pl/dimat>. Hotels displaying a whole range of prices are proposed to the participants. Low cost accommodation at student residences will be available.

**Conference Venue**

The conference will be held in July 2004, in Krakow, Poland, in the buildings of the University of Mining and Metallurgy situated very near the centre of the town. Krakow, in the heart of Central Europe, is the ancient capital of Poland and is a world renowned centre of culture, arts and sciences. It was designated one of the European Cities of Culture for the year of the Millennium and it integrates the traditional aspects of Polish life with a modern, and forward looking approach to international collaboration and development.

**Weather**

July is middle summer time in Poland with temperatures in range 20 - 30°C and occasional showers.

**Language**

The conference language is English.

**Contacts and Addresses**

DIMAT 2004  
Faculty of Materials Science and Ceramics  
AGH University of Science and Technology  
al. Mickiewicza 30, 30-059 Krakow, POLAND

e-mail: [dimat2004@uci.agh.edu.pl](mailto:dimat2004@uci.agh.edu.pl)  
web page: <http://www.dimat2004.agh.edu.pl>  
fax (48)-12-617-24-93

# DIMAT 2004

**SIXTH INTERNATIONAL CONFERENCE  
ON DIFFUSION IN MATERIALS  
18 - 23 July 2004, Krakow, Poland**

*organized under the patronage of*

**Polish Academy of Sciences  
Polish Association of Materials Science  
Krakow University of Technology  
AGH University of Science and Technology**

**SECOND  
ANNOUNCEMENT  
and  
CALL FOR PAPERS**

**Chairmen**

M. Danielewski  
R. Filipek  
R. Kozubski  
P. Zięba  
Z. Żurek

<http://www.dimat2004.agh.edu.pl>

# DIMAT 2004

## SIXTH INTERNATIONAL CONFERENCE ON DIFFUSION IN MATERIALS 18 - 23 July 2004, Krakow, Poland

### Scope of the Conference

The aim of the DIMAT 2004 conference is to gather the scientists active in performing diffusion experiments, developing microscopic or phenomenological models of diffusion in materials. The subjects extend from the physics of atomic migration random walk theory and transport theory to the contemporary technology involving diffusion, solid state reactions, surface treatments, nanotechnology, semiconductors, packaging, etc.

### International Advisory Board

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### Local Organizing Committee

E. Bielańska, J. Dąbek, M. Dudek, E. Godlewska, Z. Grzesik, E. Leyko, E. Partyka, M. Socjusz - Podosek, J. Stelmach, K. Świerczek, J. Wojewoda

### Topics to be covered include:

#### Fundamentals of Diffusion:

defects, ab-initio calculations, atomic jumps, random walk theory, phenomenology, ...

#### Tools for Diffusion Studies and Modelling:

experimental tools and technical aspects of simulation methods, data bases, software, ...

#### Main Classes of Materials:

metals and alloys, semiconductors, quasi-crystals, polymers, glasses, ionic conductors, intermetallics, ...

#### Spatially Limited Media:

thin films, surfaces, grain-boundaries, interfaces, multilayers, heterostructures, ...

#### Diffusion-controlled Processes:

irradiation, leaching, galvanization, hydrogen and liquid metals embrittlement, phase transformations, joining, ...

#### Reactive Diffusion

#### Corrosion

#### Electronics:

packaging, electromigration, ...

#### Electrochemistry:

batteries, sensors, storage systems, membranes, ...

#### Diffusion in Nanoscale:

phenomenology, nanoscale transport, diffusion in nanoelectronics and nanomaterials, ...

#### New Challenges:

biomaterials, geochemistry and earth science, ...

### Call for Papers

Authors are welcome to submit abstracts of contributed papers. Abstract should be sent electronically via: <http://www.dimat2004.agh.edu.pl> or sent by mail. Instructions for the preparation of abstracts and an abstract template are available on the web site <http://www.dimat2004.agh.edu.pl/instr.html>.

**ABSTRACT SUBMISSION DEADLINE**  
**31 DECEMBER 2003**

### Invited and Key Lectures

#### Aufroy B. (France)

*"Self-organisation of semiconductors (Si,Ge) on metallic surfaces"*

#### Barralet J. (UK)

*"Stabilisation of Amorphous Calcium Carbonates and Immobilisation of Cells in Cements"*

#### Beke D. (Hungary)

*"Non-linear Effects on Diffusion in Nanomaterials"*

#### Bekele M. (Ethiopia)

*"A Brownian Heat Engine Operating under Different Conditions"*

#### Belova I.V. (Australia)

*"Random Walk Calculations in Intermetallic Compounds"*

#### Berbezier I. (France)

*"Redistribution of Doping Elements in SiGe Nanostructures"*

#### Bernard F., Gaffet E., Munir Z.A. (France)

*"One -Step and Consolidation of Fully Densified Nano-Intermetallics by Field Activated Powder Processing"*

