

## GENERAL CONFERENCE PROGRAMME

### Sunday, August 30, 2015

08<sup>00</sup>-19<sup>00</sup> **Registration**

### Monday, August 31, 2015

08<sup>00</sup>-09<sup>00</sup> **Registration**

09<sup>00</sup>-10<sup>00</sup> **OPENING CEREMONY**  
- Introduction and Welcome

10<sup>15</sup>-13<sup>15</sup> **First Plenary Session**

13<sup>15</sup> **Photo Session**

15<sup>00</sup>-18<sup>45</sup> **Symposium A, Conference Hall**

15<sup>00</sup>-18<sup>30</sup> **Symposium B, Small Hall**

19<sup>30</sup>-21<sup>00</sup> **Cocktail Party**

**SYMPOSIUM A:** Advanced Methods in Synthesis  
and Processing of Materials

**SYMPOSIUM B:** Advanced Materials for High-  
Technology Application

**SYMPOSIUM C:** Nanostructured Materials

**SYMPOSIUM D:** Eco-materials and Eco-  
technologies

**SYMPOSIUM E:** Biomaterials

### Tuesday, September 1, 2015

09<sup>00</sup>-13<sup>00</sup> **Second Plenary Session**

15<sup>00</sup>-16<sup>45</sup> **Symposium C, Conference Hall**

15<sup>00</sup>-16<sup>45</sup> **Symposium E, Small Hall**

**Symposium B, Small Hall**

20<sup>00</sup>-22<sup>00</sup> **Poster Session I (Symposium A)**

### Wednesday, September 2, 2015

09<sup>00</sup>-12<sup>45</sup> **Third Plenary Session**

14<sup>00</sup>-19<sup>00</sup> **Excursion to Dubrovnik, Croatia**

20<sup>00</sup>-22<sup>00</sup> **Poster Session II (Symposium B)**

### Thursday, September 3, 2015

09<sup>00</sup>-12<sup>30</sup> **Fourth Plenary Session**

14<sup>00</sup>-19<sup>00</sup> **Boat-trip around Boka Kotorska Bay**

20<sup>00</sup>-22<sup>00</sup> **Poster Session III (Symposiums C, D and E)**

### Friday, September 4, 2015

09<sup>00</sup>-12<sup>30</sup> **Fifth Plenary Session**

12<sup>30</sup>-13<sup>00</sup> **Awards and Closing of the Conference**

## OPENING CEREMONY

*Monday, August 31, 2015*

09<sup>00</sup>-10<sup>00</sup>

### **20 Years of YUCOMAT Conferences**

Dragan Uskoković  
President of MRS-Serbia, Belgrade, Serbia

### **MRS-Serbia 2015 Award for a Lasting and Outstanding Contribution to Materials Science and Engineering**

#### **Atomic-Layer Engineering and High-Tc Superconductivity in Cuprates**

Ivan Božović  
Brookhaven National Laboratory, Yale University, Upton, New York, USA

Break: 10<sup>00</sup>-10<sup>15</sup>

## FIRST PLENARY SESSION

*Monday, August 31, 2015*

Session I: 10<sup>15</sup>-11<sup>45</sup>

**Chairmen: Robert Sinclair and Velimir Radmilović**

10<sup>15</sup>-10<sup>45</sup> **Quantum Dot Formation on Nanowires**

Q. Zhang<sup>1</sup>, S.H. Davis<sup>1</sup>, J.-N. Aqua<sup>2</sup>, Peter W. Voorhees<sup>3</sup>

<sup>1</sup>Engineering Sciences and Applied Mathematics, Northwestern University, USA,

<sup>2</sup>Institut des Nanosciences de Paris, Université Pierre et Marie Curie Paris 6, France,

<sup>3</sup>Materials Science and Engineering, Northwestern University, USA

10<sup>45</sup>-11<sup>15</sup> **Electromagnetic Field Mapping at the Nanoscale in the Transmission Electron  
Microscope**

Rafal E. Dunin-Borkowski, Jan Caron, Andras Kovacs, Patrick Diehle, Vadim  
Migunov

Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons and Peter  
Grünberg Institute, Forschungszentrum Jülich, Germany

11<sup>15</sup>-11<sup>45</sup> **Electron Holography for Structures and Fields in Nanomaterials**

Hannes Lichte, Felix Börrnert, Bernd Einkenkel, Andreas Lenk, Axel Lubk, Falk Röder,  
Jan Sickmann, Sebastian Sturm, Karin Vogel, Daniel Wolf

Triebenberg Laboratory, Institute of Structure Physics, Technische Universität  
Dresden, Germany

**Break: 11<sup>45</sup>-12<sup>15</sup>**

**Session II: 12<sup>15</sup>-13<sup>15</sup>**

**Chairmen: Peter W. Voorhees and Rafal E. Dunin-Borkowski**

12<sup>15</sup>-12<sup>45</sup> **An Up-date on In Situ and Environmental High Resolution Electron Microscopy of Material Reactions**

Robert Sinclair<sup>1</sup>, Sang Chul Lee<sup>1</sup>, Ai Leen Koh<sup>2</sup>

<sup>1</sup>Department of Materials Science and Engineering, Stanford University, Stanford, USA, <sup>2</sup>Stanford Nano Shared Facilities, Stanford University, Stanford, USA

12<sup>45</sup>-13<sup>15</sup> **Zigzag Inversion Domain Boundaries in Functional Oxide Nanowires**

Velimir Radmilović

Nanotechnology and Functional Materials Center, Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, Belgrade, Serbia; Serbian Academy of Sciences and Arts, Knez Mihailova 35, 11000 Belgrade, Serbia

**Break: 13<sup>15</sup>-15<sup>00</sup>**

## **SYMPOSIUM A: ADVANCED METHODS IN SYNTHESIS AND PROCESSING OF MATERIALS**

**Conference Hall**

**Session I: 15<sup>00</sup>-17<sup>00</sup>**

**Chairmen: Jan Dutkiewicz and Smilja Markovic**

15<sup>00</sup>-15<sup>15</sup> **High Resolution Materials Characterisation using Aberration Corrected Scanning Transmission Electron Microscopy**

David R.G. Mitchell, Gilberto Casillas, Elena Pereloma

UOW Electron Microscopy Centre, University of Wollongong, Australia

15<sup>15</sup>-15<sup>30</sup> **Lead Free Piezoelectric Materials for Transducer Applications**

Mai Pham Thi

Thales Research Technology France, 1 Avenue A. Fresnel, 91676 Palaiseau Cedex, France

15<sup>30</sup>-15<sup>45</sup> **Silver Matrix Graphene Strengthened Composites with High Electrical Conductivity**

Jan Dutkiewicz, Piotr Ozga, Janusz Pstruś, Justyna Stolarska, Wojciech Maziarz, Institute of Metallurgy and Materials Science of the Polish Academy of Sciences, 25, Reymonta Str., 30-059 Kraków, Poland

- 15<sup>45</sup>-16<sup>00</sup> **Tailoring Microstructure of Thermoelectric Oxides**  
Boštjan Jančar<sup>1</sup>, Damjan Vengust<sup>1</sup>, Tilen Sever<sup>1</sup>, Goran Dražić<sup>2</sup>, Ioannis Petousis<sup>3</sup>  
<sup>1</sup>Advanced Materials Department, Jozef Stefan Institute, Ljubljana, Slovenia,  
<sup>2</sup>Laboratory for Materials Chemistry, National Institute of Chemistry, Ljubljana,  
Slovenia, <sup>3</sup>Department of Mechanical Engineering, Stanford University, Stanford CA,  
USA
- 16<sup>00</sup>-16<sup>15</sup> **Acrobatics of N'-2-propylidene-4-hydroxybenzohydrazide Crystals**  
Igor Djerđj<sup>1</sup>, Jasminka Popović<sup>1</sup>, Željko Skoko<sup>2</sup>  
<sup>1</sup>Ruder Bošković Institute, Bijenička c. 54, HR-10000 Zagreb, Croatia, <sup>2</sup>Department of  
Physics, Faculty of Science, University of Zagreb, Bijenička c. 32, HR-10000 Zagreb,  
Croatia
- 16<sup>15</sup>-16<sup>30</sup> **Towards Rotational Molding of Ultra Low Density Cellular Polymeric  
Composites**  
Remon Pop-Iliev  
UOIT-University of Ontario Institute of Technology, Canada
- 16<sup>30</sup>-16<sup>45</sup> **On PolyHIPE Based Separators for Thin Film Lithium-Ion Batteries**  
Werner Paschinger, Alexander Bismarck  
Institute for Materials Chemistry & Research, University of Vienna, Waehringer  
Straße 42, A-1090 Wien, Austria
- 16<sup>45</sup>-17<sup>00</sup> **Fluorine Doping of Layered NaxCoO<sub>2</sub> Structure**  
Dragana Jugović<sup>1</sup>, Miloš Milović<sup>1</sup>, Miodrag Mitrić<sup>2</sup>, Nikola Cvjetičanin<sup>3</sup>, Max  
Avdeev<sup>4</sup>, Bojan Jokić<sup>5</sup>, Dragan Uskoković<sup>1</sup>  
<sup>1</sup>Institute of Technical Sciences of SASA, Belgrade, Serbia, <sup>2</sup>Vinča Institute of Nuclear  
Sciences, University of Belgrade, Belgrade, Serbia, <sup>3</sup>Faculty of Physical Chemistry,  
University of Belgrade, Belgrade, Serbia, <sup>4</sup>Bragg Institute, Australian Nuclear Science  
and Technology Organisation, Locked Bag 2001, Kirrawee DC, NSW 2232, Australia,  
<sup>5</sup>Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia

