GENERAL CONFERENCE PROGRAMME

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

Sunday, August 30, 2015
08^{00}-19^{00} **Registration**

Monday, August 31, 2015
08^{00}-09^{00} **Registration**
09^{00} -10^{00} **OPENING CEREMONY**
- Introduction and Welcome
10^{15}-13^{00} **First Plenary Session**
13^{15} **Photo Session**
15^{00}-18^{45} **Symposium A, Conference Hall**
15^{00}-18^{15} **Symposium B, Small Hall**
19^{30}-21^{00} **Cocktail Party**

Tuesday, September 1, 2015
09^{00}-13^{00} **Second Plenary Session**
15^{00}-17^{00} **Symposium C, Conference Hall**
15^{00}-16^{45} **Symposium E, Small Hall**
20^{00}-22^{00} **Poster Session I** (Symposium A)

Wednesday, September 2, 2015
09^{00}-12^{30} **Third Plenary Session**
14^{00}-19^{00} **Excursion to Dubrovnik, Croatia**
20^{00}-22^{00} **Poster Session II** (Symposium B)

Thursday, September 3, 2015
09^{00}-13^{00} **Fourth Plenary Session**
14^{00}-19^{00} **Boat-trip around Boka Kotorska Bay**
20^{00}-22^{00} **Poster Session III** (Symposiums C, D and E)

Friday, September 4, 2015
09^{00}-12^{30} **Fifth Plenary Session**
12^{30}-13^{00} **Awards and Closing of the Conference**

OPENING CEREMONY

Monday, August 31, 2015

09^{00}-10^{00}

20 Years of YUCOMAT Conferences
Dragan Uskoković
President of MRS-Serbia, Belgrade, Serbia

Atomic-Layer Engineering and High-Tc Superconductivity in Cuprates
Ivan Božović
Brookhaven National Laboratory, Yale University, Upton, New York, USA

Break: 10^{00}-10^{15}

FIRST PLENARY SESSION

Monday, August 31, 2015

Session I: 10^{15}-11^{45}
Chairmen: Robert Sinclair and Velimir Radmilović

10^{15}-10^{45} **Quantum Dot Formation on Nanowires**
Q. Zhang[1], S.H. Davis[1], J.-N. Aqua[2], P.W. Voorhees[3]
[1]Engineering Sciences and Applied Mathematics, Northwestern University
[2]Institut des Nanosciences de Paris, Université Pierre et Marie Curie Paris 6
[3]Materials Science and Engineering, Northwestern University

10^{45}-11^{15} **Electromagnetic Field Mapping at the Nanoscale in the Transmission Electron Microscope**
Rafal E. Dunin-Borkowski, Jan Caron, Andras Kovacs, Patrick Diehle and Vadim Migunov
Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons and Peter Grünberg Institute, Forschungszentrum Jülich, Germany

11^{15}-11^{45} **Electron Holography for Structures and Fields in Nanomaterials**
Hannes Lichte, Felix Börrnert, Bernd Einenkel, 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^{45}-12^{00}

Session II: 12^{00}-13^{00}
Chairmen: Peter W. Voorhees and Rafal E. Dunin-Borkowski

12^{00}-12^{30} **An Up-date on In Situ and Environmental High Resolution Electron Microscopy of Material Reactions**
Robert Sinclair[1], Sang Chul Lee[1] and Ai Leen Koh[2]
[1]Department of Materials Science and Engineering, Stanford University, Stanford, USA, [2]Stanford Nano Shared Facilities, Stanford University, Stanford, USA

12^{30}-13^{00} **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^{00}-15^{00}

SYMPOSIUM A: ADVANCED METHODS IN SYNTHESIS AND PROCESSING OF MATERIALS

Conference Hall

Session I: 15^{00}-17^{00}
Chairmen: Jan Dutkievicz and Smilja Markovic

15^{00}-15^{15} **High Resolution Materials Characterisation using Aberration Corrected Scanning Transmission Electron Microscopy**
David R.G. Mitchell, Gilberto Casillas and Elena Pereloma
UOW Electron Microscopy Centre, University of Wollongong, Australia

15^{15}-15^{30} **Lead free piezoelectric materials for transducer applications**
Mai Pham Thi
Thales Research Technology France, 1 Avenue A. Fresnel, 91676 Palaiseau Cedex, France

15^{30}-15^{45} **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^{45}-16^{00} **Tailoring Microstructure of Thermoelectric Oxides**

Bostjan Jancar[1], Damjan Vengust[1], Tilen Sever[1], Goran Drazic[2], Ioannis Petousis[3]
[1]Advanced Materials Department, Jozef Stefan Institute, Ljubljana, Slovenia, [2]Laboratory for Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia, [3]Department of Mechanical Engineering, Stanford University, Stanford CA, USA

16^{00}-16^{15} **Acrobatics of N'-2-propylidene-4-hydroxybenzohydrazide crystals**
Igor Djerdj[1], Jasminka Popović[1] and Željko Skoko[2]
[1]Ruđer Bošković Institute, Bijenička c. 54, HR-10000 Zagreb, Croatia, [2]Department of Physics, Faculty of Science, University of Zagreb, Bijenička c. 32, HR-10000 Zagreb, Croatia

16^{15}-16^{30} **Towards Rotational Molding of Ultra Low Density Cellular Polymeric Composites**
Remon Pop-Iliev
UOIT-University of Ontario Institute of Technology, Canada

16^{30}-16^{45} **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^{45}-17^{00} **FLUORINE DOPING OF LAYERED NaxCoO2 STRUCTURE**
D. Jugović[1], M. Milović[1], M. Mitrić[2], N. Cvjetićanin[3], M. Avdeev[4], B. Jokić[5], D. Uskoković[1]
[1]Institute of Technical Sciences of SASA, Belgrade, Serbia, [2]Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia, [3]Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia, [4]Bragg Institute, Australian Nuclear Science and Technology Organisation, Locked Bag 2001, Kirrawee DC, NSW 2232, Australia, [5]Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia

Break: 17^{00}-17^{30}

Session II: 17^{30}-18^{45}
Chairmen: Mai Pham Ti and Bostjan Jancar

17^{30}-17^{45} **Advances in improvement of Pb-based thin layers deposited on Nb substrate**
Anna Kosinska[1], Marek Barlak[1], Jerzy Lorkiewicz[1], Jacek Sekutowicz[2], Robert Nietubyć[1], Lukasz Kurpaska[1], Katarzyna Nowakowska – Langier[1]
[1]National Center for Nuclear Research, st. A. Soltana 7, 05-400 Swierk, POLAND
[2]Deutsches Elektronen Synchrotron (DESY), 85 Notkestrasse, D-22-607 Hamburg, Germany