#### Bernardini J. (France)

*"Grain Boundary Diffusion and Segregation in Nanomaterials"*

#### Bokstein B. (Russia)

*"Relation Between Grain Boundary Segregation and Phase Formation in the Bulk"*

#### Cermak J. (Czech Republic)

*"Concentration Dependence of Ternary Interdiffusion Coefficients"*

#### Chadwick A. (UK)

*"Diffusion in Nanocrystalline Ionic Solids"*

#### Chakraborty S. (Germany)

*"Applications of Diffusion Studies in Geochemistry and Mineral Physics"*

#### Chevalier S. (France)

*"Oxygen Diffusion in Alumina. Application to Synthetic and Thermally Grown Al<sub>2</sub>O<sub>3</sub>"*

#### Claverie A. (France)

*"Diffusion in Silicon (Thermal Evolution of Extended Defects in Implanted Silicon and Its Effect on Diffusion in Si)"*

#### Dao K. A. (Vietnam)

*"Simultaneous Diffusion of Dopants in Silicon; Anomalous Diffusion Effects"*

#### Divinski S. (Germany)

*"Solute Segregation Studied by Grain Boundary Diffusion"*

#### Faehle M. (Germany)

*"The Influence of Magnetism on Atomic Defects and Diffusion: Model Calculations and Ab-initio Electron Theory"*

#### Filipek R. (Poland)

*"Chemical Interdiffusion in Multicomponent Alloys"*

#### Gas P. (France)

*"Reactive Diffusion in Nanoscale System"*

#### Ghez R. (Israel)

*"Starting Solutions in Diffusion"*

#### Girardeaux C. (France)

*"Evolution of Ultra Thin Deposits (Diffusion, Segregation) and Surface Alloys"*

#### Glickman E. (Israel)

*"Liquid Metal Embrittlement: Fast Diffusion Under Stress and Strain Gradients"*

#### Grabke H.J. (Germany)

*"Role of Fast Diffusion Paths in the Initial Oxidation of Chromium Steels"*

#### Gudowska-Nowak E. (Poland)

*"Charge Transport Processes in Biomaterials: Electron Transfer in Proteins and Gating Kinetics of Biological Channels"*

#### Gusak A.M., (Ukraine) Tu K.N. (USA)

*"Flux-driven Coarsening in Open Systems"*

#### Herzig Ch. (Germany)

*"Diffusional Properties in Technologically Advanced Intermetallics"*

#### Hodaj F. (France)

*"On Interfacial Reactions in Metal/Metal and Metal/Ceramic Systems: Thermodynamic and Kinetics"*

#### Hof M. (Czech Republic)

*"How to Determine Diffusion Coefficients in Phospholipid Bilayers by Fluorescence Correlation Spectroscopy"*

#### Iijima Y. (Japan)

*"Interdiffusion Between Metals of Widely Different Self-diffusion Rates"*

#### Janek J. (Germany)

*"Nonlinear Effects During Atomic Transport Across Solid/Solid interfaces"*

#### Kodentsow A.A., van Loo F.J.J. (The Netherlands)

*"The Kirkendall Effect in Multiphase Diffusion"*

#### Kolobov Y. (Russia)

*"Diffusion-controlled Processes and Plasticity of Nanostructured Materials"*

#### Koyama (Japan)

*"Computer Simulation of Phase Decomposition in Magnetic Materials Based on the Phase-field Method"*

#### Kozubski R. (Poland)

*"Atomic Migration as a Mechanism of Superstructure Formation in Intermetallic Compounds"*

#### Langner M. (Poland)

*"Controlling the Flow of Biologically Active Compounds by Target Drug Delivery Systems"*

#### Limoge Y. (France)

*"Ageing of Oxides in Irradiation Environment"*

#### Malinov S. (UK)

*"Modelling, Simulations and Monitoring of Lamella Structure Formation in Titanium Alloys Controlled by Diffusion Redistribution"*

#### Martin M. (Germany)

*"Diffusion in Oxides"*

#### Maruyama T. (Japan)

*"Diffusion and Thermodynamics in ternary oxides"*

#### Mashimo T. (Japan)

*"Sedimentation of substitutional atoms in condensed matter: new type of diffusion"*

#### Mehrer H. (Germany)

*"Diffusion and Ionic Transport in Borate Glasses"*

#### Mishin Y. (USA)

*"Atomistic Modeling of Diffusion"*

#### Morral J.E. (USA)

*"A Local Equilibrium Model for Carburizing, Nitriding and Internal Oxidation"*

#### Mrowec S. (Poland)

*"Kinetic Methods in Studying Transport Properties of Sulphides"*

#### Murch G.E., Belova I.V. (Australia)

*"Consequences on Chemical Diffusion and Demixing in Materials of the Sum-rule Relations between Phenomenological Coefficients"*

#### Nakajima H. (Japan)

*"Diffusion in L10-type Single Crystal TiAl and FePt Intermetallic Compounds"*

#### Numakura H. (Japan)

*"Anelastic Relaxation due to Diffusional Jumps of Intrinsic Atomic Defects in Ordered Alloys"*