**Break: 17<sup>00</sup>-17<sup>30</sup>**

**Session II: 17<sup>30</sup>-18<sup>45</sup>**

**Chairmen: Mai Pham Thi and Boštjan Jančar**

- 17<sup>30</sup>-17<sup>45</sup> **Advances in Improvement of Pb-based Thin Layers Deposited on Nb Substrate**  
Anna Kosinska<sup>1</sup>, Marek Barlak<sup>1</sup>, Jerzy Lorkiewicz<sup>1</sup>, Jacek Sekutowicz<sup>2</sup>, Robert Nietubyć<sup>1</sup>, Lukasz Kurpaska<sup>1</sup>, Katarzyna Nowakowska – Langier<sup>1</sup>  
<sup>1</sup>National Center for Nuclear Research, st. A. Soltana 7, 05-400 Swierk, Poland,  
<sup>2</sup>Deutsches Elektronen Synchrotron (DESY), 85 Notkestrasse, D-22-607 Hamburg, Germany
- 17<sup>45</sup>-18<sup>00</sup> **Photoluminescence Properties of YAG:Dy and YAG:Dy:Er Thermographic Phosphors Synthesized by Solid State, Co-precipitation and Solvothermal Methods**  
Liudmyla M. Chepyga<sup>1</sup>, Gordana Jovicic<sup>1,2</sup>, Andreas Vetter<sup>1,2</sup>, Miroslaw Batentschuk<sup>2</sup>, Christoph J. Brabec<sup>2</sup>  
<sup>1</sup>Energie Campus Nürnberg, Fürther Str. 250, 90429 Nürnberg, <sup>2</sup>Lehrstuhl für Materialien der Elektronik und Energietechnologie, Friedrich-Alexander-Universität, Erlangen-Nürnberg, Martensstrasse 7, 91058 Erlangen
- 18<sup>00</sup>-18<sup>15</sup> **Influence of Sintering Atmosphere on the Crystal Structure, Microstructure, Dielectric and Optical Properties of BaTi<sub>1-x</sub>Sn<sub>x</sub>O<sub>3</sub> (x = 0, 0.05 and 0.1) Ceramics**  
Smilja Marković<sup>1</sup>, Ljiljana Veselinović<sup>1</sup>, Andrej Garaj<sup>2</sup>, Nikola Cvjetičanin<sup>2</sup>, Srečo D. Škapin<sup>3</sup>, Dragan Uskoković<sup>1</sup>  
<sup>1</sup>Institute of Technical Sciences of SASA, Belgrade, Serbia, <sup>2</sup>Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia, <sup>3</sup>Jožef Stefan Institute, Ljubljana, Slovenia
- 18<sup>15</sup>-18<sup>30</sup> **The Effect of D,L-lactide-based Linker on the Hydrolytic Stability of Polyurethane Films**  
Milena Špírková, Magdalena Serkis, Rafal Poreba, Jana Kredatusová, Lud'ka Machová, Jiří Hodan  
Institute of Macromolecular Chemistry AS CR, Prague, Czech Republic
- 18<sup>30</sup>-18<sup>45</sup> **Temperature Dependencies of Thermo-Physical Properties of Selected Foundry Sands**  
Paweł K. Krajewski  
AGH University of Science and Technology, Faculty of Foundry Engineering, 23 Reymonta Street, 30-059 Krakow, Poland

**SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATIONS**

Small Hall

**Session I: 15<sup>00</sup>-18<sup>30</sup>**

**Chairpersons: Dragana Jugović and Irena Nikolić**

- 15<sup>00</sup>-15<sup>15</sup> **Silver Nanowire Based Networks for Transparent Electrode Applications**  
Vuk Radmilović<sup>1</sup>, Manuela Göbel<sup>2</sup>, Silke Christiansen<sup>2,3</sup>, Erdmann Spiecker<sup>4</sup>, Velimir Radmilović<sup>5,6</sup>  
<sup>1</sup>Innovation Center, University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia, <sup>2</sup>Max Planck Institute for the Science of Light, Günther-Scharowsky-Str. 1, 91058 Erlangen, Germany, <sup>3</sup>Helmholtz Centre Berlin for Materials and Energy, Hahn-Meitner Platz 1, 14109 Berlin, Germany, <sup>4</sup>Center for Nanoanalysis and Electron Microscopy (CENEM), Friedrich-Alexander University Erlangen-Nürnberg, Cauerstrasse 6, 91058 Erlangen, Germany, <sup>5</sup>University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia, <sup>6</sup>Serbian Academy of Sciences and Arts, Knez Mihailova 35, 11000 Belgrade, Serbia
- 15<sup>15</sup>-15<sup>30</sup> **Direct Observation of the Magneto Crystal Anisotropy Axis in Fe<sub>3-x</sub>O<sub>4</sub> Nanoparticles by MFM**  
Carlos Moya<sup>1</sup>, Óscar Iglesias-Freire<sup>2,3</sup>, Nicolás Pérez<sup>1</sup>, Xavier Batlle<sup>1</sup>, Amílcar Labarta<sup>1</sup>, Agustina Asenjo<sup>2</sup>  
<sup>1</sup>Departament de Física Fonamental, Institut de Nanociència i Nanotecnologia, Universitat de Barcelona, Barcelona, Spain, <sup>2</sup>Instituto de Ciencia de Materiales de Madrid (ICMM-CSIC), Cantoblanco, Madrid, 28049 Spain, <sup>3</sup>Department of Physics, McGill University, Montreal, Canada
- 15<sup>30</sup>-15<sup>45</sup> **Smart Hydrogels of Thermoresponsive Interpenetrating Networks of Poly(N-isopropylacrylamide) and Polyacrylamide**  
Jiri Spevacek, Marek Radecki, Lenka Hanykova, Alexander Zhigunov, Zdenka Sedlakova  
Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic; Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic
- 15<sup>45</sup>-16<sup>00</sup> **Methodology of Formation of New Generation Multilayer Coatings for Cutting Tools**  
Alexey Vereschaka<sup>1</sup>, Anatoly Vereschaka<sup>1</sup>, Boris Mokritskii<sup>2</sup>, Andre Batako<sup>3</sup>  
<sup>1</sup>Moscow State Technological University STANKIN, <sup>2</sup>Komsomolsk-na-Amure State Technical University, <sup>3</sup>Liverpool John Moores University
- 16<sup>00</sup>-16<sup>15</sup> **Design of Phase Percolated Composites for Military Application**  
Paulina Chabera, Anna Boczkowska  
Warsaw University of Technology, Faculty of Materials Science and Engineering, Woloska St 141, 02-507 Warsaw

- 16<sup>15</sup>-16<sup>30</sup> **Green's Functions Analysis of Microcracking in a Brittle Material**  
Hillal Ayas, Mohamed Chabaat  
Buyilt Environmental research Lab., Civil Engineering Faculty, University of Sciences and Technology Houari Boumediene, B.P. 32 El Alia Bab Ezzouar, 16111 Algiers, Algeria.
- 16<sup>30</sup>-16<sup>45</sup> **The Influence of Thermal Treatment on Microstructural and Magnetic Properties of Electrical Steel**  
Branko Koprivica<sup>1</sup>, Ioan Dumitru<sup>2</sup>, Alenka Milovanović<sup>1</sup>, Ovidiu Caltun<sup>2</sup>  
<sup>1</sup>Faculty of Technical Sciences, University of Kragujevac, Čačak, Serbia  
<sup>2</sup>Faculty of Physics, Alexandru Ioan Cuza University of Iasi, Romania
- 16<sup>45</sup>-17<sup>00</sup> **Spin Hall Effect in (111)-Oriented Thin Films of SnSe and SnTe Topological Crystalline Insulators**  
Shiva Safaei, Marta Galicka, Perla Kacman, Ryszard Buczko  
Institute of Physics Polish Academy of Science, Warsaw, Poland
- Break: 17<sup>00</sup>-17<sup>30</sup>**
- 17<sup>30</sup>-17<sup>45</sup> **Influence of Degradation Process on Composite Performance with Embedded Fibre Optical Sensors**  
Rafal Kozera, Stefan F. Awietjan, Przemyslaw D. Gacia, Anna Boczkowska  
Warsaw University of Technology, Faculty of Materials Science and Engineering, ul. Woloska 141, 02-507 Warszawa, Poland
- 17<sup>45</sup>-18<sup>00</sup> **Femtosecond Laser Interaction with Nickel Based Superalloy M-252**  
Predrag Drobnjak<sup>1</sup>, Andjelka Milosavljević<sup>2</sup>, Sanja Petronić<sup>3</sup>, Suzana Polić<sup>4</sup>, Strain Posavljak<sup>5</sup>  
<sup>1</sup>TEHNIKUM-TAURUNUM, Belgrade, <sup>2</sup>Faculty of Mechanical Engineering, University of Belgrade, <sup>3</sup>Innovation Centre, Faculty of Mechanical Engineering, <sup>4</sup>Central Institute for Conservation in Belgrade, <sup>5</sup>Faculty of Mechanical Engineering, University of Banja Luka, BiH

