

GENERAL CONFERENCE PROGRAMME

Sunday, September 4 2016

08⁰⁰-19⁰⁰ **Registration**

Monday, September 5, 2016

08⁰⁰-09⁰⁰ **Registration**
09⁰⁰-10⁰⁰ **OPENING CEREMONY**
- Introduction and Welcome
Main Conference Hall

10¹⁵-13¹⁵ **First Plenary Session**, Main Conference Hall

13¹⁵ **Photo Session**

15⁰⁰-19⁰⁰ **Symposium F**, Main Conference Hall

19³⁰-21⁰⁰ **Cocktail Party**

Tuesday, September 6, 2016

08³⁰-12³⁰ **Second Plenary Session**, Main Conference Hall

15⁰⁰-16³⁰ **Symposium C**, Main Conference Hall

17⁰⁰-19⁰⁰ **Symposium E**, Main Conference Hall

15⁰⁰-16¹⁵ **Symposium B**, Small Conference Hall

16⁴⁵-17³⁰ **Symposium D**, Small Conference Hall

20⁰⁰-22⁰⁰ **Poster Session I** (Symposium A), Villa MIMOZA

Wednesday, September 7, 2016

08³⁰-12³⁰ **Third Plenary Session** , Main Conference Hall

14⁰⁰-19⁰⁰ **Excursion to Dubrovnik, Croatia**

20⁰⁰-22⁰⁰ **Poster Session II** (Symposium B), Villa MIMOZA

Thursday, September 8, 2016

08³⁰-12³⁰ **Fourth Plenary Session**, Main Conference Hall

14⁰⁰-19⁰⁰ **Boat-trip around Boka Kotorska Bay**

20⁰⁰-22⁰⁰ **Poster Session III** (Symposiums C and E), Villa MIMOZA

Friday, September 9, 2016

09⁰⁰-12³⁰ **Fifth Plenary Session**, Main Conference Hall

12³⁰-13⁰⁰ **Awards and Closing of the Conference**

Saturday, September 10, 2016

Full day **Excursion to Skadar, Albania "The last Secret of Europe"**

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
SYMPOSIUM F: Advanced hybrid and composite materials

OPENING CEREMONY

Monday, September 5, 2016

Main Conference Hall

09⁰⁰-10⁰⁰

Welcome Speech

Dragan Uskoković, President of MRS-Serbia, Belgrade, Serbia

Presentation of YUCOMAT 2015 Awards

Slobodan Milonjić, Vice President of MRS-Serbia

MRS-Serbia 2016 Award for a Lasting and Outstanding Contribution to Materials Science and Engineering

Cell-instructive biomaterials for tissue engineering: Applications in regenerative medicine and study of disease

Gordana Vunjak-Novakovic

Columbia University, Department of Biomedical Engineering, New York, NY, USA

Break: 10⁰⁰-10¹⁵

FIRST PLENARY SESSION

Main Conference Hall

Session I: 10¹⁵-11⁴⁵

Chairmen: Gordana Vunjak-Novakovic and Robert Sinclair

10¹⁵-10⁴⁵ **Stimuli-responsive smart soft materials**

Takuzo Aida

The University of Tokyo and RIKEN Center for Emergent Matter Science, Japan

10⁴⁵-11¹⁵ **Therapeutic biomaterial devices for controlled drug release in ocular and
cardiac disease treatment**

Freddy Boey, Subbu Venkatraman

Nanyang Technological University, School of Materials Science and Engineering,
Singapur

11¹⁵-11⁴⁵ **Iron oxide nanoparticles for medical application: still a challenging task**

Heinrich Hofmann

Powder Technology Laboratory, Institute of Materials, Ecole Polytechnique Federale
de Lausanne, Swiss

Break: 11⁴⁵-12¹⁵

Session II: 12¹⁵-13¹⁵

Chairmen: Takuzo Aida and Velimir R. Radmilović

12¹⁵-12⁴⁵ In situ electron microscopy of energy-related thin film reactions

Robert Sinclair, Sang Chul Lee and Ai Leen Koh

Department of Materials Science and Engineering and Stanford Nano Shared Facilities, Stanford University, USA

12⁴⁵-13¹⁵ Lithium and scandium trialuminides embedded in solid matrix

Velimir R. Radmilović

Sebian Academy of Sciences and Arts, Knez Mihailova 35, 11000, Beograd, Serbia

13¹⁵-13⁴⁵ Photo session

Break: 13⁴⁵-15⁰⁰

SYMPOSIUM F: ADVANCED HYBRID AND COMPOSITE MATERIALS

Main Conference Hall

Session I: 15⁰⁰-17⁰⁰

Chairpersons: Kwang-Ho Kim, Robert Sinclair, Danilo Suvorov and Margarethe Hofmann

15⁰⁰-15³⁰ Materials research in Europe – a new concept needed?