17^{45}-18^{00} **Photoluminescence properties of YAG:Dy and YAG:Dy:Er thermographic phosphors synthesized by solid state, co-precipitation and solvothermal methods**
Liudmyla M. Chepyga [1], Gordana Jovicic [1,2], Andreas Vetter [1,2], Miroslaw Batentschuk[2], Christoph J. Brabec[2]
[1]Energie Campus Nürnberg, Fürther Str. 250, 90429 Nürnberg, [2]Lehrstuhl für Materialien der Elektronik und Energietechnologie, Friedrich-Alexander-Universität, Erlangen-Nürnberg, Martensstrasse 7, 91058 Erlangen

18^{00}-18^{15} **Influence of sintering atmosphere on the crystal structure, microstructure, dielectic and optical properties of BaTi1-xSnxO3 (x = 0, 0.05 and 0.1) ceramics**
Smilja Marković[1], Ljiljana Veselinović[1], Andrej Garaj[2], Nikola Cvjetićanin[2], Srečo D. Škapin[3], Dragan Uskoković[1]
[1]Centre for Fine Particles Processing and Nanotechnologies, Institute of Technical Sciences of SASA, Belgrade, Serbia, [2]Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia, [3]Jožef Stefan Institute, Ljubljana, Slovenia

18^{15}-18^{30} **The effect of D,L-lactide-based linker on the hydrolytic stability of polyurethane films**
Milena Špírková, Magdalena Serkis, Rafal Poreba, Jana Kredatusová, Luďka Machová, Jiří Hodan
Institute of Macromolecular Chemistry AS CR, Prague, Czech Republic

18^{30}-18^{45} **Temperature dependencies of thermo-physical properties of selected foundry sands**
Paweł K. Krajewski
AGH University ofd 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^{00}-17^{00}
Chairpersons: Dragana Jugović and Irena Nikolić

15^{00}-15^{15} **Silver Nanowire Based Networks for Transparent Electrode Applications**
Vuk Radmilović[1], Manuela Göbelt[2], Silke Christiansen[2,3], Erdmann Spiecker[4], Velimir Radmilović[5,6]
[1]Innovation Center, University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia, [2]Max Planck Institute for the Science of Light, Günther-Scharowsky-Str. 1, 91058 Erlangen, Germany, [3]Helmholtz Centre

Berlin for Materials and Energy, Hahn-Meitner Platz 1, 14109 Berlin, Germany, [4]Center for Nanoanalysis and Electron Microscopy (CENEM), Friedrich-Alexander University Erlangen-Nürnberg, Cauerstrasse 6, 91058 Erlangen, Germany, [5]University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia, [6]Serbian Academy of Sciences and Arts, Knez Mihailova 35, 11000 Belgrade, Serbia

15^{15}-15^{30} **FEMTOSECOND LASER INTERACTION WITH NICKEL BASED SUPERALLOY M-252**

[1]Predrag Drobnjak, [2]Anđelka Milosavljević, [3]Sanja Petronić, [4]Suzana Polić, [5]Strain Posavljak
[1]TEHNIKUM-TAURUNUM, Belgrade, [2]Faculty of Mechanical engineering, University of Belgrade, [3]Innovation Centre, Faculty of Mechanical Engineering, [4]Central institute for conservation in Belgrade, [5]Faculty of Mechanical engineering, University of Banja Luka

15^{30}-15^{45} **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^{45}-16^{00} **Methodology of Formation of New Generation Multilayer Coatings For Cutting Tools**

Alexey Vereschaka [1], Anatoly Vereschaka [1], Boris Mokritskii [2], Andre Batako [3]
[1]Moscow State Technological University STANKIN, [2]Komsomolsk-na-Amure State Technical University, [3]Liverpool John Moores University

16^{00}-16^{15} **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^{15}-16^{30} **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^{30}-16^{45} **THE INFLUENCE OF THERMAL TREATMENT ON MICROSTRUCTURAL AND MAGNETIC PROPERTIES OF ELECTRICAL STEEL**

Branko Koprivica[1], Ioan Dumitru[2], Alenka Milovanovic[1], Ovidiu Caltun[2]

[1]Faculty of Technical Sciences, University of Kragujevac, Cacak, Serbia
[2]Faculty of Physics, Alexandru Ioan Cuza University of Iasi, Romania

16^{45}-17^{00} **Spin Hall Effect in (111)-oriented thin films of SnSe and SnTe Topological Crystalline Insulators**
Shiva Safaei, Marta Galicka, Perla Kacman, and Ryszard Buczko
Institute of Physics Polish Academy of Science, Warsaw, Poland

Break: 17^{00}-17^{30}

17^{30}-17^{45} **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^{45}-18^{00} **Thermal resistance of alkali activated binders synthesized using the fly ash and steel slag**
Irena Nikolić[1], Smilja Marković[2], Ljiljana Karanović[3], Vuk Radmilović[4], Velimir Radmilović[4]
[1]University of Montenegro, Faculty of Metallurgy and Technology, Džordža Vašingtona bb, 81 000 Podgorica, Montenegro, [2]Institute of Technical Sciences of SASA, Belgrade, Serbia, [3]University of Belgrade, Faculty of Mining and Geology, Laboratory of Crystallography, Đušina 7, 11000 Belgrade, Serbia, [4]University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia

18^{00}-18^{15} **Determination of the temperature transfer function of building constructions based on measurement data**
Zorana Petojević[1], Milica Mirković[1], Željko Jovanović[2], Radovan Gospavić[1], Goran Todorović[1]
[1]Civil Engineering Faculty of University of Belgrade, [2]Orion Telecom Company Belgrade

SECOND PLENARY SESSION

Tuesday, September 1, 2015

Session I: 09^{00}-11^{00}
Chairmen: Hannes Lichte and Wolfgang Jäger

09^{00}-09^{30} **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^{30}-10^{00} **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^{00}-10^{30} **Holographic Imaging and Optical Sectioning in the Aberration-corrected STEM**
Harald Rose
University of Ulm, Albert-Einstein-Allee 11, 89069 Ulm, Germany

10^{30}-11^{00} **Instrumentation for High Resolution EM and its limitations**
Max. Haider, Peter Hartel, Stephan Uhlemann, Heiko Müller and Joachim Zach
CEOS GmbH, Englerstr. 28, D-69126 Heidelberg, Germany

Break: 11^{00}-11^{30}

Session II: 11^{30}-13^{00}
Chairmen: Knut Urban and Richard Siegel

11^{30}-12^{00} **Advanced and in situ Transmission Electron Microscopy of Growth and Interface Phenomena of Oxide Semiconductor Nanowires**
Yanicet Ortega[1,2], David Maestre[1,2], Christel Dieker[1], Dietrich Häussler[1], Ana Cremades[2], Paloma Fernández[2], Javier Piqueras[2], and Wolfgang Jaeger[1]
[1]Institute of Materials Science, Christian-Albrechts-University of Kiel, 24143 Kiel, Germany EU, [2]Dept. Materials Physics, University Complutense of Madrid, 28040 Madrid, Spain EU