18<sup>00</sup>-18<sup>15</sup> **Thermal Resistance of Alkali Activated Binders Synthesized Using the Fly Ash and Steel Slag**

Irena Nikolić<sup>1</sup>, Smilja Marković<sup>2</sup>, Ljiljana Karanović<sup>3</sup>, Vuk Radmilović<sup>4</sup>, Velimir Radmilović<sup>4</sup>

<sup>1</sup>University of Montenegro, Faculty of Metallurgy and Technology, Džordža Vašingtona bb, 81 000 Podgorica, Montenegro, <sup>2</sup>Institute of Technical Sciences of SASA, Belgrade, Serbia, <sup>3</sup>University of Belgrade, Faculty of Mining and Geology, Laboratory of Crystallography, Đušina 7, 11000 Belgrade, Serbia, <sup>4</sup>University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia

18<sup>15</sup>-18<sup>30</sup> **Determination of the Temperature Transfer Function of Building Constructions Based on Measurement Data**

Zorana Petojević<sup>1</sup>, Milica Mirković<sup>1</sup>, Željko Jovanović<sup>2</sup>, Radovan Gospavić<sup>1</sup>, Goran Todorović<sup>1</sup>

<sup>1</sup>Civil Engineering Faculty of University of Belgrade, <sup>2</sup>Orion Telecom Company Belgrade



## SECOND PLENARY SESSION

*Tuesday, September 1, 2015*

**Session I: 09<sup>00</sup>-11<sup>00</sup>**

**Chairmen: Hannes Lichte and Wolfgang Jäger**

09<sup>00</sup>-09<sup>30</sup> **20 Years of Nanostructured Materials: Enabling Nanotechnology to Benefit Society**

Richard W. Siegel

Materials Science and Engineering Department, Rensselaer Polytechnic Institute,  
Troy, New York 12180, USA

09<sup>30</sup>-10<sup>00</sup> **Solving Problems in Nanodimensions by Aberration-corrected Transmission Electron Microscopy with Picometer Precision**

Knut W. Urban

Research Center Juelich, PGI-5, D52425 Juelich, Germany

10<sup>00</sup>-10<sup>30</sup> **Holographic Imaging and Optical Sectioning in the Aberration-corrected STEM**

Harald Rose

University of Ulm, Albert-Einstein-Allee 11, 89069 Ulm, Germany

10<sup>30</sup>-11<sup>00</sup> **Instrumentation for High Resolution EM and Its Limitations**

Max. Haider, Peter Hartel, Stephan Uhlemann, Heiko Müller, Joachim Zach  
CEOS GmbH, Englerstr. 28, D-69126 Heidelberg, Germany

**Break: 11<sup>00</sup>-11<sup>30</sup>**

**Session II: 11<sup>30</sup>-13<sup>00</sup>**

**Chairmen: Knut Urban and Richard Siegel**

11<sup>30</sup>-12<sup>00</sup> **Advanced and In Situ Transmission Electron Microscopy of Growth and Interface Phenomena of Oxide Semiconductor Nanowires**

Yanicet Ortega<sup>1,2</sup>, David Maestre<sup>1,2</sup>, Christel Dieker<sup>1</sup>, Dietrich Häussler<sup>1</sup>, Ana Cremades<sup>2</sup>, Paloma Fernández<sup>2</sup>, Javier Piqueras<sup>2</sup>, Wolfgang Jaeger<sup>1</sup>

<sup>1</sup>Institute of Materials Science, Christian-Albrechts-University of Kiel, 24143 Kiel, Germany EU, <sup>2</sup>Dept. Materials Physics, University Complutense of Madrid, 28040 Madrid, Spain EU

12<sup>00</sup>-12<sup>30</sup> **Technology Transfer, Especially in Materials Science**

Kyung-Ho Shin

Korea Institute of Science and Technology, Seoul, Korea

12<sup>30</sup>-13<sup>00</sup> **Alumina-dispersed Cu Alloy of High Mechanical Strength and Electric Conductivity beyond Conventional Limit by Interfacial Design between Alumina Particle/Cu Matrix**

Kwang Ho Kim<sup>1</sup>, Seung Zeon Han<sup>2</sup>

<sup>1</sup>School of Materials Science and Engineering, Pusan National University, Busan 609-735, Korea, <sup>2</sup>Structural Materials Division, Korea Institute of Materials Science, Changwon 642-831, Korea

**Break: 13<sup>00</sup>-15<sup>00</sup>**

## **SYMPOSIUM C: NANOSTRUCTURED MATERIALS**

**Conference Hall**

**Session I: 15<sup>00</sup>-16<sup>45</sup>**

**Chairpersons: Gerda Rogl and Natalia Kamanina**

15<sup>00</sup>-15<sup>15</sup> **The Origin of Exceptional Activity of Pt<sub>3</sub>Ni(111) Catalyst in CO Oxidation Reaction**

Dušan Tripković<sup>1,2</sup>, Vladimir Tripković<sup>3</sup>, Amalija Tripković<sup>2</sup>, Vladislava Jovanović<sup>2</sup>, Vojislav Stamenković<sup>1</sup>, Nenad Marković<sup>1</sup>

<sup>1</sup>Materials Science Division, Argonne National Laboratory, Argonne, Illinois 60439, USA, <sup>2</sup>ICTM, Center of Electrochemistry, University of Belgrade, 11000 Belgrade, Serbia, <sup>3</sup>Center for Atomic-scale Materials Design, Department of Physics, Technical University of Denmark, DK-2800 Kgs. Lyngby, Denmark.

15<sup>15</sup>-15<sup>30</sup> **Monocarboxylic Acid-modified CeO<sub>2</sub> Nanoparticles Synthesized under Hydrothermal Conditions Using Supercritical Water**

Minori Taguchi, Takashi Naka, Toshitaka Funazukuri

Department of Applied Chemistry, Faculty of Science and Engineering, Chuo University, 1-13-27 Kasuga, Japan; National Institute for Materials Science

15<sup>30</sup>-15<sup>45</sup> **Role of the Nano- and Bio-structuration Process in Change of the Laser-induced Refractive Index and Other Related Optical Effects**

Natalia V. Kamanina

Vavilov State Optical Institute, Kadetskaya Liniya V.O., dom.5, korpus 2, St.-Petersburg, 199053, Russia; Saint-Petersburg Electrotechnical University ("LETI"), St. Petersburg, Russia,

- 15<sup>45</sup>-16<sup>00</sup> **New High ZT p- and n-type Skutterudites**  
Gerda Rogl, Andriy Grytsiv, Ernst Bauer, Peter Rogl  
<sup>1</sup>Christian Doppler Laboratory for Thermoelectrics, Austria  
<sup>2</sup>Institute of Physical Chemistry, University of Vienna, Austria  
<sup>3</sup>Institute of Solid State Physics, Vienna University of Technology, Austria
- 16<sup>00</sup>-16<sup>15</sup> **Universal One-pot and Scalable Synthesis of SERS Encoded Nanoparticles**  
Bernat Mir-Simon<sup>1,4</sup>, Irene Reche-Perez<sup>1,2</sup>, Luca Guerrini<sup>1,2</sup>, Nicolas Pazos-Perez<sup>1,2,#</sup>,  
Ramon Alvarez-Puebla<sup>2,3</sup>  
<sup>1</sup>Medcom Advance, Spain, <sup>2</sup>Department of Physical Chemistry and Inorganic,  
Universitat Rovira i Virgili, Spain, <sup>3</sup>Institució Catalana de Recerca i Estudis Avançats,  
Spain, <sup>4</sup>Department of Surgery, UD-Vall d'Hebron School of Medicine, Universitat  
Autònoma de Barcelona, 08035 Barcelona, Spain
- 16<sup>15</sup>-16<sup>30</sup> **Photocatalytic Properties of 1D Nanostructured Vanadium Pentoxide  
Compounds**  
Nemanja Aničić, Marija Vukomanović, Danilo Suvorov  
Institute Jožef Štefan, Ljubljana, Slovenia
- 16<sup>30</sup>-16<sup>45</sup> **A Novel Method to Measure Dynamic Contact Angle Hysteresis on  
Nanostructured Surfaces**  
Daniel Pawlak<sup>1</sup>, Maciej Psarski<sup>1</sup>, Grzegorz Sobieraj<sup>2</sup>, Michał Remer<sup>2</sup>, Krzysztof  
Gumowski<sup>2</sup>, Jacek Rokicki<sup>2</sup>, Grzegorz Celichowski<sup>1</sup>  
<sup>1</sup>Department of Materials Technology and Chemistry, University of Lodz, Pomorska  
163, 90-236 Lodz, Poland, <sup>2</sup>Institute of Aeronautics and Applied Mechanics, Warsaw  
University of Technology, Nowowiejska 24, 00-665 Warsaw, Poland