Margarethe Hofmann-Antenbrink¹, Alessandra Hool²

¹Past President of FEMS, CEO MatSearch and Foundation of Rare Metals, ESM, Pully, Swiss, ²MatSearch and Foundation of Rare Metals, ESM, Pully, Swiss

15³⁰-16⁰⁰ Hybrid-interface materials

Kwang Ho Kim^{1,2}

¹Global Frontier R&D Center for Hybrid Interface Materials, Republic of Korea

²School of Materials Science and Engineering, Pusan National University, Republic of Korea

16⁰⁰-16¹⁵ Advanced nanotechnology based on the directed self-assembly of block copolymers for device applications

Woon Ik Park, Jung-Ho Cho, Young Hun Jeong, and Jong Hee Whang

Electronic Materials & Component R&D Center, Korea Institute of Ceramic

Engineering & Technology (KICET) 101 Soho-ro, Jinju 52851, Republic of Korea

16¹⁵-16³⁰ **Virus based novel colorimetric sensor for cancer cell detection**

Suck Won Hong¹, Jin-Woo Oh²

¹Department of Cogno-Mechatronics Engineering, Pusan National University, Busan 46241, Republic of Korea, ²Department of Nanoenergy Engineering, Pusan National University, Busan 46241, Republic of Korea

16³⁰-16⁴⁵ **Organic-inorganic hybride thin films using atomic/molecular layer deposition for flexible electronic applications**

Jin-Seong Park

Division of Materials Science and Engineering, Hanyang University, Seoul, Republic of Korea

16⁴⁵-17⁰⁰ **Ultrathin ALD interfacial layer for improved materials properties**

Zhixin Wan, Woo-Jae Lee, Kwang-Ho Kim, and Se-Hun Kwon

School of Materials Science and Engineering, Pusan National University, Republic of Korea

Break: 17⁰⁰-17³⁰

Session II: 17³⁰-19⁰⁰

Chairpersons: Kwang-Ho Kim, Robert Sinclair, Danilo Suvorov and Margarethe Hofmann

17³⁰-18⁰⁰ **3-Dimensional hybrid nanostructures: Novel fabrication strategies and applications**

Yeon Sik Jung

KAIST- Korean Institute for Science and Technology, Seoul, Republic of Korea

18⁰⁰-18¹⁵ **Hybrid materials/device enabling high energy and power densities along with robust cycle life**

Jeung Ku Kang, Hyung Mo Jeong, Il-Woo Ock, Jong Ho Weon

Department of Materials Science & Engineering and Graduate School of EEWS, Daejeon, Republic of Korea

18¹⁵-18³⁰ **Multi-scale computational design of active and durable materials for renewable energy systems**

Byungchan Han, Joonhee Kang, Jeemin Hwang, Seunghyo Noh, Choa Kwon

Department of Chemical and Biomolecular Engineering, Yonsei University, Seoul, 03722, Republic of Korea

18³⁰-18⁴⁵ **Ni₂Si silicide wire fabrication by conventional metal alloy processing**

Seung Zeon Han¹, Sung Hwan Lim², Byungchan Han³ and Kwang Ho Kim⁴

¹Commercialization Research Division, Korea Institute of Materials Science, Changwon, Republic of Korea, ²Department of Advanced Materials Science & Engineering, Kangwon National University, Chuncheon, Republic of Korea, ³Department of Chemical and Biomolecular Engineering, Yonsei University, Seoul, Republic of Korea, ⁴School of Materials Science and Engineering, Pusan National University, Busan, Republic of Korea

18⁴⁵-19⁰⁰ **Developing multi-component coatings for structural applications by a hybrid HIPIMS technique**

Qimin Wang¹, Kwang Ho Kim²

¹School of Electromechanical Engineering, Guangdong University of Technology, Guangzhou, P.R. China, ²Global Frontier R&D Center for Hybrid Interface Materials, Pusan National University, Busan, Republic of Korea

SECOND PLENARY SESSION

Tuesday, September 6, 2016
Main Conference Hall

Session I: 08³⁰-10³⁰

Chairpersons: Eva Olsson and Hamish Fraser

08³⁰-09⁰⁰ **In situ off-axis electron holography of two-dimensional transition metal dichalcogenides**

Rafal E. Dunin-Borkowski¹, Florian Winkler¹, Amir H. Tavabi¹, Juri Barthel², Martial Duchamp¹, Emrah Yucelen³, Sven Borghardt⁴, Beata E. Kardynal⁴
¹Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons and Peter Grünberg Institute 5, Forschungszentrum Jülich, D-52425 Jülich, Germany, ²Gemeinschaftslabor für Elektronenmikroskopie (GFE), RWTH Aachen University, D-52074 Aachen, Germany, ³Faculty of Physics and Center for Nanointegration (CENIDE), University of Duisburg-Essen, D-48047 Duisburg, Germany, ⁴Peter Grünberg Institute 9, Forschungszentrum Jülich, D-52425 Jülich, Germany

