

Oral Program

Thursday 3 June 2010

9:25-9:30 Welcome

Session I

Chair: Kostas Giannakopoulos

9:30-10:15 “Nanocrystalline Zinc Oxide: From Particles to Devices”

Markus Winterer (Invited)

Moazzam Ali, Ruzica Djenadic, Ahmed Khalil

Nanoparticle Process Technology, University Duisburg-Essen, Duisburg, Germany

10:15-10:35 “Electrical characterization of Co and Ni doped LSGM ceramics”

Ivan Stijepovic¹, Miroslav Kolar¹, Azad Darbandi², Vladimir V. Srdic¹

¹*Department of Materials Engineering, Faculty of Technology, University of Novi Sad, Novi Sad, Serbia*

²*Gemeinschaftslabor Nanomaterialien, Forschungszentrum Karlsruhe- TU Darmstadt, Darmstadt, Germany*

10:35-10:55 “Microstructures and grain boundaries of ceramic nanocomposites”

J. Dusza

Institute of Materials Research, Slovak Academy of Sciences, Košice, Slovak Republic

10:55-11:30 Coffee Break

Session II

Chair: Vladimir Srdic

11:30-12:15 “From Dilute to Condensed Magnetic Semiconductors: A Protocol for Systematic Characterizations”

MauroRovezzi¹ (Invited)

A. Navarro-Quezada¹, B. Faina¹, T. Devillers¹, T. Li¹, A. Grois¹, F. d’Acapito², R. T. Lechner¹, G. Bauer¹, W. Stefanowicz^{3,4}, D. Sztenkiel³, R. Jakiela³, M. Sawicki³, T. Dietl^{3,5} and A. Bonanni¹

¹*Institut für Halbleiter-und-Festkörperphysik, Johannes Kepler University, Linz, Austria*

²*IOM-OGG, Consiglio Nazionale delle Ricerche, c/o ESRF GILDA, Grenoble, France*

³*Institute of Physics, Polish Academy of Sciences, Warszawa, Poland*

⁴*Laboratory of Magnetism, Bialystok University, Bialystok, Poland*

⁵*Institute of Theoretical Physics, University of Warsaw, Warszawa, Poland*

12:15 - 12:35 “The influence of phase and structural purity on infrared reflectivity of EuTiO₃”

magnetoelectric ceramics”

Karel Maca¹, Martin Kachlik¹, Veronica Goian²

¹*Brno University of Technology, Brno, Czech Republic*

²*Institute of Physics, ASCR Prague, Czech Republic*

12:35 - 12:55 “Micro/nano indentation behaviour of ceramic nanocomposites”

P. Hvizdos

Institute of Materials Research, Slovak Academy of Sciences, Košice, Slovak Republic

12:55-2:30 Lunch

Session III

Chair: Karel Maca

2:30-3:15 “Epoxy-based organic-inorganic nanocomposites: preparation and characterization”

Milena Špírková¹ (Invited)

Petr Duchek², Adam Strachota¹, Jiří Brus¹, Josef Baldrian¹, Jiří Kotek¹, Miroslav Šlouf¹

¹*Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic Prague, Czech Republic*

²*Faculty of Mechanical Engineering, University of West Bohemia, Plzeň, Czech Republic*

3:15-3:35 “Electrical/dielectric properties and study of PTC effect of polymer composites with metal inclusions”

H. Zois^{1,2}, A. Kanapitsas¹, Ye. P. Mamunya³

¹*Technological Educational Institute (TEI) of Lamia, 3rd km Old National Road Lamia-Athens, GR-35 100 Lamia, Greece*

²*National Technical University of Athens, Department of Physics, Zografou Campus, GR-157 80 Athens, Greece*

³*National Academy of Sciences of Ukraine, Institute of Macromolecular Chemistry, Kharkovskoe shousse 48, Kiev 02160, Ukraine*

3:35-3:55 “Alumino-silicate inorganic polymers modified by cellulose”

Libor Kobera, Martina Urbanová, Jiri Brus

Institute of Macromolecular Chemistry, Academy of Science of the Czech Republic, Prague, Czech Republic

3:55-4:30 “The genesis and development of the National Center for Scientific Research Demokritos”

Eleni Gamari

Institute of Materials Science, National Center for Scientific Research “Demokritos”, Greece

4:30-6:00 Coffee Break and Poster Session

5:00-7:00 Management Board Meeting

Friday 4 June 2010:

Session IV

Chair: Evagelia Moshopoulou

- 9:30-10:15 “Neutron success stories in complex and structural materials physics”
Alan Hurd (Invited)
Lujan Neutron Scattering Center at LANSCE, Los Alamos National Laboratory, Los Alamos, New Mexico, USA
- 10:15-10:35 “Solvent-mediated nanoparticle self-assembly: the role played by evaporation rate”
D. Calzolari¹, D. Pontoni¹, J. Daillant²
¹*European Synchrotron Radiation Facility, Beamline ID15, Grenoble, France*
²*Laboratoire Interdisciplinaire sur l'Organisation Nanométrique et Supramoléculaire (LIONS), Service de Chimie Moléculaire, CEA Saclay, Gif-sur-Yvette Cedex, France*
- 10:35-10:55 “Synthesis of core-shell particles as supports for enzyme immobilization”
Milan Nikolic^{1,2}, Mirjana Antov², Vladimir V. Srdic¹, Konstantinos P. Giannakopoulos³
¹*Department of Materials Engineering, Faculty of Technology, University of Novi Sad, Serbia*
²*Department of Applied Chemistry, Faculty of Technology, University of Novi Sad, Serbia*
³*Institute of Materials Science, National Center for Scientific Research “Demokritos”, Greece*
- 10:55-11:30 Coffee Break