12^{00}-12^{30} **Technology Transfer, especially in Materials Science**
Kyung-Ho Shin
Korea Institute of Science and Technology, Seoul, Korea

12^{30}-13^{00} **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[1], Seung Zeon Han[2]
[1]School of Materials Science and Engineering, Pusan National University, Busan 609-735, Korea, [2]Structural Materials Division, Korea Institute of Materials Science, Changwon 642-831, Korea

Break: 13^{00}-15^{00}

SYMPOSIUM C: NANOSTRUCTURED MATERIALS

Conference Hall

Session I: 15^{00}-17^{00}
Chairpersons: Gerda Rogl and Natalia Kamanina

15^{00}-15^{15} **The origin of exceptional activity of Pt3Ni(111) catalyst in CO oxidation reaction**
Dusan Tripkovic[1,2], Vladimir Tripkovic[3], Amalija Tripkovic[2], Vladislava Jovanovic[2], Vojislav Stamenkovic[1] and Nenad Markovic[1]
[1]Materials Science Division, Argonne National Laboratory, Argonne, Illinois 60439, USA, [2]ICTM, Center of Electrochemistry, University of Belgrade, 11000 Belgrade, Serbia, [3]Center for Atomic-scale Materials Design, Department of Physics, Technical University of Denmark, DK-2800 Kgs. Lyngby, Denmark.

15^{15}-15^{30} **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 Electrotechical University ("LETI"), St. Petersburg, Russia,

15^{30}-15^{45} **New high ZT p- and n-type skutterudites**
Gerda Rogl, Andriy Grytsiv, Ernst Bauer, Peter Rogl
[1]Christian Doppler Laboratory for Thermoelectrics, Austria
[2]Institute of Physical Chemistry, University of Vienna, Austria
[3]Institute of Solid State Physics, Vienna University of Technology, Austria

15^{45}-16^{00} **Universal One-Pot and Scalable Synthesis of SERS Encoded Nanoparticles**

Bernat Mir-Simon [1,4], Irene Reche-Perez [1,2], Luca Guerrini [1,2], Nicolas Pazos-Perez [1,2,#], Ramon Alvarez-Puebla [2,3]
[1]Medcom Advance, Spain, [2]Department of Physical Chemistry and Inorganic, Universitat Rovira i Virgili, Spain, [3]Institució Catalana de Recerca i Estudis Avançats, Spain, [4]Department of Surgery, UD-Vall d'Hebron School of Medicine, Universitat Autònoma de Barcelona, 08035 Barcelona, Spain

16^{00}-16^{15} **The molecular-dynamic research of the rotary field appearance during metal nanostructure elongation with constant strain rate**
Elena Golovneva, Igor Golovnev, Vasily Fomin
Khristianovich Institute of Theoretical and Applied Mechanics SB RAS

16^{15}-16^{30} **PHOTOCATALYTIC PROPERTEIS OF 1D NANOSTRUCTURED VANADIUM PENTOXIDE COMPOUNDS**
Nemanja Aničić, Marija Vukomanović, Danilo Suvorov
Insitute Jožef Štefan, Ljubljana, Slovenia

16^{30}-16^{45} **A novel method to measure dynamic contact angle hysteresis on nanostructured surfaces**
Daniel Pawlak[1], Maciej Psarski[1], Grzegorz Sobieraj[2], Michał Remer[2], Krzysztof Gumowski[2], Jacek Rokicki[2], Grzegorz Celichowski[1]
[1]Department of Materials Technology and Chemistry, University of Lodz, Pomorska 163, 90-236 Lodz, Poland, [2]Institute of Aeronautics and Applied Mechanics, Warsaw University of Technology, Nowowiejska 24, 00-665 Warsaw, Poland

16^{45}-17^{00} **Monocarboxylic acid-modified CeO2 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

SYMPOSIUM E: BIOMATERIALS
SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATIONS

Small Hall

Session I: 15^{00}-16^{45}
Chairmen: Nenad Ignjatović and Wieslaw A. Swiatnicki

15^{00}-15^{15} **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[1], Maja Kuzmanović[1], Katarina Penov-Gaši[2], Jovana Ajduković[3], Vesna Kojić[4], Dragan Uskoković[1]
[1]Centre for Fine Particle Processing and Nanotechnologies, Institute of Technical Sciences of SASA, Knez Mihailova 35/IV, P.O. Box 377, 11000 Belgrade, Serbia, [2]Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, [3]Oncology Institute of Vojvodina, Institutski put 4, 21204 Sremska Kamenica, Serbia

15^{15}-15^{30} **Polymer/ceramic composite scaffold for the regeneration of bone defect after cancer treatment in dog distal radius**
Barbara Ostrowska[1], Igor Bissenik[2], Wojciech Swieszkowski[1]
[1]Division of Materials Design, Faculty of Materials Science and Engineering, Warsaw University of Technology, 02-507, Warsaw, Poland, [2]Veterinary Clinic "Pulawska" 02-844, Warsaw, Poland

15^{30}-15^{45} **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^{45}-16^{00} **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^{00}-16^{15} **Composite materials based on highly-dispersed inorganic 1D and 2D materials and metal nanoparticles**
Mariia N. Kozlova[1], Ekaterina D. Grayfer[1], Lidiya S. Kibis[2], Andrei I. Boronin[2], Vladimir E. Fedorov[1]
[1]Nikolaev Institute of Inorganic Chemistry SB RAS, 3, Acad. Lavrentiev Ave., Novosibirsk, Russia, [2]Boreskov Institute of Catalysis SB RAS

16^{15}-16^{30} **ELECTROACTIVE NANOCOMPOSITES BASED ON THERMOPLASTIC ELASTOMERS**
Paulina Latko[1], Mateusz Bielecki[1], Wojciech Konior[2], Rafał Kozera[1], Anna Boczkowska[1], Jerzy Grygorczuk[2]
[1]Department of Materials Science and Engineering, Warsaw University of Technology Wołoska 141, 02-507 Warsaw, Poland, [2]Space Research Centre Polish Academy of Sciences, Bartycka 18, 00-716 Warsaw, Poland

16^{30}-16^{45} **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^{00}-11^{00}
Chairmen: Maximilian Haider and Davor Pavuna

09^{00}-09^{30} **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^{30}-10^{00} **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^{00}-10^{30} **TBA**
Erdmann Spiecker
Center for Nanoanalysis and Electron Microscopy (CENEM), Department Werkstoffwissenschaften, Universität Erlangen-Nürnberg, Erlangen, Germany