09⁰⁰-09³⁰ **Real-time viewing of III-V semiconductor nanowire growth by In Situ TEM**

L.R Wallenberg¹, F. Lenrick¹, M. Ek¹, D. Jacobsson¹, L. Samuelson² and K. Dick Thelander¹
¹nCHREM, Inst. for Chemistry; ²Solid State Physics, Lund University, Sweden

09³⁰-10⁰⁰ **Oxidation of carbon nanotubes using environmental TEM and the influence of the imaging electron beam**

Ai Leen Koh¹, Emily Gidcumb², Otto Zhou^{2,3} and Robert Sinclair⁴
¹Stanford Nano Shared Facilities, Stanford University, Stanford, CA 94305, USA, ²Department of Applied Physical Sciences, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, USA, ³Department of Physics and Astronomy, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, USA, ⁴Department of Materials Science and Engineering, Stanford University, Stanford, CA 94305, USA

10⁰⁰-10³⁰ **Electric field and thermal induced effects in nanostructured materials revealed by advanced in situ electron microscopy**

Ludvig de Knoop, Hanna Nilsson, Andrew Yankovich, Norvik Voskianian, Lunjie Zeng and Eva Olsson
Department of Physics, Chalmers University of Technology, 412 96 Gothenburg, Sweden

Break: 10³⁰-11⁰⁰

Session II: 11⁰⁰-12³⁰

Chairmen: Rafal E. Dunin-Borkowski and Gianluigi A. Botton

11⁰⁰-11³⁰ **Energy loss spectroscopy at high resolution: Applications to functional oxides and nanostructures**

Gianluigi A. Botton

McMaster University, Department of Materials Science and Engineering, 1280 Main Street West, Hamilton, Ontario, Canada

11³⁰-12⁰⁰ **Non-planar nanostructures at atomic scale**

Jordi Arbiol^{1,2}

¹Institució Catalana de Recerca i Estudis Avançats (ICREA), 08010 Barcelona, CAT, Spain, ²Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and The Barcelona Institute of Science and Technology, Campus UAB, Bellaterra, 08193 Barcelona, CAT, Spain

12⁰⁰-12³⁰ **The art and science of spatially-resolved determinations of local composition in an aberration-corrected electron microscope**

Brian Welk, Jacob Jensen, John Sosa, Dan Huber, Robert Williams, Babu Viswanathan, and Hamish L Fraser

Center for the Accelerated Maturation of Materials, Department of Materials Science and Engineering, The Ohio State University, Columbus, OH, USA

Break: 12³⁰-15⁰⁰

SYMPOSIUM C: NANOSTRUCTURED MATERIALS

Main Conference Hall

Session I: 15⁰⁰-16¹⁵

Chairpersons: Satoshi Ohara and Natalia Kamanina

15⁰⁰-15¹⁵ **Structural characterization of organic bulk heterojunction solar cells**

Vuk V. Radmilović¹, Fei Guo², Christoph J. Brabec^{2,3}, Erdmann Spiecker⁴, Velimir R. Radmilović⁵

¹Innovation Center, Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia, ²Institute of Materials for Electronics and Energy Technology (i-MEET), Friedrich-Alexander-University Erlangen- Nuremberg, Erlangen, Germany, ³Bavarian Center for Applied Energy Research (ZAE Bayern), Erlangen, Germany, ⁴Center for Nanoanalysis and Electron Microscopy (CENEM), Friedrich – Alexander - University of Erlangen- Nuremberg, Erlangen, Germany, ⁵Serbian Academy of Sciences and Arts, Belgrade, Serbia