## SYMPOSIUM E: BIOMATERIALS

## SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATIONS

Small Hall

Session I: 15<sup>00</sup>-16<sup>45</sup>

Chairmen: Nenad Ignjatović and Wiesław A. Swiatnicki

- 15<sup>00</sup>-15<sup>15</sup> **A Facile Determination Method for an Androstane-based Lung Cancer Inhibitor Loaded in Nano/micro Particles Based on Hydroxyapatite by Means of DTA/TGA Coupled with On-line Mass Spectrometry**  
Nenad Ignjatović<sup>1</sup>, Maja Kuzmanović<sup>1</sup>, Katarina Penov-Gaši<sup>2</sup>, Jovana Ajduković<sup>2</sup>, Vesna Kojić<sup>3</sup>, Dragan Uskoković<sup>1</sup>  
<sup>1</sup>Institute of Technical Sciences of SASA, Knez Mihailova 35/IV, P.O. Box 377, 11000 Belgrade, Serbia, <sup>2</sup>Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, <sup>3</sup>Oncology Institute of Vojvodina, Institutski put 4, 21204 Sremska Kamenica, Serbia
- 15<sup>15</sup>-15<sup>30</sup> **Polymer/ceramic Composite Scaffold for the Regeneration of Bone Defect after Cancer Treatment in Dog Distal Radius**  
Barbara Ostrowska<sup>1</sup>, Igor Bissenik<sup>2</sup>, Wojciech Swieszkowski<sup>1</sup>  
<sup>1</sup>Division of Materials Design, Faculty of Materials Science and Engineering, Warsaw University of Technology, 02-507, Warsaw, Poland, <sup>2</sup>Veterinary Clinic "Pulawska" 02-844, Warsaw, Poland
- 15<sup>30</sup>-15<sup>45</sup> **Magnetic Chitosan-g-acrylate/styrene Composites for Hybrid Coatings with Nanostructured Morphology**  
Doina Hritcu, Gianina Dodi, Mirabela L. Iordache, Dan Draganescu, Marcel I. Popa "Gheorghe Asachi" Technical University of Iasi, Romania
- 15<sup>45</sup>-16<sup>00</sup> **Transition Metal Trichalcogenides Dispersed as Precursors for Preparation of Film Materials**  
Sofya Artemkina, Pavel Poltarak, Tatyana Podlipskaya, Alexander Bulavchenko, Vladimir Fedorov  
Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia, Novosibirsk State University, Novosibirsk, Russia
- 16<sup>00</sup>-16<sup>15</sup> **Composite Materials Based on Highly-dispersed Inorganic 1D and 2D Materials and Metal Nanoparticles**  
Mariia N. Kozlova<sup>1</sup>, Ekaterina D. Grayfer<sup>1</sup>, Lidiya S. Kibis<sup>2</sup>, Andrei I. Boronin<sup>2</sup>, Vladimir E. Fedorov<sup>1</sup>  
<sup>1</sup>Nikolaev Institute of Inorganic Chemistry SB RAS, 3, Acad. Lavrentiev Ave., Novosibirsk, Russia, <sup>2</sup>Boreskov Institute of Catalysis SB RAS
- 16<sup>15</sup>-16<sup>30</sup> **Electroactive Nanocomposites Based on Thermoplastic Elastomers**  
Paulina Latko<sup>1</sup>, Mateusz Bielecki<sup>1</sup>, Wojciech Konior<sup>2</sup>, Rafał Kozera<sup>1</sup>, Anna Boczkowska<sup>1</sup>, Jerzy Grygorczuk<sup>2</sup>  
<sup>1</sup>Department of Materials Science and Engineering, Warsaw University of Technology Wołoska 141, 02-507 Warsaw, Poland, <sup>2</sup>Space Research Centre Polish Academy of Sciences, Bartycka 18, 00-716 Warsaw, Poland

- 16<sup>30</sup>-16<sup>45</sup> **Formation of Nanocrystalline Structure in Steels and Iron Alloys through the Heat Treatment Process**  
Wieslaw A. Swiatnicki  
Faculty of Materials Science and Engineering, Warsaw, University of Technology, ul.  
Wołoska 141, 02507 Warszawa, Poland

## THIRD PLENARY SESSION

*Wednesday, September 2, 2015*

**Session I: 09<sup>00</sup>-11<sup>00</sup>**

**Chairmen: Maximilian Haider and Davor Pavuna**

09<sup>00</sup>-09<sup>30</sup> **Scanning Transmission Electron Microscopy at Atomic Resolution**

Ferdinand Hofer, Gerald Kothleitner

Institute for Electron Microscopy and Nanoanalysis, Graz University of Technology,  
A-8010 Graz, Austria

09<sup>30</sup>-10<sup>00</sup> **Defects in the TEM**

C. Barry Carter

Dept of Chem. & Biomolec. Engng, U. of Connecticut, 191 Auditorium Rd, Storrs, CT  
USA; Dept of Mats Sci & Engng, U. of Connecticut, 97 North Eagleville Road, Storrs,  
CT USA; Institute of Materials Science, U. of Connecticut, 97 North Eagleville Road,  
Storrs, CT USA

10<sup>00</sup>-10<sup>30</sup> **Structure and Properties of Dislocations in Bilayer Graphene**

Erdmann Spiecker

Institute of Micro- and Nanostructure Research & Center for Nanoanalysis and  
Electron Microscopy (CENEM), University of Erlangen-Nürnberg, Cauerstrasse 6, D-  
91058 Erlangen, Germany

10<sup>30</sup>-11<sup>00</sup> **Advances in Focused Ion Beam Imaging, Spectroscopy and Fabrication**

Robert Hull

Rensselaer Polytechnic Institute, Troy NY, USA

**Break: 11<sup>00</sup>-11<sup>30</sup>**

**Session II: 11<sup>30</sup>-12<sup>45</sup>**

**Chairmen: Ivan Božović and C. Barry Carter**

11<sup>30</sup>-12<sup>00</sup> **Electric Field Effect Studies in High-Tc Cuprates and Related Materials**

Guy Dubuis<sup>1,2</sup>, A. T. Bollinger<sup>1</sup>, Davor Pavuna<sup>2</sup>, Ivan Božović<sup>1,3</sup>

<sup>1</sup>Brookhaven National Laboratory, Upton, NY 11973, USA

<sup>2</sup>Physics of Complex Matter, EPFL, CH-1015 Lausanne, Switzerland

<sup>3</sup>Applied Physics Department, Yale University, New Haven CT 06250, USA

12<sup>00</sup>-12<sup>30</sup> **Revised Phase Diagram of the Cuprates**

Neven Barišić

Institute of Solid State Physics, Vienna University of Technology, 1040 Vienna,  
Austria

12<sup>30</sup>-12<sup>45</sup> **In Situ TEM**

Dominique Delille

FEI Company, Eindhoven, Netherlands

## FOURTH PLENARY SESSION

*Thursday, September 3, 2015*

**Session I: 09<sup>00</sup>-11<sup>00</sup>**

**Chairmen: Peter Franz Rogl and Mamoru Senna**

09<sup>00</sup>-09<sup>30</sup> **Application of Experimental and Computational Approaches to Explore Non-conventional Transformation Pathways Resulting in Refined Microstructures in Beta-stabilized Titanium Alloys**

Hamish L Fraser

The Ohio State University, Columbus, Ohio, USA

09<sup>30</sup>-10<sup>00</sup> **Deformation Mechanisms in Superalloys: New Insights from STEM-based Imaging and Spectroscopy**

Tim Smith, Connor Slone, G. Babu Viswanathan, [Michael J. Mills](#)

The Ohio State University, Center for Electron Microscopy and Analysis (CEMAS), Columbus, OH, USA

10<sup>00</sup>-10<sup>30</sup> **Characterization of the Deformation Mechanisms in High-Mn Austenitic Steels**

James E. Wittig

Materials Science and Engineering, Vanderbilt University, Nashville, Tennessee, USA

10<sup>30</sup>-11<sup>00</sup> **Nanotwinned Structures in Nanomaterials: Preparation, Properties and Application**