10^{30}-11^{00} **Advances in Focused Ion Beam Imaging, Spectroscopy and Fabrication**
Robert Hull
Rensselaer Polytechnic Institute, Troy NY, USA

Break: 11^{00}-11^{30}

Session II: 11^{30}-12^{30}
Chairmen: Ivan Božović and C. Barry Carter

11^{30}-12^{00} **Electric Field Effect Studies in High-Tc Cuprates and Related Mater**ials
Guy Dubuis[1,2], A. T. Bollinger[1], D. Pavuna[2], I. Bozovic[1,3]
[1]Brookhaven National Laboratory, Upton, NY 11973, USA
[2]Physics of Complex Matter, EPFL, CH-1015 Lausanne, Switzerland
[3]Applied Physics Department, Yale University, New Haven CT 06250, USA

12^{00}-12^{30} **Revised phase diagram of the cuprates**
Neven Barišić
Institute of Solid State Physics, Vienna University of Technology, 1040 Vienna, Austria

FOURTH PLENARY SESSION

Thursday, September 3, 2015

Session I: 09^{00}-11^{00}
Chairmen: Peter Franz Rogl and Mamoru Senna

09^{00}-09^{30} **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^{30}-10^{00} **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^{00}-10^{30} **Characterization of the Deformation Mechanisms in High-Mn Austenitic Steels**
James E. Wittig
Materials Science and Engineering, Vanderbilt University, Nashville, Tennessee, USA

10^{30}-11^{00} **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^{00}-11^{30}

Session II: 11^{30}-13^{00}
Chairmen: Hamish L. Fraser and Michael Mills

11^{30}-12^{00} **Thermoelectric Materials for automotive applications**
Peter Rogl[1,2], Gerda Rogl[1,2,3], Andriy Grytsiv[1,2,3], Ernst Bauer[1,3]
[1]Christian Doppler Laboratory for Thermoelectricity, Wien, Austria, [2]Institute of Physical Chemistry, University of Vienna, Währingerstrasse 42, A-1090 Wien, Austria, [3]Institute of Solid State Physics, Vienna University of Technology, Wiedner Hauptstrasse 8-10, A-1060 Wien, Austria

12^{00}-12^{30} **TBA**

Kenneth Sandhage
School of Chemistry and Biochemistry, Georgia Institute of Technology, School of Materials Science and Engineering, Atlanta, GA, USA

12^{30}-13^{00} **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^{00}-10^{30}
Chairmen: Ai Leen Koh and Gyula Eres

09^{00}-09^{30} **The on-site Analysis of Cultural Heritage Materials and Artefacts**
Philippe Colomban
[1]Sorbonne Universités, UPMC Univ Paris 06, UMR 8233, MONARIS, c49, 4 Place Jussieu, F-75005, Paris, France, [2]CNRS, IP2CT, UMR 8233, MONARIS, 4 Place Jussieu, F-75005, Paris, France

09^{30}-10^{00} **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 Quimica de Cataluña, 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^{00}-10^{30} **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^{30}-11^{00}

Session II: 11^{00}-12^{30}
Chairpersons: Eva Olsson and Philippe Colomban

11^{00}-11^{30} **The Role of Cooperativity in Two-Dimensional Crystal Growth**
Gyula Eres
Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA

11^{30}-12^{00} **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^{00}-12^{30} **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. Plavsic, Milanka M. Plavsic
Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, Belgrade, Serbia

12^{30}-13^{00} **CLOSING CEREMONY**

POSTER SESSION I

Tuesday, September 1, 2015, 20^{00}-22^{00}

SYMPOSIUM A: ADVANCED METHODS IN SYNTHESIS AND PROCESSING OF MATERIALS

P.S.A.1. **Shape evolution of carbon supported Pt catalyst for PEMFC**
Mila N. Krstajić[1], Sanja I. Stevanović[1], Vuk V. Radmilović[2], Aleksandra Gavrilović-Wohlmuther[3], Velimir R. Radmilović[4,5], Snežana Lj. Gojković[4], Vladislava M. Jovanović[1]
[1]ICTM, Department of Electrochemistry, University of Belgrade, Njegoševa 12, 11000 Belgrade, Serbia, [2]Innovation Center, Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11000 Belgrade, Serbia, [3]CEST Centre of Electrochemical Surface Technology, Viktor-Kaplan Strasse 2, 2700 Wiener Neustadt, Vienna, Austria, [4]Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11000 Belgrade, Serbia, [5]Serbian Academy of Sciences and Arts, Knez Mihailova 35, 11000 Belgrade, Serbia

P.S.A.2. **PRODUCTION OF NANOMATERIALS FOR PHYSICAL/CHEMICAL METHODS OF FLUID FILTERING**
Suzana Gotovac Atlagić[1], Marko Čađo[1], Siniša M. Vučenović[2], Igor J. Šetrajčić3, Jovan P. Šetrajčić[3]
[1]University of Banja Luka, Faculty of Technology, Banja Luka, Republic of Srpska, BiH, [2]University of Banja Luka, Faculty of Natural Sciences, Banja Luka, Republic of Srpska, BiH, [3]University of Novi Sad, Faculty of Sciences, Department of Physics, Novi Sad, Vojvodina, Serbia

P.S.A.3. **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.4. **Alternative Synthesis of Certain Compounds of Perovskite-type for Piezoelectric Transducers**
Piotr Dulian[1], Wojciech Bąk[2], Krystyna Wieczorek-Ciurowa[1], Czesław Kajtoch[2]
[1]Faculty of Chemical Engineering and Technology, Cracow University of Technology, 24, Warszawska Str., 31-155 Cracow, Poland, [2]Institute of Physics, Pedagogical University, 2, Podchorążych Str., 30-084 Cracow, Poland

P.S.A.5. **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[1], Marc Singer[2], Srđan Nešić[2], Vesna Mišković-Stanković[1]
[1]Faculty of Technology and Metallurgy, Belgrade, Serbia,
[2]Institute for Corrosion and Multiphase Technology, Ohio University, Athens, USA

P.S.A.6. **EFFECT OF THERMAL AGING OF ETHYLENE-VINYL ACETATE COPOLYMER (EVA) ON ADHESIVE PROPERTIES FOR OPTICAL FIBERS FIXATION**
Nataša Z. Tomić[1], Bojan I. Međo[2], Kata Trifković[1], Dušica B. Stojanović[2], Vesna J. Radojević[2], Marko P. Rakin[2], Radmila M. Jančić-Heinemann[2], Radoslav R. Aleksić[2†]
[1]University of Belgrade, Innovation Center of Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia, [2]University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia

P.S.A.7. **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.8. **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, Belgrade, Serbia