- 15¹⁵-15³⁰ **High-performance Ni-GDC nanocomposite anode fabricated from GDC nanocubes for low-temperature solid-oxide fuel cells**
Satoshi Ohara and Kazuhiro Yamamoto
Joining and Welding Research Institute, Osaka University, Japan
- 15³⁰-15⁴⁵ **The chemical recycling of polycarbonate using CeO₂ nanocatalysts**
Minori Taguchi, Takashi Naka, Toshitaka Funazukuri
Chuo University, National Institute for Materials Science, Japan
- 15⁴⁵-16⁰⁰ **Modification of the materials properties via surface structuring**
Natalia V. Kamanina
¹Vavilov State Optical Institute, Kadetskaya Liniya V.O., dom.5, korpus 2, St.-Petersburg, 199053, Russia, ²Saint-Petersburg Electrotechnical University ("LETI"), St. Petersburg, Russia
- 16⁰⁰-16¹⁵ **Half Heusler thermoelectrics Ti_(1-x)Fe_(1.33+x)Sb - TiCoSb**
A. Tavassoli^{1,2,3}, A. Grytsiv^{1,3,4}, G. Rogl^{1,3,4}, V. Romaka⁵, P. Broz^{6,7}, E. Bauer^{3,4}, G. Giester⁸, M. Zehetbauer², P. Rogl^{1,4}
¹Institute of Materials Chemistry and Research, University of Vienna, Währingerstr. 42, A-1090 Wien, Austria, ²Faculty of Physics, University of Vienna, Boltzmanngasse 5, A-1090 Wien, Austria, ³Institute of Solid State Physics, Vienna University of Technology, Wiedner Hauptstr., 8-10, A-1040 Wien, Austria, ⁴Christian Doppler Laboratory for Thermoelectricity, Wien, Austria, ⁵Department of Materials Science and Engineering, Lviv Polytechnic National University, Ukraine, ⁶Masaryk University, Faculty of Science, Department of Chemistry, Kotlarska 2, 611 37, Brno, Czech Republic, ⁷Masaryk University, Central European Institute of Technology, CEITEC, Kamenice 753/5, Brno 62500, Czech Republic, ⁸Institute of Mineralogy and Crystallography, University of Vienna, Althanstraße 14, A-1090 Vienna, Austria
- 16¹⁵-16³⁰ **Shape directing agents for controlling the morphology of anisotropic iron oxide nanoparticles**
Ana Mrakovic¹, Gurbinder Singh², Frode Seland², Erzsébet Illés¹, Nikola Knezevic¹, Vladan Kusigerski¹, Sanja Vranjes-Djuric¹, Vojislav Spasojevic¹ and Davide Peddis^{1,3}
¹The Vinča Institute of Nuclear Sciences, Belgrade, 11001, Serbia, ²Department of Materials Science and Engineering, Norwegian University of Science and Technology, Trondheim-7491, Norway, ³Istituto di Struttura della Materia – CNR, 00016 Monterotondo Stazione (Roma), Italy

Break: 16³⁰-17⁰⁰

SYMPOSIUM E: BIOMATERIALS

Session I: 17⁰⁰-19⁰⁰

Chairpersons: Nenad Ignjatović and Bojana Obradović

- 17⁰⁰-17¹⁵ **Multifunctional opto-magnetic NaYF₄:Er₃₊,Yb₃₊,Gd₃₊&Fe₃O₄@SiO₂ nanoconstructs – towards biomedical applications**
Božena Sikora¹, Przemysław Kowalik¹, Krzysztof Fronc¹, Jakub Mikulski¹, Izabela Kamińska¹, Anna Borodziuk², Magdalena Duda², Katarzyna Łysiak³, Maciej Szewczyk^{4,5}, Karolina Zajdel⁶, Grzegorz Gruzel⁷, Leandro C. Figueiredo⁸, Paulo C. Morais^{8,9}, Laise Andrade¹⁰, João P. Longo¹⁰, Ricardo B. de Azevedo¹⁰, Zulmira G. M. Lacava¹⁰, Ewa Mosiniewicz-Szablewska¹, Magdalena Parlińska-Wojtan⁷, Roman Minikayev¹, Tomasz Wojciechowski¹, Anita Gardias³, Jarosław Rybusiński³, Andrzej Sienkiewicz^{1,12}, Mariusz Łapiński¹³, Piotr Stępień^{4,5,14}, Wojciech Paszkowicz¹, Jacek Szczytko³, Andrzej Twardowski³, Małgorzata Frontczak-Baniewicz⁶, Danek Elbaum¹
¹Institute of Physics, Polish Academy of Sciences, Warsaw, ²Division of Biophysics, Institute of Experimental Physics UW, Warsaw, ³Institute of Experimental Physics, Faculty of Physics UW, Warsaw, ⁴Institute of Genetics and Biotechnology, Faculty of Biology UW, Warsaw, ⁵Institute of Biochemistry and Biophysics PAS, Warsaw, ⁶Mossakowski Medical Research Centre PAS, Warsaw, ⁷Institute of Nuclear Physics PAS, Krakow, ⁸Instituto de Fisica, Universidade de Brasilia, Brasilia DF, Brazil, ⁹College of Chemistry and Chemical Engineering, Anhui University, Hefei, China, ¹⁰Instituto de Ciências Biológicas, Departamento de Genética e Morfologia, Universidade de Brasilia, Brasilia DF, Brazil, ¹¹Laboratory of Physics of Complex Matter, EPFL, Station 3, Lausanne, Switzerland, ¹²ADSresonaces, Prévèrènges, Switzerland, ¹³Institute of Optoelectronics, Military University of Technology, Warsaw, ¹⁴Centre of New Technologies, Ochota UW, Warsaw, Poland
- 17¹⁵-17³⁰ **Tumor-selective hybrid system based on hydroxyapatite nanocarrier, chitosane, poly(lactic-co-glycolic acid) and androstan derivate**
Nenad L. Ignjatović¹, Katarina M. Penov-Gaši², Victoria M. Wu³, Jovana J. Ajduković⁴, Vesna V. Kojić⁴, Dana Vasiljević-Radović⁵, Vuk D. Uskoković^{3,6}, Dragan P. Uskoković¹
¹Institute of Technical Sciences of SASA, Belgrade, Serbia, ²University of Novi Sad, Faculty of Sciences, Department of Chemistry, Biochemistry and Environmental Protection, Novi Sad, Serbia, ³Advanced Materials and Nanobiotechnology Laboratory, Department of Bioengineering, University of Illinois, Chicago, IL, USA, ⁴Oncology Institute of Vojvodina, Sremska Kamenica, Serbia, ⁵University of Belgrade, Institute for Chemistry, Technology and Metallurgy, Belgrade, Serbia, ⁶Department of Biomedical and Pharmaceutical Sciences, School of Pharmacy, Chapman University, Irvine, CA, USA
- 17³⁰-17⁴⁵ **One pot and two step synthesis of 1D and 2D calcium phosphates and their biomedical characteristics**