Rostislav A. Andrievski

Institute of Problems of Chemical Physics, Russian Academy of Sciences, Chernogolovka, Moscow Region, Russia

**Break: 11<sup>00</sup>-11<sup>30</sup>**

**Session II: 11<sup>30</sup>-12<sup>30</sup>**

**Chairmen: Hamish L. Fraser and Michael Mills**

11<sup>30</sup>-12<sup>00</sup> **Thermoelectric Materials for Automotive Applications**

[Peter Rogl](#)<sup>1,2</sup>, Gerda Rogl<sup>1,2,3</sup>, Andriy Grytsiv<sup>1,2,3</sup>, Ernst Bauer<sup>1,3</sup>

<sup>1</sup>Christian Doppler Laboratory for Thermoelectricity, Wien, Austria, <sup>2</sup>Institute of Physical Chemistry, University of Vienna, Währingerstrasse 42, A-1090 Wien, Austria, <sup>3</sup>Institute of Solid State Physics, Vienna University of Technology, Wiedner Hauptstrasse 8-10, A-1060 Wien, Austria



12<sup>00</sup>-12<sup>30</sup> **Alkali Metal-containing Complex Oxide Nanoparticles for Advanced Materials**  
Mamoru Senna  
Faculty of Science and Technology, Keio University, Yokohama, Japan

## FIFTH PLENARY SESSION

*Friday, September 4, 2015*

### Session I: 09<sup>00</sup>-10<sup>30</sup>

**Chairmen: Ai Leen Koh and Gyula Eres**

#### 09<sup>00</sup>-09<sup>30</sup> **The On-site Analysis of Cultural Heritage Materials and Artefacts**

Philippe Colomban

<sup>1</sup>Sorbonne Universités, UPMC Univ Paris 06, UMR 8233, MONARIS, c49, 4 Place Jussieu, F-75005, Paris, France, <sup>2</sup>CNRS, IP2CT, UMR 8233, MONARIS, 4 Place Jussieu, F-75005, Paris, France

#### 09<sup>30</sup>-10<sup>00</sup> **Plasmonic Diagnostic in Biological Fluids**

Ramon A. Alvarez-Puebla

Institució Catalana de Recerca i Estudis Avançats (ICREA), Passeig Lluís Companys 23, 08010, Barcelona, Spain; Universitat Rovira i Virgili and Centro de Tecnologia Química de Catalunya, Carrer de Marcel·lí Domingo s/n 43007, Tarragona, Spain; Medcom Advance SA, Viladecans Business Park - Edificio Brasil, Bertran i Musitu 83-85 08840, Viladecans – Barcelona, Spain

#### 10<sup>00</sup>-10<sup>30</sup> **Identifying Active Nanostructures by In Situ Electron Microscopy for Design of Tailored Materials**

Eva Olsson

Department of Applied Physics, Chalmers University of Technology, Gothenburg, Sweden

### Break: 10<sup>30</sup>-11<sup>00</sup>

### Session II: 11<sup>00</sup>-12<sup>30</sup>

**Chairpersons: Eva Olsson and Philippe Colomban**

#### 11<sup>00</sup>-11<sup>30</sup> **The Role of Cooperativity in Two-dimensional Crystal Growth**

Gyula Eres

Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA

#### 11<sup>30</sup>-12<sup>00</sup> **Applications of Environmental (Scanning) Transmission Electron Microscopy to Study Oxidation and Hydrogenation Phenomena in Nanomaterials**

Ai Leen Koh

Stanford Nanocharacterization Laboratory, Stanford University, CA, USA

12<sup>00</sup>-12<sup>30</sup> **The Half of Millennium Since Publishing of the First Exact Contribution to the Elastomer Concept – Some Lessons of Epistemology and Some Prospect for the Future**

Milenko B. Plavšić, Milanka M. Plavšić

Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4,  
Belgrade, Serbia

12<sup>30</sup>-13<sup>00</sup> **CLOSING CEREMONY**

## POSTER SESSION I

*Tuesday, September 1, 2015, 20<sup>00</sup>-22<sup>00</sup>*

### SYMPOSIUM A: ADVANCED METHODS IN SYNTHESIS AND PROCESSING OF MATERIALS

- P.S.A.1. **Production of Nanomaterials for Physical/Chemical Methods of Fluid Filtering**  
Suzana Gotovac Atlagić<sup>1</sup>, Marko Čado<sup>1</sup>, Siniša M. Vučenović<sup>2</sup>, Igor J. Šetrajčić<sup>3</sup>,  
Jovan P. Šetrajčić<sup>3</sup>  
<sup>1</sup>University of Banja Luka, Faculty of Technology, Banja Luka, Republic of Srpska, BiH, <sup>2</sup>University of Banja Luka, Faculty of Natural Sciences, Banja Luka, Republic of Srpska, BiH, <sup>3</sup>University of Novi Sad, Faculty of Sciences, Department of Physics, Novi Sad, Vojvodina, Serbia
- P.S.A.2. **Doped Calcium Cobaltites: The Synthesis Approach**  
Eva Bartonickova, Alzbeta Jebava, Jiri Masilko, Lukas Kalina, Jakub Tkacz, Jaromir Havlica  
Materials Research Centre, Faculty of Chemistry, Brno University of Technology, Brno Czech Republic
- P.S.A.3. **Alternative Synthesis of Certain Compounds of Perovskite-type for Piezoelectric Transducers**  
Piotr Dulian<sup>1</sup>, Wojciech Bąk<sup>2</sup>, Krystyna Wieczorek-Ciurowa<sup>1</sup>, Czesław Kajtoch<sup>2</sup>  
<sup>1</sup>Faculty of Chemical Engineering and Technology, Cracow University of Technology, 24, Warszawska Str., 31-155 Cracow, Poland, <sup>2</sup>Institute of Physics, Pedagogical University, 2, Podchorążych Str., 30-084 Cracow, Poland
- P.S.A.4. **Evaluation of Inhibition Efficiency of Talloil Diethylenetriamine Imidazoline as Corrosion Inhibitor for Top of the Line Corrosion of Mild Steel in Multiphase Flow Environment**  
Ivana Jevremović<sup>1</sup>, Marc Singer<sup>2</sup>, Srdjan Nešić<sup>2</sup>, Vesna Mišković-Stanković<sup>1</sup>  
<sup>1</sup>Faculty of Technology and Metallurgy, Belgrade, Serbia,  
<sup>2</sup>Institute for Corrosion and Multiphase Technology, Ohio University, Athens, USA
- P.S.A.5. **Effect of Thermal Aging of Ethylene-Vinyl Acetate Copolymer (EVA) on Adhesive Properties for Optical Fibers Fixation**  
Nataša Z. Tomić<sup>1</sup>, Bojan I. Medo<sup>2</sup>, Kata Trifković<sup>1</sup>, Dušica B. Stojanović<sup>2</sup>, Vesna J. Radojević<sup>2</sup>, Marko P. Rakin<sup>2</sup>, Radmila M. Jančić-Heinemann<sup>2</sup>, Radoslav R. Aleksić<sup>2†</sup>  
<sup>1</sup>University of Belgrade, Innovation Center of Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia, <sup>2</sup>University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia

- P.S.A.6. **Synthesis and Structure of Cobalt(III) Complex with Pyridoxylideneaminoguanidine**  
Marko V. Rodić, Mirjana M. Radanović, Ljiljana S. Vojinović-Ješić, Vukadin M. Leovac  
Faculty of Sciences, University of Novi Sad, Serbia
- P.S.A.7. **The Kinetic Energy Dependence of Association Reactions for Alkali Metal Ions with Dimethoxyethane**  
Milica Petrović, Martina Gilić, Vladimir Stojanović, Željka Nikitović, Zoran Raspopović, Nebojša Romčević  
Institute of Physics, University of Belgrade, Serbia
- P.S.A.8. **Electroless Deposition of Ni-P Coating on Wrought Mg-3Al-1Zn Magnesium Alloys**  
Jaromir Wasserbauer<sup>1</sup>, P. Kosár<sup>1</sup>, M. Buchtík<sup>1</sup>, Pavel Doležal<sup>1,2</sup>  
<sup>1</sup>Brno University of Technology, Faculty of Chemistry, Materials Research Centre, Purkynova 118, 612 00 Brno, Czech Republic, <sup>2</sup>Brno University of Technology, Faculty of Mechanical Engineering, Institute of Material Science and Engineering, Technicka 2, 616 69 Brno, Czech Republic
- P.S.A.9. **Preparation of Cordierite Ceramic Materials Starting from Natural Raw Materials**  
Khaled Boumchedda, Said Debbakh, Bahia Rebahi, Tahar Aouroun  
UR-MPE, FSI, University of Boumerdes, 35000 Boumerdes, Algeria
- P.S.A.10. **Complexes of Ru(II) with N-alkylphenothiazines – biological Assay**  
Milena P. Krstić<sup>1</sup>, Sunčica M. Borozan<sup>1</sup>, Sofija P. Sovilj<sup>2</sup>, Sanja Grgurić-Šipka<sup>2</sup>  
<sup>1</sup>Faculty of Veterinary Medicine, University of Belgrade, Belgrade, Serbia, <sup>2</sup>Faculty of Chemistry, University of Belgrade, P.O. Box 158, 11001 Belgrade, Serbia
- P.S.A.11. **Transport Parameters of Ne+ in CF<sub>4</sub> for Technological Applications**  
Željka Nikitović, Zoran Raspopović, Vladimir Stojanović  
Institute of Physics, University of Belgrade, Belgrade, Serbia
- P.S.A.12. **Influence of Point Defects Concentration on Densification Process and Optical Properties of Sintered ZnO Ceramics**  
Smilja Marković<sup>1</sup>, Ana Stanković<sup>1</sup>, Ljiljana Veselinović<sup>1</sup>, J. Belošević-Čavor<sup>2</sup>, Srečo Škapin<sup>3</sup>, S. Stojadinović<sup>4</sup>, V. Rac<sup>5</sup>, S. Lević<sup>5</sup>, I. Janković-Častvan<sup>6</sup>, Dragan Uskoković<sup>1</sup>  
<sup>1</sup>Institute of Technical Sciences of SASA, Belgrade, Serbia, <sup>2</sup>The Vinča Institute of Nuclear Sciences, University of Belgrade, 11001 Belgrade, Serbia, <sup>3</sup>Jožef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia, <sup>4</sup>Faculty of Physics, University of Belgrade, Belgrade, Serbia, <sup>5</sup>Faculty of Agriculture, University of Belgrade, Zemun, Serbia, <sup>6</sup>Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia

- P.S.A.13. **Synthesis and Characterisation of Powder Metallurgy Bulk Magnesium**  
Matěj Březina<sup>1</sup>, Pavel Doležal<sup>1,2</sup>, Josef Zapletal<sup>2</sup>, Jaromír Wasserbauer<sup>1</sup>, Veronika Ruttkayová<sup>1</sup>  
<sup>1</sup>Brno University of Technology, Faculty of Chemistry, Materials Research Centre, Purkynova 118, 612 00 Brno, Czech Republic, <sup>2</sup>Brno University of Technology, Faculty of Mechanical Engineering, Institute of Material Science and Engineering, Technická 2, 616 69 Brno, Czech Republic
- P.S.A.14. **The Gamma-irradiation Effect on Sintering and Properties of Zirconia Ceramics**  
Olga S. Antonova<sup>1</sup>, Valeriy V. Smirnov<sup>1</sup>, German P. Kochanov<sup>1</sup>, Ludmila I. Shvorneva<sup>1</sup>, Alexey A. Zanin<sup>2</sup>, Sergey M. Barinov<sup>1</sup>  
<sup>1</sup>Baikov' Institute of Metallurgy and Material Science RAS, Moscow, Russia  
<sup>2</sup>D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia
- P.S.A.15. **Modeling the Influence of Synthesis Parameters and Thermal Effects on Magnetic Properties of Pressed Powder System Fe<sub>x</sub>O<sub>y</sub>BaTiO<sub>3</sub>**  
Dejan Vujičić<sup>1</sup>, Dušan Marković<sup>2</sup>, Danijela Milošević<sup>1</sup>, Slobodan Djukić<sup>1</sup>, Siniša Randjić<sup>1</sup>  
<sup>1</sup>Faculty of Technical Sciences Čačak, <sup>2</sup>Faculty of Agronomy Čačak, Serbia
- P.S.A.16. **Analysis of Stress Distribution in the Case of Scarf Joint of Two Composite Materials**  
Abdurrahman O. Houssein<sup>1</sup>, Mohamed Mokhter Omar Abukhres<sup>2</sup>  
<sup>1</sup>Aljabel Algharbi University, Al Zentan engineering Faculty, Lybia  
<sup>2</sup>Aljabel Algharbi University, Lybia
- P.S.A.17. **Application of New Composites for Fused Deposition Modeling (FDM) Technology in Wood Industry**  
Nenad Grujović<sup>1</sup>, Milan Šljivić<sup>2</sup>, Miroslav Živković<sup>1</sup>, Fatima Živić<sup>1</sup>, Andreja Radovanović<sup>1</sup>, Miloš Mladenović<sup>1</sup>  
<sup>1</sup>Faculty of Engineering, University of Kragujevac, Serbia  
<sup>2</sup>Faculty of Mechanical Engineering, University of Banja Luka, RS-BIH
- P.S.A.18. **Tuning Electronic Properties of Transition Metal Dichalcogenides by a Heterovalent Doping in Metal Sublattice**  
Alexandra Yu. Ledneva, Sofya B. Artemkina, Mariia N. Kozlova, Anatoly I. Romanenko, Vladimir E. Fedorov  
<sup>1</sup>Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia,  
<sup>2</sup>Novosibirsk State University, Novosibirsk, Russia

## POSTER SESSION II

*Wednesday, September 2, 2015, 20<sup>00</sup>-22<sup>00</sup>*

### SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATIONS

- P.S.B.1. **Valence State Ce(Yb), Electron Structure and Physical Properties of New Ternary Intermetallic Compounds**  
Ivan D. Shcherba<sup>1,3</sup>, Dragan Uskoković<sup>2</sup>, M. V. Kovalska<sup>3</sup>  
<sup>1</sup>Institute of Technology, the Pedagogical University of Cracow, Podchorozych st. 2 Cracow 30-084 Poland, <sup>2</sup>Institute of Technical Sciences of SASA, Belgrade, Serbia, <sup>3</sup>Ivan Franko National University of Lviv, Ukraine
- P.S.B.2. **Preparation of NdFeB Magnetic Nanoparticles by Surfactant-assisted High Energy Ball Milling**  
Jelena Lamovec, Vesna Jović, Filip Radovanović, Danijela Randjelović, Katarina Radulović, Zoran Jakšić, Dana Vasiljević-Radović  
Centre of Microelectronic Technologies, Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Njegoseva 12, 11000 Belgrade, Serbia
- P.S.B.3. **Thermodynamic Characteristics of Graphene**  
Stevan Jaćimovski<sup>1</sup>, Dejan Raković<sup>2</sup>  
<sup>1</sup>Academy of Criminalistic and Police Studies, Belgrade, Serbia  
<sup>2</sup>University of Belgrade, Faculty of Electrical Engineering, Belgrade, Serbia
- P.S.B.4. **Investigation of Optoelectronic and Heat Transport Properties of Graphene Modified with Boron Atoms**  
Stevan Armaković<sup>1</sup>, Sanja J. Armaković<sup>2</sup>  
<sup>1</sup>University of Novi Sad, Faculty of Sciences, Department of Physics, Trg Dositeja Obradovića 4, 21000, Novi Sad, Serbia, <sup>2</sup>University of Novi Sad, Faculty of Sciences, Department of Chemistry, Biochemistry and Environmental Protection, Trg Dositeja Obradovića 3, 21000, Novi Sad, Serbia,
- P.S.B.5. **Self-Healing Fiber-Reinforced Composite**  
Ivana Radović, Vesna Radojević, Petar S. Uskoković, Dušica B. Stojanović, Miloš Petrović and Radoslav Aleksić  
University of Belgrade, Faculty of Technology and Metallurgy, Belgrade, Serbia