Session V

Chair: Dimitris Kechrakos

- 11:30-12:15 “Design of Colloidal Nanocomposite Adhesives: Optimisation through Nanostructural Control”
Joseph L. Keddie (Invited)
Department of Physics and Surrey Materials Institute, University of Surrey, Surrey, United Kingdom
- 12:15 - 12:35 “Hybrid organic/inorganic epoxy materials prepared by sol-gel process”
Hynek Beneš^{1,2}, Jocelyne Galy², Jean-François Gerard², Ludovic Vallette³
¹*Institute of Macromolecular Chemistry AS CR, Prague, Czech Republic*
²*Ingénierie des Matériaux Polymères UMR CNRS, Université de Lyon – INSA Lyon, Villeurbanne, France*
³*DOW Chem., Texas Operation, Freeport, Texas, USA*
- 12:35 - 12:55 “Preparation of polyurethane nanocomposite materials for high temperature application”
J. Pavličević¹, M. Špirkova², A. Strachota², O. Bera¹, R. Poręba², K. Mészáros Szécsényi³ and J. Budinski-Simendić¹

¹*Faculty of Technology, University of Novi Sad, Novi Sad, Serbia*

²*Institute of Macromolecular Chemistry ASCR, Prague, Czech Republic*

³*Faculty of Sciences, Novi Sad, Serbia*

12:55-2:30 Lunch

Session VI

Chair: Biljana Stojanovic

- 2:30-3:15 “Synchrotron Radiation: a novel research tool in materials science”
Maria Katsikini (Invited)
Aristotle University of Thessaloniki, School of Physics, Section of Solid State Physics, Thessaloniki, Greece
- 3:15-3:35 “AFM characterization of topography and mechanical properties of nanocomposite PECVD WC-C coatings”
F. Lofaj, P. Hviščová, A. Duszová, J. Dusza
Institute of Materials Research of Slovak Academy of Sciences, Watsonova Košice, Slovak Republic
- 3:35-3:55 “Mechanical properties of the geopolymers filled with short polypropylene fibers
Lenka Benešsová”
Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic

3:55-4:30 Coffee Break

Session VII

Chair: Eleni Gamari

- 4:30-5:15 “Nanoparticle Functionalized Reactors for Green Mobility and Energy Production”
A. G. Konstandopoulos^{1,2} (Invited)
¹*Aerosol & Particle Technology Laboratory, CERTH/CPERI, P.O. Box 361, Thessaloniki 57001, Greece*
²*Department of Chemical Engineering, Aristotle University, P.O. Box 1517, 54006, Thessaloniki, Greece*
- 5:15-5:35 “The influence of titanium(IV)oxide nanoparticles on the properties of polyurethane composites based on renewable resources”
Ivan S. Ristic¹, Jaroslava Budinski-Simendic¹, Radmila Radicevic¹, Katalin Meszaros Secenyi², Ayse Aroguz³, Ivan Krakovsky⁴, Helena Valentova⁴
¹*Department of Material Engineering, Faculty of Technology, University of Novi Sad, Serbia*
²*Faculty of Science, University of Novi Sad, Serbia*

³*Engineering faculty, University of Istanbul, Turkey*

⁴*Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic*

5:35-5:55 “Viscoelasticity of elastomeric nano-composites based on chlorosulfonated polyethylene as network precursor”

Radovanovic Blaga¹, Simendic Vesna², Valentova Helena³, Markovic Gordana⁴, Budinski-Simendic Jaroslava¹, Marinovic-Cincovic Milena⁵

¹*Faculty of Science, Niš, Serbia*

²*Faculty of Technology, University of Novi Sad, Serbia*

³*Charles University, Faculty of Mathematics and Physics, Prague, Czech Republic*

⁴*Tigar, Pirot, Serbia*

⁴*Institute of Nuclear Science Vinca, Belgrade, Serbia*

Saturday 5 June 2010:

Session VIII

Chair: Kostas Giannakopoulos

- 9:30-10:15 “Structural Characterization of Emerging Materials by Neutron and Synchrotron X-ray Scattering”
Mark A. Green (Invited)
NIST Center for Neutron Research, National Institute of Standards and Technology and Department of Materials Science and Engineering, University of Maryland, College Park, MD, USA
- 10:15-10:35 “New techniques for TEM nano-analysis : precession diffraction and 3D diffraction tomography for structure determination and (EBSD-TEM like) high resolution phase/orientation maps”
Eleni Sarakinou
Physics Department, Aristotle University of Thessaloniki, GR54124, Thessaloniki, Greece
Collaborator , NanoMEGAS SPRL, Brussels, Belgium www.nanomegas.com
- 10:35-10:55 “Study of molecular properties of specific pharmaceutical materials based on solid solutions and dispersions of active ingredients in polymer matrix”
Olivia Policianova, Jiri Brus
Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic
- 10:55-11:15 “Multi-scale structuring of elastomeric nanocomposites based on different network precursor”
Jovanovic Vojislav¹, Simendic Borislav², Tanasic Ljiljana³, Jovanovic-Samarzija Suzana¹, Budinski-Simendic Jaroslava³
¹*Faculty of Science, Kosovska Mitrovica, Serbia*
²*The Higher Educational Technical School of Professional Studies, Novi Sad, Serbia*
³*Faculty of Technology, University of Novi Sad, Novi Sad, Serbia*

Closing