Zoran S. Stojanović¹, Nenad Ignjatović¹, Victoria Wu², Vojka Žunić³, Ljiljana Veselinović¹, Srečo Škapin³, Miroslav Miljković⁴, Vuk Uskoković^{2,5}, Dragan Uskoković¹

¹Institute of Technical Sciences of SASA, Knez Mihailova 35/4, 11000 Belgrade, Serbia, ²Advanced Materials and Nanobiotechnology Laboratory, Department of Bioengineering, University of Illinois, 851 South Morgan Street, Chicago, IL 60607-7052, USA, ³Advanced Materials Department, Jožef Stefan Institute, Jamova cesta 39, 1000 Ljubljana, Slovenia, ⁴Laboratory for Electron Microscopy, Faculty of Medicine University of Niš, Dr. Zoran Đinđić Boulevard 81, 18 000 Niš, Serbia, ⁵Department of Biomedical and Pharmaceutical Sciences, School of Pharmacy, Chapman University, 9401 Jeronimo Road, Irvine, CA 92618-1908, USA

17⁴⁵-18⁰⁰ **Alginate hydrogels with silver nanoparticles and honey as potential wound dressings**

Bojana Obradović¹, Jasmina Stojkovska¹, Vesna Mišković-Stanković¹, Milica Labudović Borović², Ljiljana Ščepanović²

¹Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia

²School of Medicine, University of Belgrade, Belgrade, Serbia

18⁰⁰-18¹⁵ **Novel platforms for designing antimicrobial biomaterials**

Marija Vukomanović, Vojka Žunić, Mario Kurtjak, Nemanja Aničić, Danilo Suvorov
Advanced Materials Department, Jozef Stefan Institute, Ljubljana, Slovenia

18¹⁵-18³⁰ **Coupling vanadate elution control with catalytic properties of V₂O₅ in V₂O₅/PLGA composite coating**

Nemanja Aničić^{1,2}, Marija Vukomanović¹, Danilo Suvorov¹

¹Advanced Materials Department, Jožef Stefan Institute, Ljubljana, Slovenia

²Jožef Stefan International Postgraduate School, Ljubljana, Slovenia

18³⁰-18⁴⁵ **Quantifying the fractal dimension and the effective permeability of membrane fouling**

Miguel Herrera-Robledo and Volodymyr V. Tarabara

Department of Civil and Environmental Engineering, Michigan State University, USA

18⁴⁵-19⁰⁰ **Effect of cooling rate from α + β range on stereological parameters of microstructure in the Ti₆Al₇Nb alloy**

Krzysztof Wiczerzak, Robert Dąbrowski, Edyta Rożniata, Rafał Dziurka
AGH University of Science and Technology, Faculty of Metals Engineering and Industrial Computer Science, Al. A. Mickiewicza 30, 30-059 Kraków, Poland