P.S.A.9. **Electroless deposition of Ni-P coating on wrought Mg-3Al-1Zn magnesium alloys**
Wasserbauer, J. [1], Kosár, P. [1], Buchtík, M. [1], Doležal, P.[1,2]
[1]Brno University of Technology, Faculty of Chemistry, Materials Research Centre, Purkynova 118, 612 00 Brno, Czech Republic, [2]Brno University of Technology, Faculty of Mechanical Engineering, Institute of Material Science and Engineering, Technicka 2, 616 69 Brno, Czech Republic

P.S.A.10. **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.11. **Complexes of Ru(II) with N-alkylphenothiazines – biological assay**
Milena P. Krstić[1], Sunčica M. Borozan[1], Sofija P. Sovilj[2], Sanja Grgurić-Šipka[2]
[1]Faculty of Veterinary Medicine, University of Belgrade, Bulevar oslobodjenja 18, 11000 Belgrade, Serbia, [2]Faculty of Chemistry, University of Belgrade, P.O. Box 158, 11001 Belgrade, Serbia

P.S.A.12. **TRANSPORT PARAMETERS OF Ne+ IN CF4 FOR TECHNOLOGICAL APPLICATIONS**

Željka Nikitović, Zoran Raspopović and Vladimir Stojanović
Institute of Physics, University of Belgrade, Belgrade, Serbia

P.S.A.13. **Effect of powder addition and welding process on microstructure and mechanical properties of Ferritic Stainless Steel welds**
Nabil Bensaid, Riad Badji, Nacer Tala Ighil, Mohamed Hadji, Mohamed Farid Benlamnouar
Welding and NDT Research Centre (CSC), Chéraga, Algiers, Algeria

P.S.A.14. **Magnetic properties of zinc ferrite thin films irradiated by slow highly charged ions**
Elena Vasilica Gafton[1], Georgiana Andreea Bulai[1], Ioan Dumitru[1], Ovidiu Florin Caltun[1], Sophie Cervera[2], Martino Trassinelli[2], Dominique Vernhet[2]
[1]Alexandru Ioan Cuza University, Faculty of Physics, 11 Carol I Blv, Iasi 700506, Romania, [2]CNRS and Université Pierre et Marie Curie, INSP, UMR7588, 4 Place Jussieu, F-75005 Paris, France

P.S.A.15. **Copper doped cobalt ferrite thin films obtained by pulsed lased deposition**
Georgiana Bulai[1], Vasilica Gafton[1], Ioan Dumitru[1], B. Parvatheeswara Rao[2], Ovidiu F. Caltun[1]
[1]Faculty of Physics, Alexandru Ioan Cuza University, 700506 Iasi, Romania
[2]Andhra University, Department of Physics, 530003 Visakhapatnam, India

P.S.A.16. **Influence of point defects concentration on densification process and optical properties of sintered ZnO ceramics**
S. Marković[1], A. Stanković[1], Lj. Veselinović[1], J. Belošević-Čavor[2], S. Škapin[3], S. Stojadinović[4], V. Rac[5], S. Lević[5], I. Janković-Častvan[6] and D. Uskoković[1]
[1]Institute of Technical Sciences of SASA, Belgrade, Serbia, [2]The Vinča Institute of Nuclear Sciences, University of Belgrade, 11001 Belgrade, Serbia, [3]Jožef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia, [4]Faculty of Physics, University of Belgrade, Belgrade, Serbia, [5]Faculty of Agriculture, University of Belgrade, Zemun, Serbia, 6Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia

P.S.A.17. **An investigation on the stability of Zn2Mo3O8 in microwave assisted self-propagating reduction of MoO3 by Zn**
Arman Hoseinpur, Maisam Jalaly, Mohammad Sh. Bafghi, Jalil Vahdati Khaki
[1]School of metallurgy and materials engineering, Iran University of Science and Technology (IUST), Narmak, Tehran, 16846-13114, Islamic Republic of Iran, [2]Department of nanotechnology, school of new technologies, Iran University of Science and Technology (IUST), Narmak, Tehran, 16846-13114, Islamic Republic of Iran, [3]Department of materials and metallurgical engineering, Ferdowsi University of Mashhad, Mashhad 91775-1111, Islamic Republic of Iran

P.S.A.18. **TORSION-BASED SEVERE PLASTIC DEFORMATION**

Jai Myun Jung, Ho Yong Um, Hyoung Seop Kim
Department of Materials Science and Engineering, Pohang University of Science and Technology, Pohang, South Korea

P.S.A.19. **SINTERING, STRUCTURE AND MECHANICAL PROPERTIES OF Al2O3 - ZrO2 - TiC COMPOSITES**
Grigoriev Mikhail Vladimirovich, Buyakova Svetlana Petrovna, Kulkov Sergey Nikolaevich
ISPMS SB RAS, Tomsk, Akademicheskiy str. 2/4, Russia

P.S.A.20. **SYNTHESIS AND CHARACTERISATION OF POWDER METALLURGY BULK MAGNESIUM**
Matěj Březina[1], Pavel Doležal[1,2], Josef Zapletal[2], Jaromír Wasserbauer[1], Veronika Ruttkayová[1]
[1]Brno University of Technology, Faculty of Chemistry, Materials Research Centre, Purkynova 118, 612 00 Brno, Czech Republic, [2]Brno University of Technology, Faculty of Mechanical Engineering, Institute of Material Science and Engineering, Technicka 2, 616 69 Brno, Czech Republic

P.S.A.21. **The gamma-irradiation effect on sintering and properties of zirconia ceramics**
Olga S. Antonova[1], Valeriy V. Smirnov[1], German P. Kochanov[1], Ludmila I. Shvorneva[1], Alexey A. Zanin[2], Sergey M. Barinov[1]
[1]Baikov' Institute of Metallurgy and Material Science RAS, Moscow, Russia
[2]D. Mendeleev Univercity of Chemical Technology of Russia, Moscow, Russia

P.S.A.22. **Modeling the influence of synthesis parameters and termal effects on magnetic properties of pressed powder system FexOyBaTiO3**
Dejan Vujičić[1], Dušan Marković[2], Danijela Milošević[1], Slobodan Đukić[1]
[1]Faculty of Technical Sciences Čačak, [2]Faculty of Agronomy Čačak, Serbia

P.S.A.23. **EFFECT OF Mg ADDITION ON THE MICROSTRUCTURAL CHARACTERISTICS OF Al-Si EUTECTIC ALLOYS**
Biljana Zlatičanin[1], Sandra Kovačević[2]
[1]University of Montenegro, Faculty of Metallurgy and Technology, 81000 Podgorica, Cetinjski put bb, Montenegro, [2]Central School of Chemical Technology Spasoje Raspopović, Podgorica

P.S.A.24. **ANALYSIS OF STRESS DISTRIBUTION IN THE CASE OF SCARF JOINT OF TWO COMPOSITE MATERIALS**
Abdurrahman O. Houssein
Aljabel Algharbi University, Tripoli, Lybia