- P.S.B.6. **Synthesis and Consolidation of Ni<sub>3</sub>B by Spark Plasma Sintering**  
Dina V. Dudina<sup>1,2</sup>, Arina V. Ukhina<sup>1</sup>, Yuliya G. Mateyshina<sup>1</sup>, Vyacheslav I. Mali<sup>2</sup>,  
Alexander G. Anisimov<sup>2</sup>, Michail A. Korchagin<sup>1,3</sup>  
<sup>1</sup>Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk,  
Russian Federation  
<sup>2</sup>Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russian Federation  
<sup>3</sup>Tomsk State University, Tomsk, Russian Federation
- P.S.B.7. **Magnetoimpedance Effect of Metastable Fe<sub>72</sub>Cu<sub>1</sub>V<sub>4</sub>Si<sub>15</sub>B<sub>8</sub> Alloy Ribbons**  
Nebojša Mitrović<sup>1</sup>, Radoslav Surla<sup>1</sup>, Aleksandra Kalezić -Glišović<sup>1</sup>, Maja Kićanović<sup>1</sup>,  
Dragica Minić<sup>2</sup>  
<sup>1</sup>Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems,  
Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia, <sup>2</sup>Faculty of  
Physical Chemistry, University of Belgrade, Serbia
- P.S.B.8. **Voltammetric Determination of an Antipsychotic Agent Trifluoperazine at Boron-Doped Diamond Electrode**  
Dalibor Stanković<sup>1</sup>, Teodora Dimitrijević<sup>2</sup>, Darko Kuzmanović<sup>2</sup>, Milena P. Krstić<sup>3</sup>,  
Branka B. Petković<sup>4</sup>  
<sup>1</sup>ICTM, Department of Electrochemistry, University of Belgrade, Belgrade, Serbia,  
<sup>2</sup>Faculty of Chemistry, University of Belgrade, Belgrade, Serbia, <sup>3</sup>Faculty of  
Veterinary Medicine, University of Belgrade, Belgrade, Serbia, <sup>4</sup>Faculty of Natural  
Science and Mathematics, University of Priština, Kosovska Mitrovica, Serbia
- P.S.B.9. **Mechanism of Increasing the Capacitance of Li-Ion Battery with Nano-Coated Electrodes**  
Igor J. Šetrajčić<sup>1</sup>, Ana J. Šetrajčić – Tomić<sup>2</sup>, Jovan P. Šetrajčić<sup>1</sup>  
<sup>1</sup>University of Novi Sad, Faculty of Sciences, Department of Physics, Novi Sad,  
Vojvodina – Serbia; <sup>2</sup>University of Novi Sad, Faculty of Medicine, Department of  
Pharmacy, Novi Sad, Vojvodina – Serbia
- P.S.B.10. **Modern Technologies to Be Applied into Ballistic Vests**  
Elżbieta Maklewska, Grażyna Grabowska, Joanna Błaszczuk, Agata Pawłowska  
Institute of Security Technologies "MORATEX", M.Skłodowskiej-Curie 3, Polska
- P.S.B.11. **Protection of Personal and Biometric Data of Individuals from the Measurements with a 3D Scanner**  
Grażyna Grabowska, Elżbieta Maklewska, Joanna Błaszczuk, Agata Pawłowska  
Institute of Security Technologies "MORATEX", M.Skłodowskiej-Curie 3, Polska



- P.S.B.12. **Optical and Mechanical Properties of PMMA Film Doped with QD**  
Hana Ibrahim Elswie<sup>1</sup>, Ivana Radović<sup>1</sup>, Dragutin Sević<sup>2</sup>, Dušica B. Stojanović<sup>1</sup>, Petar Uskoković<sup>1</sup>, Vesna Radojević<sup>1</sup>, Radoslav Aleksić<sup>1</sup>  
<sup>1</sup>Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11120 Belgrade, Serbia, <sup>2</sup>Institute of Physics, University of Belgrade, Belgrade, Serbia
- P.S.B.13. **Investigation on Fracture Mechanics for Steel, Cast Iron and Bronze Materials**  
Miranda Vidhaj<sup>1</sup>, Mariglen Kurti<sup>1</sup>, Fatjon Boçi<sup>2</sup>  
<sup>1</sup>“Ismail Qemali” University of Vlora, Vlora, Albania, <sup>2</sup>Private sector, Industrial production and management Vlora, Albania
- P.S.B.14. **Low-cycle Fatigue Behaviour of 6061 Aluminium Alloy Plated with Multi-layered Coatings**  
Ya. B. Unigovski, Emmanuel M. Gutman, A. Grinberg  
Ben-Gurion University of the Negev, Department of Materials Engineering, Beer-Sheva 84105, Israel
- P.S.B.15. **Spectroscopical Analyses of Laboratory Produced ODS Steels.**  
Jarmila Degmova, Julius Dekan, Jana Simeg Veternikova, Veronika Sabelova, Vladimir Slugen  
Institute of Nuclear and Physical Engineering, Slovak University of Technology, Ilkovičova 3, 812 19 Bratislava, Slovakia
- P.S.B.16. **The Pore Structure of Hydrated Portland Cement Paste**  
Irida Markja<sup>1</sup>, Thomas Bier<sup>2</sup>, Ylli Shehu<sup>1</sup>  
<sup>1</sup>Polytechnic University Tirana, Department of Production Management, Sq. Nene Teresa nr. 4, Tirana, Albania, <sup>2</sup>TU Bergakademie, Institute für Keramik, Glas und Baustofftechnik, Leipziger Str.28, 09599 Freiberg, Germany
- P.S.B.17. **The Influence of Nano-Silica and Barite Aggregate on Properties of Ultra High Performance Concrete**  
Ksenija Janković<sup>1</sup>, Srboljub Stanković<sup>2,3</sup>, Dragan Bojović<sup>1</sup>, Marko Stojanović<sup>1</sup>, Ljiljana Miličić<sup>1</sup>  
<sup>1</sup>Institute for Materials Testing - IMS, Belgrade, Serbia  
<sup>2</sup>Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia  
<sup>3</sup>School of Electrical Engineering, University of Belgrade, Belgrade, Serbia

POSTER SESSION III

*Thursday, September 3, 2015, 20<sup>00</sup>-22<sup>00</sup>*

SYMPOSIUM C: NANOSTRUCTURED MATERIALS

- P.S.C.1. **Tailoring Surface Plasmon Resonance (SPR) of Bimetallic Ag/Au Nanoparticles through their Composition and Assembly**  
Manca Logar<sup>1</sup>, Tilen Sever<sup>2</sup>, Boštjan Jančar<sup>2</sup>  
<sup>1</sup>Laboratory for chemistry of materials, National Institute of Chemistry, Slovenia, <sup>2</sup>Advanced Materials Department, Jozef Stefan Institute, Slovenia
- P.S.C.2. **Alignment of MoS<sub>2</sub> Nanotubes in a Photopolymerizable Liquid-crystalline Material**  
Aleš Mrzel<sup>1</sup>, Blaž Tasič<sup>1</sup>, Miro Huskič<sup>2</sup>, Irena Drevenšek-Olenik<sup>1,3</sup>  
<sup>1</sup>Jozef. Stefan Institute, Jamova 39, SI 1000 Ljubljana, Slovenia, <sup>2</sup>National Institute for Chemistry, Hajdrihova 19, SI 1001, Ljubljana, Slovenia, <sup>3</sup>Faculty of Mathematics and Physics, University of Ljubljana, Jadranska 19, SI 1000 Ljubljana, Slovenia
- P.S.C.3. **Platinum Nanocatalysts at Titanium Oxide Based Supports for Low Temperature Fuel Cell Applications**  
Ljiljana M. Gajić Krstajić<sup>1</sup>, Nevenka R. Elezović<sup>2</sup>, Biljana M. Babić<sup>3</sup>, Velimir R. Radmilović<sup>4</sup>, Nedeljko V. Krstajić<sup>4</sup>  
<sup>1</sup>Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Knez Mihailova 35, Belgrade, Serbia, <sup>2</sup>Institute for Multidisciplinary Research, University of Belgrade, Belgrade, Serbia, <sup>3</sup>Vinča Institute of Nuclear Sciences, University of Belgrade, Serbia, <sup>4</sup>Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia
- P.S.C.4. **Shape Evolution of Carbon Supported Pt Catalyst for PEMFC**  
Mila N. Krstajić<sup>1</sup>, Sanja I. Stevanović<sup>1</sup>, Vuk V. Radmilović<sup>2</sup>, Aleksandra Gavrilović-Wohlmuther<sup>3</sup>, Velimir R. Radmilović<sup>4,5</sup>, Snežana Lj. Gojković<sup>4</sup>, Vladislava M. Jovanović<sup>1</sup>  
<sup>1</sup>ICTM, Department of Electrochemistry, University of Belgrade, Njegoševa 12, 11000 Belgrade, Serbia, <sup>2</sup>Innovation Center, Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11000 Belgrade, Serbia, <sup>3</sup>CEST Centre of Electrochemical Surface Technology, Viktor-Kaplan Strasse 2, 2700 Wiener Neustadt, Vienna, Austria, <sup>4</sup>Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11000 Belgrade, Serbia, <sup>5</sup>Serbian Academy of Sciences and Arts, Knez Mihailova 35, 11000 Belgrade, Serbia