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

Small Conference Hall

Session I: 15⁰⁰-16¹⁵

Chairmen: Zoran S. Petrović and Smilja Marković

- 15⁰⁰-15¹⁵ **Boson peak and glass forming ability in CuHfTi metallic glasses**
Amra Salčinović Fetić^{1,2}, G. Remenyi^{3,4}, D. Starešinić², E. Babić⁵, I. A. Figueroa⁶, H. A. Davies⁷, and K. Biljaković^{2,3}
¹Department of Physics, Faculty of Science, University of Sarajevo, Sarajevo, Bosnia and Herzegovina, ²Institute of Physics, Zagreb, Croatia, ³CNRS, Institut Néel, Grenoble, France, ⁴Institut Néel, Université Grenoble Alpes, Grenoble, France, ⁵Department of Physics, Faculty of Science, Zagreb, Croatia, ⁶Institute for Materials Research-UNAM, Ciudad Universitaria Coyoacan, Mexico D.F., Mexico, ⁷Department of Engineering Materials, University of Sheffield, Sheffield, UK
- 15¹⁵-15³⁰ **The influence of thermal treatment on physicochemical properties of graphene oxide/phosphotungstic acid nanocomposite**
Zoran Jovanović¹, Danica Bajuk-Bogdanović², Milica Vujković², Željko Mravik², Ivanka Holclajtner-Antunović²
¹Laboratory of Physics, Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia, ²Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia
- 15³⁰-15⁴⁵ **Influence of point defects concentration on optical and photocatalytic properties of ZnO ceramics**
Smilja Marković¹, Vladimir Rajić², Ljiljana Veselinović¹, Jelena Belošević-Čavor³, Srečo Davor Škapin⁴, Stevan Stojadinović⁵, Vladislav Rac⁶, Steva Lević⁶, Miloš Mojović², Dragan Uskoković¹
¹Institute of Technical Sciences of SASA, Belgrade, Serbia, ²Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia, ³The Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia, ⁴Jožef Stefan Institute, Ljubljana, Slovenia, ⁵Faculty of Physics, University of Belgrade, Belgrade, Serbia, ⁶Faculty of Agriculture, University of Belgrade, Zemun, Serbia
- 15⁴⁵-16⁰⁰ **Activated track etched carbon for supercapacitor electrodes**
Petar Laušević, Predrag Pejović, Dragana Žugić, Yuri Kochnev, Pavel Apel and Zoran Laušević
¹Laboratory of physical chemistry, Vinča institute of nuclear sciences, University of Belgrade, Serbia, ²School of Electrical Engineering, University of Belgrade, Serbia, ³Flerov laboratory of nuclear reactions, Joint institute for nuclear research, Dubna, Russia

16⁰⁰-16¹⁵ **The influence of fluorine doping on the structural and the electrical properties of LiFePO₄ powder**

Dragana Jugović¹, Miodrag Mitrić², Miloš Milović¹, Nikola Cvjetičanin³, Bojan Jokić⁴, Ana Umičević², Dragan Uskoković¹

¹Institute of Technical Sciences of SASA, Knez Mihailova 35/IV, 11 000 Belgrade, Serbia, ²Vinča Institute of Nuclear Sciences, University of Belgrade, P.O. Box 522, 11 001 Belgrade, Serbia, ³Faculty of Physical Chemistry, University of Belgrade, Studentski Trg 12-16, P.O. Box 137, Belgrade, Serbia, ⁴Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11 000 Belgrade, Serbia

Break: 16¹⁵-16⁴⁵

SYMPOSIUM D: ECO-MATERIALS AND ECO-TECHNOLOGIES

Small Conference Hall

Session I: 16⁴⁵-17³⁰

Chairmen: Smilja Marković and Irena Nikolić

16⁴⁵-17⁰⁰ **Designing materials from biological oils**

Zoran S. Petrovic

Pittsburg State University, Kansas Polymer Research Center

17⁰⁰-17¹⁵ **Recovery of rare earth elements of bastnasite ores by advanced hydrometallurgical methods**

Carsten Dittrich¹, Srečko Stopic², Bernd Friedrich²

¹MEAB Chemie Technik GmbH, Aachen, Germany

²IME Process Metallurgy and Metal Recycling, Germany

17¹⁵-17³⁰ **Strength and durability of alkali activated slag in a sea water: influence of alkali ion**

Irena Nikolić¹, Smilja Marković², Ljiljana Karanović³, Vuk Radmilović⁴, Velimir Radmilović⁵

¹University of Montenegro, Faculty of Metallurgy and Technology, Džordža Vašingtona bb, 81 000 Podgorica, Montenegro, ²Institute of Technical Sciences of SASA, Knez Mihailova 35, Belgrade, Serbia, ³University of Belgrade, Faculty of Mining and Geology, Laboratory of Crystallography, Đušina 7, 11000 Belgrade, Serbia, ⁴Innovation center, University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia, ⁵Serbian Academy of Sciences and Arts, Knez Mihailova 35, Belgrade, Serbia

THIRD PLENARY SESSION

Wednesday, September 7, 2016

Main Conference Hall

Session I: 08³⁰-10³⁰

Chairmen: Eiji Osawa and Francois M. Peeters

08³⁰-09⁰⁰ **Grain boundary geometry, structural units and segregation in oxides**

Yuichi Ikuhara^{1,2,3}

¹Institute of Engineering Innovation, The University of Tokyo, Tokyo, 113-8656, Japan, ²Nanostructures Research Laboratory, Japan Fine Ceramics Center, Nagoya, 456-8587, Japan, ³WPI-AIMR Research Center, Tohoku University, Sendai, 980-8577, Japan

09⁰⁰-09³⁰ **Interfacial step alignment as a mechanism of hetero-epitaxy/orientation relationships: the case of Ag on Ni**

Dominique Chatain¹, Paul Wynblatt², Anthony D. Rollett², Gregory S. Rohrer²

¹Aix-Marseille University, CNRS, CINaM, UMR 7325, 13288 Marseille, France,

²Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA 15213, USA

09³⁰-10⁰⁰ **Controlling Microstructural Evolution via Adsorption**

Wayne D. Kaplan

Department of Materials Science and Engineering, Technion - Israel Institute of Technology, Israel