P.S.A.25. **Application of new composites for Fused Deposition Modeling (FDM) technology in wood industry**

Nenad Grujović[1], Dragan Šljivić[2], Miroslav Živković[1], Fatima Živić[1], Andreja Radovnanović[1], Miloš Mladenović[1]
[1]Faculty of Engineering, University of Kragujevac, Serbia
[2]Faculty of Mechanical Engineering, University of Banja Luka, RS-BIH

P.S.A.26. **Mechanochemical treatment of carbon-based nanocomposites for supercapacitors**

Yuliya Mateyshina, Arina Uhina, Artem Ulihin, Anastasiya Iskakova, Nikolai Uvarov
[1]Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia, [2]Novosibirsk State Technical University, Novosibirsk, Russia

P.S.A.27. **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
[1]Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia,
[2]Novosibirsk State University, Novosibirsk, Russia

POSTER SESSION II

Wednesday, September 2, 2015, 20^{00}-22^{00}

SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATIONS

P.S.B.1. **First order phase transition kinetics in systems with coupled order parameters**.
Dmitry A. Kuzmin[1], Igor V. Bychkov[1], Alexander P. Kamantsev[2], Victor V. Koledov[2], and Vladimir G. Shavrov[2]
[1]Chelyabinsk State University, Chelyabinsk, 454001, Russian Federation, [2]Kotelnikov Institute of Radio-engineering and Electronics of RAS, Mokhovaya Street 11-7, 125009, Moscow, Russian Federation

P.S.B.2. **Electromagnetic waves and hypersound generation by spiral magnets in vicinity of phase transition**
Igor V. Bychkov[1], Dmitry A. Kuzmin[1], Alexander P. Kamantsev[2], Victor V. Koledov[2], Vladimir G. Shavrov[2]
[1]Chelyabinsk State University, 129 Br. Kashirinykh Str., Chelyabinsk 454001, Russian Federation, [2]Kotelnikov Institute of Radio-engeneering and Electronics of RAS, 11/7 Mokhovaya Str., Moscow 125009, Russian Federation

P.S.B.3. **VALENCE STATE Ce(Yb), ELECTRON STRUCTURE AND PHYSICAL PROPERTIES OF NEW TERNARY INTERMETALLIC COMPOUNDS**
I. D. Shcherba[1,3], D. Uskokovic[2] , M. V. Kovalska[3]
[1]Institute of Technology, the Pedagogical University of Cracow, Podchorozych st. 2 Cracow 30-084 Poland, [2]Institute of Technology, SANU, Belgrade, Serbia, [3]Ivan Franko National University of Lviv, Ukraine

P.S.B.4. **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.5. **THERMODYNAMIC CHARACTERISTICS OF GRAPHENE**
Stevan Jaćimovski[1], Dejan Raković[2]
[1]Academy of Criminalistic and Police Studies, Belgrade, Serbia
[2]University of Belgrade, Faculty of Electrical Engineering, Belgrade, Serbia

P.S.B.6. **Investigation of optoelectronic and heat transport properties of graphene modified with boron atoms**
Stevan Armaković[1], Sanja J. Armaković[2]

[1]University of Novi Sad, Faculty of Sciences, Department of Physics, Trg Dositeja Obradovića 4, 21000, Novi Sad, Serbia, [2]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.7. **Scale-up of porous carbon thin films for high performance supercapacitors**
Petar Laušević, Predrag Pejović and Zoran Laušević
[1]University of Belgrade, Vinča Institute of Nuclear Sciences, Department of Physical Chemistry, Serbia, [2]University of Belgrade, School of Electrical Engineering, Serbia, [3]University of Belgrade, Vinča Institute of Nuclear Sciences, Laboratory of Physics, Serbia

P.S.B.8. **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.9. **Synthesis and consolidation of Ni3B by Spark Plasma Sintering**
Dina V. Dudina[1,2], Arina V. Ukhina[1], Yuliya G. Mateyshina[1], Vyacheslav I. Mali[2], Alexander G. Anisimov[2], Michail A.Korchagin[1,3]
[1]Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russian Federation
[2]Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russian Federation
[3]Tomsk State University, Tomsk, Russian Federation

P.S.B.10. **MAGNETOIMPEDANCE EFFECT OF METASTABLE Fe72Cu1V4Si15B8 ALLOY RIBBONS**
Nebojša Mitrović[1], Radoslav Surla[1], Aleksandra Kalezić -Glišović[1], Maja Kićanović[1], Dragica Minić[2]
[1]Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems, Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia, [2]Faculty of Physical Chemistry, University of Belgrade, Serbia

P.S.B.11. **VOLTAMMETRIC DETERMINATION OF AN ANTIPSYHOTIC AGENT TRIFLUOPERAZINE AT BORON-DOPED DIAMOND ELECTRODE**
Dalibor Stanković[1], Teodora Dimitrijević[2], Darko Kuzmanović[2], Milena P. Krstić[3], Branka B. Petković[4]
[1]ICTM, Department of Electrochemistry, University of Belgrade, Belgrade, Serbia, [2]Faculty of Chemistry, University of Belgrade, Belgrade, Serbia, [3]Faculty of Veterinary Medicine, University of Belgrade, Belgrade, Serbia, [4]Faculty of Natural Science and Mathematics, University of Priština, Kosovska Mitrovica, Serbia

P.S.B.12. **MECHANISM OF INCREASING THE CAPACITANCE OF Li-ION BATTERY WITH NANO-COATED ELECTRODES**
Igor J. Šetrajčić[1], Ana J. Šetrajčić – Tomić[2] and Jovan P. Šetrajčić[1]

[1]University of Novi Sad, Faculty of Sciences, Department of Physics, Novi Sad, Vojvodina – Serbia; [2]University of Novi Sad, Faculty of Medicine, Department of Pharmacy, Novi Sad, Vojvodina – Serbia

P.S.B.13. **Microstructure and mechanical behavior of TIG bimetallic joints**
Mohamed Farid Benlamnouar, Mokrane Gousmine, Nabil Bensaid, Amar Boutaghane
Welding and NDT Research Center (CSC), PB 64, Chéraga, Algiers, Algéria

P.S.B.14. **PHASE RELATIONS AND OPTICALLY TRANSPARENT CERAMICS IN THE La2O3-Y2O3-Ln2O3 SYSTEMS**
Elena R. Andrievskaya[1,2], Olga V. Chudinovich[1], Oksana A. Kornienko[1], Ali Sayir[3]
[1]Institute of Materials Science Problems, National Ukrainian Academy of Sciences, Krzhizhanovsky St. 3, Kiev 03142, Ukraine, [2]National Technical University Kiev Polytechnic Institute, 03056 Kiev, Ukraine, [3]Air Force Research Laboratory, Wright-Patterson Base, Dayton, USA