- P.S.C.5. **Photocatalytic Degradation of the Propranolol Hydrochloride in Natural Water Using Titania-based Nanoparticles**  
Sanja J. Armaković<sup>1</sup>, Daniela V. Šojić<sup>1</sup>, Marija Radoičić<sup>2</sup>, Mirjana I. Čomor<sup>2</sup>, Biljana F. Abramović<sup>1</sup>  
<sup>1</sup>University of Novi Sad, Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia;  
<sup>2</sup>Institute for Nuclear Sciences Vinča, 11001 Belgrade, PO Box 522, Serbia
- P.S.C.6. **Synthesis, Characterisation and Photocatalytic Properties of Two Novel Nanocomposites: TiO<sub>2</sub> Hombikat with Fullerene nC<sub>60</sub> and with Fullerenol C<sub>60</sub>(OH)<sub>24</sub> Nanoparticles**  
Ivana Borišev<sup>1</sup>, Igor Medić<sup>1</sup>, Daniela Šojić<sup>1</sup>, Biljana Abramović<sup>1</sup>, Marina Lazarević<sup>1</sup>, Marina Delić<sup>1</sup>, Danica Jović<sup>1</sup>, Vladimir Srdić<sup>2</sup>, Aleksandar Djordjević<sup>1</sup>  
<sup>1</sup>University of Novi Sad, Faculty of Sciences, Department for Chemistry, Biochemistry and Environmental Protection, Trg Dositeja Obradovića 3, Novi Sad, Serbia,  
<sup>2</sup>University of Novi Sad, Faculty of Technology, Bulevar Cara Lazara 1, Novi Sad, Serbia
- P.S.C.7. **Synthesis of Sulphur Nanoparticles by Mechanochemical Route in the System Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>-H<sub>2</sub>(C<sub>4</sub>H<sub>4</sub>O<sub>4</sub>)-Na<sub>2</sub>SO<sub>3</sub>**  
Dinar Zharlyrkasimova<sup>1</sup>, Mukhambetkali Burkitbayev<sup>1</sup>, Bolat Uralbekov<sup>1</sup>, Farit Urakaev<sup>2</sup>  
<sup>1</sup>al-Farabi Kazakh National University, Almaty, Kazakhstan, <sup>2</sup>V.S. Sobolev Institute of Geology and Mineralogy SB RAS, Novosibirsk, Russia
- P.S.C.8. **Hydrolytic Stability of Nanosilica-based Urea-formaldehyde Composite with Different Coumarine Derivates as Scavengers of the Formaldehyde**  
Vojislav Jovanović<sup>1</sup>, Branka Petković<sup>1</sup>, Suzana Samaržija-Jovanović<sup>1</sup>, Biljana Dekić<sup>1</sup>, Vidoslav Dekić<sup>1</sup>, Gordana Marković<sup>2</sup>, Milena Marinović-Cincović<sup>3</sup>  
<sup>1</sup>Faculty of Natural Science and Mathematics, University of Priština, Kosovska Mitrovica, Serbia, <sup>2</sup>Tigar, Pirot, Serbia; <sup>3</sup>Institute of Nuclear Science Vinča, University of Belgrade, Belgrade, Serbia

## SYMPOSIUM D: ECO-MATERIALS AND ECO-TECHNOLOGIES

- P.S.D.1. **Investigation of Adsorption of Copper Ions by Poplar Wood Sawdust and Lignin**  
Marina Šćiban, Dragana Kukić, Jelena Prodanović, Vesna Vasić  
University of Novi Sad, Faculty of Technology Novi Sad, Bul. Cara Lazara 1, 21000  
Novi Sad, Serbia
- P.S.D.2. **Friction and Aerodynamic Offset of Cup Anemometer**  
Miodrag Zlatanović<sup>1</sup>, Ivan Popović<sup>2</sup>  
<sup>1</sup>Wind Electricity doo, Belgrade, Serbia, <sup>2</sup>School of Electrical Engineering, Belgrade,  
Serbia
- P.S.D.3. **Newer Methods of Waste Disposal from Thermal Power Plants**  
Jelena Mitić<sup>1</sup>, Oliver Dimitrijević<sup>2</sup>, Miodrag Smelcerović<sup>1</sup>, Dragan Djordjević<sup>3</sup>  
<sup>1</sup>Higher School of Textile Studies, Leskovac, Serbia  
<sup>2</sup>Higher School of Medical Studies 'Hipokrat', Bujanovac, Serbia  
<sup>3</sup>Faculty of Technology, Leskovac, Serbia

## SYMPOSIUM E: BIOMATERIALS

- P.S.E.1. **Bone Cements Based on Calcium Phosphate-Magnesium Phosphate System with (Ca+Mg)/P = 2**  
M.A. Goldberg, Sergey V. Smirnov, V.V. Smirnov, O.S. Antonova, L.I. Shvorneva, S.V. Kutsev, S.M. Barinov  
Baikov<sup>7</sup> Institute of Metallurgy and Materials Science RAS, Moscow, Russia
- P.S.E.2. **Synthesis, Characterization and Antimicrobial Activity of Ni(II) Complexes with Condensation Product of 2-(Diphenylphosphino)Benzaldehyde and Girard's T Reagent**  
Božidar Čobeljić<sup>1</sup>, Milica Milenković<sup>1</sup>, Gabrijela Bradjan<sup>1</sup>, Dušan Sladić<sup>1</sup>, Marina Milenković<sup>2</sup>, Katarina Andjelković<sup>1</sup>  
<sup>1</sup>Faculty of Chemistry, University of Belgrade, Studentski trg 12–16, 11000 Belgrade, Serbia, <sup>2</sup>Department of Microbiology and Immunology, Faculty of Pharmacy, University of Belgrade, Vojvode Stepe 450, Serbia
- P.S.E.3. **Crosslinked Electrospun Chitosan/PEO Nanofibers for Wound Healing Application**  
Mirjana Grković<sup>1</sup>, Andjela Radisavljević<sup>1</sup>, Dušica B. Stojanović<sup>2</sup>, Aleksandar Kojović<sup>2</sup>, Mirjana Rajilić-Stojanović<sup>2</sup>, Igor Balac<sup>3</sup>, Vladimir Pavlović<sup>3</sup>, Miloš Bjelović<sup>4</sup>, Petar S.Uskoković<sup>2</sup>  
<sup>1</sup>University of Belgrade, Innovation Centre Faculty of Technology and Metallurgy, Belgrade, Serbia, <sup>2</sup>University of Belgrade, Faculty of Technology and Metallurgy, Belgrade, Serbia, <sup>3</sup>University of Belgrade, Faculty of Mechanical Engineering, Belgrade, Serbia, <sup>4</sup>University of Belgrade, Faculty of Medicine, Belgrade, Serbia, <sup>5</sup>University of Belgrade, Faculty of Agriculture, Belgrade, Serbia
- P.S.E.4. **Development of Multifunctional Oxaprozin/poly(2-hydroxypropyl acrylate/itaconic Acid) Delivery System**  
Marija M. Babić, Bojan Dj. Božić, Katarina M. Antić, Jovana S. Vuković, Marija D. Perišić, Jovanka M. Filipović, Simonida Lj. Tomić  
Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, Belgrade, Serbia
- P.S.E.5. **The Influence of Gradient Copolymerisation Poly(oligo(propylene glycol) methacrylate) Hydrogels with 2-hydroxyethyl methacrylate on Thermoresponsive Properties**  
Maja Mičić, Zorana Rogić Miladinović, Dejan Miličević, Edin Suljovrujić  
Vinča Institute of Nuclear Sciences, University of Belgrade, PO Box 522, 11001 Belgrade, Serbia

- P.S.E.6. **Evaluation of Nano-particulate Bioactive-glass Reinforced Gellan-gum Hydrogel Regarding the Formation of Hydroxyapatite under Shear Stress**  
Jovana Zvicer<sup>1</sup>, Ana Gantar<sup>2,3</sup>, Djordje Veljović<sup>1</sup>, Saša Novak<sup>2,3</sup>, Bojana Obradović<sup>1</sup>  
<sup>1</sup>Faculty of Technology and Metallurgy, University of Belgrade, Serbia  
<sup>2</sup>Department for Nanostructured Materials, Jožef Stefan Institute, Ljubljana, Slovenia  
<sup>3</sup>Jožef Stefan International Postgraduate School, Ljubljana, Slovenia
- P.S.E.7. **Formation Mechanism of Biocompatible Fluoride Conversion Coating on AZ31 Magnesium Alloy**  
Juliána Drábiková, Jaromír Wasserbauer, Martin Zmrzly  
Brno University of Technology, Faculty of Chemistry, Materials Research Centre,  
Purkynova 118, 612 00 Brno, Czech Republic
- P.S.E.8. **Squeeze Cast AZ31 Magnesium Alloy Long Term Degradation Analysis in Hanks' Solutions**  
Pavel Doležal<sup>1,2</sup>, Helena Doležalová Weissmannová<sup>1</sup>, Jaromír Wasserbauer<sup>1</sup>, Sylvia Dundeková<sup>3</sup>, Branislav Hadzima<sup>3</sup>, Ivana Modráčková<sup>1</sup>  
<sup>1</sup>Brno University of Technology, Faculty of Chemistry, Materials Research Centre, Purkynova 118, 612 00 Brno, Czech Republic, <sup>2</sup>Brno University of Technology, Faculty of Mechanical Engineering, Institute of Material Science and Engineering, Technická 2, 616 69 Brno, Czech Republic, <sup>3</sup>Research Centre of the University of Zilina, Univerzitná 1, 010 26 Zilina, Slovak Republic
- P.S.E.9. **Influence of Coefficient of Friction and Contact Area on Prostheses-implant Retention Force**  
Igor Balac<sup>1</sup>, V. Buljak<sup>1</sup>, S. Pandey<sup>1</sup>, V. Lojpur<sup>2</sup>  
<sup>1</sup>The Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia,  
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