Break: 10⁰⁰-10³⁰

Session II: 10³⁰-12³⁰

Chairpersons: Dominique Chatain and Yuichi Ikuhara

10³⁰-11⁰⁰ **TEM observation of atomic structures and their evolutions in 2D and 1D materials**

Kazu Suenaga

Advanced Industrial Science and Technology, Japan

11⁰⁰-11³⁰ **Atomic Structure of defects, dopants and edge terminations in monolayer 2D materials**

Jamie H. Warner

Department of Materials, University of Oxford, UK

11³⁰-12⁰⁰ **Atomic collapse in graphene**

Francois Peeters¹, Dean Moldovan¹, Massoud R. Masir^{1,2}, Eva Andrei³
¹Department Physics, University of Antwerp, Groenenborgerlaan 171, B-2020
Antwerpen, ²Department of Physics, University of Texas at Austin, Austin TX
78712, USA, ³Rutgers University, Department of Physics and Astronomy,
Piscataway, NJ 08855, USA

12⁰⁰-12³⁰ **Aberration corrected views of of chemical ordering and segregation in complex
oxides**

Maria Varela
Facultad de CC. Fisicas & Instituto Pluridisciplinar, Universidad Complutense de
Madrid 28040 Madrid, Spain

FOURTH PLENARY SESSION

Thursday, September 8, 2016
Main Conference Hall

Session I: 08³⁰-10³⁰

Chairmen: Danilo Suvorov and Philippe Colomban

08³⁰-09⁰⁰ **Towards device physics of the CH₃NH₃PbI₃ photovoltaic perovskite**
László Forró
Laboratory of Physics of Complex Matter, Ecole Polytechnique Fédérale de
Lausanne, CH-1015 Lausannes, Swiss

09⁰⁰-09³⁰ **Tailoring defined-shape ferroelectric particles for various ferro- and piezoelectric applications**
Danilo Suvorov¹, M. Macek-Krzmanc¹ and H. Ursic Nemevsek²
¹Advanced Materials Department, Jožef Stefan Institute, Jamova 39, Ljubljana, Slovenia, 1000, ²Electronic ceramics Department, Jožef Stefan Institute, Jamova 39, Ljubljana, Slovenia, 1000

09³⁰-10⁰⁰ **How could electrolytes and electrodes be friendlier for Li-ion traffic?**
Mamoru Senna
Faculty of Science and Technology, Keio University, Japan

Break: 10⁰⁰-10³⁰

Session II: 10³⁰-12³⁰

Chairmen: Mamoru Senna and László Forró

10³⁰-11⁰⁰ **Recent progress in R&D of the primary particles of detonation nanodiamond**
Eiji Osawa, Shuichi Sasaki, Ryoko Yamanoi
NanoCarbon Research Institute Limited, Japan

11⁰⁰-11³⁰ **Nanodiamond and its derivatives for catalysis**
Dangsheng Su
Dalian Institute of Chemical Physics, Chinese Academy of Science, Dalian, China

11³⁰-12⁰⁰ **Scaffolds for tissue repair and regeneration**
Serena Best
University of Cambridge, UK

12⁰⁰-12³⁰ **Advanced and in situ transmission electron microscopy of semiconductor nanowire materials**

Wolfgang Jäger
Institute of Materials Science, Christian-Albrechts-University of Kiel, 24143 Kiel,
Germany EU

FIFTH PLENARY SESSION

Friday, September 9, 2016
Main Conference Hall

Session I: 09⁰⁰-11⁰⁰

Chairmen: Jamie H. Warner and Wolfgang Jäger

09⁰⁰-09³⁰ **Neutron scattering and atomistic modeling for materials science**

Max Avdeev

Australian Nuclear Science and Technology Organisation, Australia

09³⁰-10⁰⁰ **Understanding failure and fatigue mechanisms of advanced and natural polymer fibres by Raman/IR microspectrometry**

Philippe Colomban

Sorbonne Universités, UPMC Paris 06, MONARIS umr8233 CNRS, France

10⁰⁰-10³⁰ **High-melting point compounds: new approaches and results**

Rostislav A. Andrievski

Institute of Problems of Chemical Physics, Semenov Prospect, 1, Chernogolovka, Moscow Region, 142432, Russia

10³⁰-11⁰⁰ **Deformation Mechanisms, Microstructure, and Mechanical Properties of High-Mn Austenitic Steels**

James Wittig

Interdisciplinary Materials Science, Vanderbilt University, USA

Break: 11⁰⁰-11³⁰

Session II: 11³⁰-12³⁰

Chairmen: Feng-Huei Lin and Vuk Uskoković

11³⁰-12⁰⁰ **Hyaluronate-based thermo-sensitive hydrogel as cell carrier for nucleus pulposus regeneration and vitreous body substitute**

Feng-Huei Lin

National Health Research Institutes (NHRI), Taiwan

12⁰⁰-12³⁰ **From controlled drug delivery to gene therapies to bone regeneration: calcium phosphate nanoparticles as essential components of advanced biomaterials**

