

**International Workshop**  
**Advanced Materials & Technologies**

organized by

**Research Institute for Technical Physics and Materials Science**  
**MTA- MFA, Budapest**



**23<sup>rd</sup> – 25<sup>th</sup> March 2011**

at

***MTA-MFA,***  
***Konkoly Thege Miklós út 29-33, Budapest, Hungary***

endorsed by

## Hungarian Society of Materials Science



and



*Podporujeme výskumné aktivity na Slovensku / Projekt je spolufinancovaný zo zdrojov EÚ*

and

## Bay Zoltan Foundation for Applied Research



## Committee & Advisory Board

I. Bársony, MTA-MFA, J. Gyulai - HSMS

J. Dusza, F. Lofaj – IMR SAS

N. Babcsán, G. Kaptay - Bay Zoltán Foundation

### Local organizers:

C. Balázs, O. Tapasztó

# Program

## March 23, 2011

- 11:30      Arrival to MTA-MFA – Lunch
- 13:30      **I. Bársony**, director of MFA - **Opening**
- 13:35      **J. Gyulai** - president of Hungarian Society of Materials Science - Forewords
- 13:40      **I. Bársony** - Research orientation of MFA
- 14:00      **C. Balázs**i - Research Activities at Ceramics and Nanocomposites Dept., MFA
- 14:15      **J. Dusza** - Centre of excellence NanoCEXmat
- 14:45      **F. Lofaj** - Research activities at IMR SAS
- 15:00      **P. Hvizdoš** - Key research facilities at IMR SAS
- 15:15      *Signing ceremony of MOU document between MTA MFA and IMR SAS*
- 15:30      *Coffee break*
- Chairs      *J. Dusza, C. Balázs*i
- 15:45      **M. Kašiarová** - Oxidation characteristics of Si<sub>3</sub>N<sub>4</sub> based ceramics
- 16:05      **A. Kovalčíková** - Thermal shock resistance of Si<sub>3</sub>N<sub>4</sub>-CNT ceramics
- 16:20      **P. Tatarko** - Mechanical properties of Si<sub>3</sub>N<sub>4</sub>-SiC nanocomposites
- 16:35      **E. Csehová** - Depth sensing indentation of Al<sub>2</sub>O<sub>3</sub> + SiC nanoceramics
- 16:50      **G. Kaptay** - The Activity of Res. Group on Nanomaterials at the Bay-Logi
- 17:10      *Closing*
- 19:00      Evening event

## March 24, 2011

Chairs *N. Babcsán, J. Dusza*

- 9:00 **O. Tapasztó** - Silicon nitride/CNT nanocomposites
- 9:15 **J. Volk** - ZnO nanowires for sensorics
- 9:30 **A.L. Tóth** - Scanning Electron Microscopy and related methods
- 9:45 **I.E. Lukács** - Electron beam lithography and electrospinning
- 10:00 *Coffee break*

Chairs *N. Hegman, M. Kašiarová*

- 10:15 **A. Duszová** - Indentation testing of WC-Co hardmetals
- 10:30 **V. Puchý** - Microstructure and mechanical properties of ZrO<sub>2</sub>-CNF
- 10:45 **P. Horňák** - Influence of deposition conditions of PECVD WC-C coatings on micro/nano hardness
- 11:00 **L. Hegedúsová** - Contact strength of advanced ceramics

Chairs *F. Lofaj, C. Balázs*

- 11:15 **N. Babcsán** - Materials and Application Technology R&D at Bay-Logi
- 11:35 **S. Beke** - Oscillation Assisted Metal Foaming
- 11:50 **J. Babcsán Kiss** - Tribological behaviors of ion implanted ceramics
- 12:05 **Gy. Számel** - Heat conductivity of aerogels and aerogel sandwich structures
- 12:20 – 14:00 *Lunch break*

Chairs *P. Hvizdos, J. Volk*

- 14:15 **P. Sóki** - 3D radioscopy
- 14:30 **H. Robotka** - Nanomedical Drug Production Technologies
- 14:45 **N. Hegman** - TEM Orientation mapping on nanoscale
- 15:00 **I. Dódon** - Electron Crystallography

15:00 – 15:20 *Coffee break*

Chairs *J. Dusza, C. Balázs*

15:20 **S. Kurunczi** – Immobilization in biosensorics

15:35 **P. Neumann** - Periodic, large scale nanolithography of graphene

15:50 **I. Tamáska** - Colour changes on cooling of lepidoptera scales containing photonic nanoarchitectures

16:05 **B. Pataki** - CdTe nanoparticles biosynthesized by yeast cells

16:20 **G. Piszter** - Color based discrimination of chitin–air nanocomposites in butterfly scales and their role in conspecific recognition

16:35 **Kiss Ákos Koppány**, Types of grain boundaries in thin Si films, produced by melt mediated crystallization

16:50 *Closing*

19.00 Evening event

## March 25, 2011

9.00 – 11.00 Visit at the MFA/ELTE/BME laboratories

Deadline for abstract submission is **15<sup>th</sup> February 2011**.

Submitted manuscripts are considered for reviewing and publishing in electronical journal of Hungarian Society of Materials Science ([www.kfki.hu/anyagokvilaga](http://www.kfki.hu/anyagokvilaga)).

The authors are encouraged to consider as publishing media the following other journals too:

Central European Journal of Engineering (<http://versita.com/ceje/>),

Central European Journal of Chemistry (<http://versita.com/cejc/>),

Recent Patents on Nanotechnology (<http://www.bentham.org/nanotec/index.htm>)

Registration fee is 80 Euro (50 Euro for one day) for each participant to the event which covers organizational costs, coffee and refreshments. The registration fee should be sent to bank account ERSTE Bank HU19 1164 4006 4556 5800 4400 0003 until 5<sup>th</sup> March 2011.

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