P.S.B.15. **Critical magnetic phase transition and magnetocaloric effect in the perovskite La0.55Ca0.45MnO3**
Iosif G. Deac[1], Romulus Tetean[1], Adrian Vladescu[2]
[1]Babes-Bolyai University, Cluj-Napoca, Romania, [2]Emerson Process Management – Roxar Division Cluj-Napoca, Romania

P.S.B.16. **O-phase in a lamellar TiAlNb alloy produced by powder metallurgy**
Heike Gabrisch, Uwe Lorenz, Florian Pyczak, Marcus Rackel, Frank-Peter Schimansky, Andreas Stark
Helmholtz-Zentrum Geesthacht, Geesthacht**,** Germany

P.S.B.17. **MODERN TECHNOLOGIES TO BE APPLIED INTO BALLISTIC VESTS**
Elżbieta Maklewska, Grażyna Grabowska, Joanna Blaszczyk, Agata Pawlowska
Institute of Security Technologies "MORATEX"

P.S.B.18. **PROTECTION OF PERSONAL AND BIOMETRIC DATA OF INDIVIDUALS FROM THE MEASUREMENTS WITH A 3D SCANNER**
Grazyna Grabowska, Elzbieta Maklewska, Joanna Blaszczyk, Agata Pawlowska
Institute of Security Technologies "MORATEX", M.Sklodowskiej-Curie 3, Polska

P.S.B.19. **Optical and mechanical properties of PMMA film doped with QD**
Hana Ibrahim Elswie[1], Ivana Radović[1], Dragutin Sević[2], Dušica B. Stojanović[1], Petar Uskoković[1], Vesna Radojević[1], Radoslav Aleksić[1]
[1]Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11120 Belgrade, Serbia, [2]Insitute of Physics, University of Belgrade, Belgrade, Serbia

P.S.B.20. **INVESTIGATION ON FRACTURE MECHANICS FOR STEEL, CAST IRON AND BRONZE MATERIALS**
Miranda Vidhaj[1], Mariglen Kurti[1], Fatjon Boçi[2]
[1]University of Vlora, Vlore, Albania, [2]Private sector, Industrial production and management Vlora, Albania

P.S.B.21. **Low-cycle fatigue behaviour of 6061 aluminium alloy plated with multi-layered coatings**
Ya. B. Unigovski, E.M. Gutman, A. Grinberg
Ben-Gurion University of the Negev, Department of Materials Engineering, Beer-Sheva 84105, Israel

P.S.B.22. **Spectroscopical Analyses of Laboratory Produced ODS Steels**.
Jarmila Degmova, Julius Dekan, Jana Simeg Veterníkova, Veronika Sabelova, Vladimir Slugen
Institute of Nuclear and Physical Engineering, Slovak University of Technology, Ilkovičova 3, 812 19 Bratislava, Slovakia

P.S.B.23. **The pore structure of hydrated Portland cement paste**
Irida Markja[1], Thomas Bier[2], Ylli Shehu[1]
[1]Polytechnic University Tirana, Department of Production Management, Sq. Nene Teresa nr. 4, Tirana, Albania, [2]TU Bergakademie, Institute für Keramik, Glas und Baustofftechnik, Leipziger Str.28, 09599 Freiberg, Germany

P.S.B.24. **THE INFLUENCE OF NANO-SILICA AND BARITE AGGREGATE ON PROPERTIES OF ULTRA HIGH PERFORMANCE CONCRETE**
Ksenija Janković[1], Srboljub Stanković[2,3], Dragan Bojović[1], Marko Stojanović[1], Ljiljana Miličić[1]
[1]Institute for Materials Testing - IMS, Belgrade, Serbia
[2]Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia
[3]School of Electrical Engineering, University of Belgrade, Belgrade, Serbia

POSTER SESSION III

Thursday, September 3, 2015, 20^{00}-22^{00}

SYMPOSIUM C: NANOSTRUCTURED MATERIALS

P.S.C.1. **Alignment of MoS2 Nanotubes in a Photopolymerizable Liquid–Crystalline Material**
Aleš Mrzel ‡, Blaž Tasič‡, Miro Huskič §, Irena Drevenšek-Olenik†, Blaž Tašič †, Aleš Mrzel ‡, Miro Huskič § // , Xinzheng Zhang ⊥, and Irena Drevenšek-Olenik *†‡
† Faculty of Mathematics and Physics, University of Ljubljana, Jadranska 19, SI 1000 Ljubljana, Slovenia
‡ J. Stefan Institute, Jamova 39, SI 1000 Ljubljana, Slovenia
§ National Institute for Chemistry, Hajdrihova 19, SI 1001, Ljubljana, Slovenia

P.S.C.2. **PLATINUM NANOCATALYSTS AT TITANIUM OXIDE BASED SUPPORTS FOR LOW TEMPEARTURE FUEL CELL APPLICATIONS**
Ljiljana M. Gajić Krstajić[1], Nevenka R. Elezović[2], Biljana M. Babić[3], Velimir R. Radmilović[4], Nedeljko V. Krstajić[4]
[1]Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Knez Mihailova 35, Belgrade, Serbia, [2]Institute for Multidisciplinary Research, University of Belgrade, Belgrade, Serbia, [3]Vinča Institute of Nuclear Sciences, University of Belgrade, Serbia, [4]Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia

P.S.C.3. **Photocatalytic degradation of the propranolol hydrochloride in natural water using titania-based nanoparticles**
Sanja J. Armaković[1], Daniela V. Šojić[1], Marija Radoičić[2], Mirjana I. Čomor[2], Biljana F. Abramović[1]
[1]University of Novi Sad, Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia; [2]Institut za nuklearne nauke Vinča, 11001 Beograd, PO Box 522, Republika Srbija

P.S.C.4. **SYNTHESIS OF SULPHUR NANOPARTICLES BY MECHANOCHEMICAL ROUTE IN THE SYSTEM Na2S2O3−H2(C4H4O4)−Na2SO3**
Zharlyrkasimova Dinar[1], Burkitbayev Mukhambetkali[1], Uralbekov Bolat[1], Urakaev Farit[2]
[1]al-Farabi Kazakh National University, Almaty, Kazakhstan, [2]V.S. Sobolev Institute of Geology and Mineralogy SB RAS, Novosibirsk, Russia

P.S.C.5. **Fabrication of composite nanostructures by laser assisted techniques**
N.N.Tarasenka, A.V.Butsen, M.I.Nedelko, N.V.Tarasenko

B. I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, 68 Nezalezhnasti Ave., 220072 Minsk, Belarus

P.S.C.6. **Modification of Graphene Oxide as Catalyst Support for Fuel Cells**
Veera Sadhu[1], Esaam Jamil[2], Sajjad Ghobadi[2], Begum Yarar[2], Selmiye Alkan Gürsel[1,2]
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P.S.C.7. **Reducing Coercivity In Magnetic Thin Films Through Surface Nanostructuring**
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P.S.C.8. **HYDROLYTIC STABILITY OF NANOSILICA-BASED UREA-FORMALDEHYDE COMPOSITE WITH DIFFERENT COUMARINE DERIVATES AS SCAVENGERS OF THE FORMALDEHYDE**
Vojislav Jovanović[1], Branka Petković[1], Suzana Samaržija-Jovanović[1], Biljana Dekić[1], Vidoslav Dekić[1], Gordana Marković[2], Milena Marinović-Cincović[3]
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P.S.C.9. **BROADENING OF MESOPHASE TEMPERATURE RANGE INDUCED BY DOPING CALAMITIC MESOGEN WITH BANANA-SHAPED MESOGEN**
Miroslav Cvetinov, Maja Stojanović, Dušanka Obadović, Aniko Vajda, Katalin Fodor-Csorba, Nandor Eber
Department of Physics, University of Novi Sad, Novi Sad, Serbia, Faculty of Education, University of Novi Sad, Sombor, Serbia, Institute for Solid State Physics and Optics, Wigner Research Centre for Physics, Hungarian Academy of Sciences, Budapest, Hungary,

P.S.C.10. **Ammonium removal from aqueous solutions using oxidized graphite based nanomaterials**
Daniela Bogdan, Al-Ogaidi Ahmed Jassim Muklive, Ion Ion, Alina Catrinel Ion
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P.S.C.11. **NANOVOID STUDY OF THICK-FILM STRUCTURES FOR SENSORS APPLICATION**
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P.S.C.12. **Transport properties of alkali nitrites**

Yuliya G. Mateyshina, Artem S. Ulihin, Arina V. Uhina, Nikolai F. Uvarov
Institute of Solid State Chemistry and Mechanochemistry, Russia
Novosibirsk state technical university, Russia

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. **Numerical study of the effect of air enriched with oxygen on NOx emissions in a heating furnace**
Mohamed Chaour, Mounira Bourebia, Sofiane Boulkroune, Salah Bouhouche
Welding and NDT Research, Centre (CSC), B.P 64 Cheraga, Algeria.

P.S.D.3. **NEWER METHODS OF WASTE DISPOSAL FROM THERMAL POWER PLANTS**
Jelena Mitic[1], Oliver Dimitrijevic[2], Miodrag Smelcerovic[1], Dragan Djordjevic[3]
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SYMPOSIUM E: BIOMATERIALS

P.S.E.1. **Effect of Si-modification method on structure and properties of bioceramics based on biogenic hydroxyapatite**
Olena Sych, Nataliia Pinchuk, Iryna Uvarova, Valentyna Klymenko, Olga Budilina, Ludmila Procenko
Frantsevich Institute for Problems of Materials Science of NAS of Ukraine

P.S.E.2. **BONE CEMENTS BASED ON CALCIUM PHOSPHATE - MAGNESIUM PHOSPHATE SYSTEM WITH (Ca+Mg)/P = 2**
Goldberg M.A., Smirnov S.V., Smirnov V.V., Antonova O.S., Shvorneva L.I., Kutsev S.V., Barinov S.M.
Baikov' Institute of Metallurgy and Materials Science RAS, Moscow, Russia

P.S.E.3. **SYNTHESIS, CHARACTERIZATION AND ANTIMICROBIAL ACTIVITY OF Ni(II) COMPLEXES WITH CONDENSATION PRODUCT OF 2-(DIPHENYLPHOSPHINO)BENZALDEHYDE AND GIRARD'S T REAGENT**
Božidar Čobeljić[1], Milica Milenković[1], Gabrijela Brađan[1], Dušan Sladić[1], Marina Milenković[2] and Katarina Anđelković[1]
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P.S.E.4. **Antimicrobial activity of palladium(II) complexes with O,O'-dialkyl esters of (S,S)-ethylenediamine-N,N'-di-2-(4-methyl)-pentanoic acid**
Jelena M. Vujić[1], Pavle Z. Mašković[1], Srećko R. Trifunović[2]
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P.S.E.5. **Crosslinked electrospun chitosan/PEO nanofibers for wound healing application**
Mirjana Grković[1], Anđela Radisavljević[1], Dušica B. Stojanović[2], Aleksandar Kojović[2], Mirjana Rajilić-Stojanović[2], Igor Balać[3], Vladimir Pavlović[5], Miloš Bjelović[4], Petar S.Uskoković[2]
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P.S.E.6. **Development of multifunctional Oxaprozin/poly(2-hydroxypropyl acrylate/itaconic acid) delivery system**

Marija M. Babić, Bojan Đ. Božić, Katarina M. Antić, Jovana S. Vuković, Marija D. Perišić, Jovanka M. Filipović, Simonida Lj. Tomić
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P.S.E.7. **The influence of gradient copolymerisation poly(oligo(propylene glycol) methacrylate) hydrogels with 2-hydroxyethyl methacrylate on thermoresponsive properties**

Maja Micic, Zorana Rogic Miladinovic, Dejan Milicevic, Edin Suljovrujic
Vinca Institute of Nuclear Sciences, University of Belgrade, PO Box 522, 11001 Belgrade, Serbia

P.S.E.8. **Lacunarity properties of nanophotonic materials for rigid gas permeable contact lenses**

Marija Tomić[1], Božica Bojović[1], Dragomir Stamenković[2], Djuro Koruga[3,4]
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P.S.E.9. **EVALUATION OF NANO-PARTICULATE BIOACTIVE-GLASS REINFORCED GELLAN-GUM HYDROGEL REGARDING THE FORMATION OF HYDROXYAPATITE UNDER SHEAR STRESS**

Jovana Zvicer[1], Ana Gantar[2,3], Đorđe Veljović[1], Saša Novak[2,3], Bojana Obradović[1]
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[3]Jožef Stefan International Postgraduate School, Ljubljana, Slovenia

P.S.E.10. **FORMATION MECHANISM OF BIOCOMPATIBLE FLUORIDE CONVERSION COATIN ON AZ31 MAGNESIUM ALLOY**

Juliána Drábiková, Jaromír Wasserbauer, Martin Zmrzlý
Brno University of Technology, Faculty of Chemistry, Materials Research Centre, Purkynova 118, 612 00 Brno, Czech Republic

P.S.E.11. **Squeeze cast AZ31 magnesium alloy long term degradation analysis in Hanks' solutions**

Pavel Doležal[1,2], Helena Doležalová Weissmannová[1], Jaromír Wasserbauer[1], Sylvia Dundeková[3], Branislav Hadzima[3], Ivana Modráčková[1]
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