Vuk Uskoković

Department of Biomedical and Pharmaceutical Sciences, Chapman University, Irvine, CA 92618-1908, USA

12³⁰-13⁰⁰ CLOSING CEREMONY

POSTER SESSION I

Tuesday, September 6, 2016, 20⁰⁰-22⁰⁰

SYMPOSIUM A: ADVANCED METHODS IN SYNTHESIS AND PROCESSING OF MATERIALS

- P.S.A.1. **Novel pathway towards the synthesis of complex double perovskites**
Jasminka Popovic, Marijana Juric, Lidija Andros Dubraja, Kresimir Molcanov
Rudjer Boskovic Institute, Bijenicka 54, HR-10000 Zagreb, Croatia
- P.S.A.2. **High-temperature treatment for new properties of LuPO₄:Eu, Lu₂O₃:Tb,Ti/Hf and BaHfO₃:Pr**
Justyna Zeler, Dagmara Kulesza, Ioannis Seferis, Eugeniusz Zych
Faculty of Chemistry, University of Wrocław, 14 F. Joliot-Curie Street, 50-383
Wrocław, Poland
- P.S.A.3. **Processing and characterization of dental acrylate improved with zirconia**
Abdulsalam Ahmed Emadani, Nataša Tomić, Miloš Petrović, Dusica B. Stojanović,
Petar S. Uskoković, Radmila Jančić Heinemann, Vesna Radojević
University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4,
Belgrade, Serbia
- P.S.A.4. **Biocompatible poly(methyl methacrylate)/di-methyl itaconate – (iron oxide doped alumina) composite with improved mechanical properties**
Gamal Ali Lazouzi, Nataša Tomić, Miloš Petrović, Milorad Zrilić, Vesna Radojević,
Radmila Jančić Heinemann
University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4,
Belgrade, Serbia
- P.S.A.5. **Rapid fabrication of antimicrobial poly(vinyl butyral)/ titania nanofibers using multi-needle electrospinning**
Faisal Ali Alzarrug, Dušica B. Stojanović, Vera M. Obradović, Andela N.
Radisavljević, Aleksandar M. Kojović, Petar S. Uskoković, Radoslav R. Aleksić
University of Belgrade, Faculty of Technology and Metallurgy, Serbia
- P.S.A.6. **Thin films of MoS₂ on Cu₂O as biosensors**
Alexandra Yu. Ledneva¹, Sofya B. Artemkina¹, Hsiang-Chen Wang², Vladimir E.
Fedorov¹
¹Nikolaev Institute of Inorganic Chemistry, Siberian Branch of Russian Academy of
Sciences, Novosibirsk, Russia
²Graduate Institute of Opto-Mechatronics, National Chung Cheng University, Taiwan

- P.S.A.7. **PVA membranes doped with Ti and Zr oxide for alkaline electrolysis with ionic activators**
Sladjana Maslovara¹, Dragana Zucic¹, Milica Marceta Kaninski¹, Vladimir Nikolic¹, Gvozden Tasic¹, Yuri Kochnev²
¹Vinca Institute of Nuclear Sciences, Department of Physical Chemistry, University of Belgrade, Serbia, ²Flerov laboratory of nuclear reactions, Joint institute for nuclear research, Dubna, Russia
- P.S.A.8. **Influence of the nickel loading and the calcination temperature on the activity of NiO-Al₂O₃ catalyst prepared by mixing powders of metal oxides in the partial oxidation of methane**
Matilda Lazić
Technical College of Applied Sciences in Zrenjanin, Zrenjanin, Serbia
- P.S.A.9. **Structural and magnetic properties of mechanochemically synthesized LaFe_{1-x}Cr_xO₃ (x = 0.5 and 0.75)**
Dragana Jugović¹, Ivica Bradarić², Čedomir Jovalekić³, Tanja Barudžija², Vladan Kusigerski², Miodrag Mitrić²
¹Institute of Technical Sciences of SASA, Belgrade, Serbia, ²Institute of Nuclear Sciences “Vinča”, University of Belgrade, Belgrade, Serbia, ³Centre for Multidisciplinary Studies, University of Belgrade, Belgrade, Serbia
- P.S.A.10. **Surfactant-assisted high energy ball milling technique as a method for preparation of magnetic submicrometer particles**
Vesna Jović, Jelena Lamovec, Katarina Radulović, Danijela Randelović, 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.A.11. **Characterization of NdFeB magnetic submicron particles obtained by surfactant-assisted high energy ball milling (SA-HEBM)**
Jelena Lamovec¹, Vesna Jović¹, Davor Lončarević², Katarina Radulović¹, Zoran Jakšić¹, Danijela Randelović¹, Dana Vasiljević – Radović¹
¹Centre of Microelectronic Technologies, Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Belgrade, Serbia, ²Department of Catalysis and Chemical Engineering, Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Njegoseva 12, 11000 Belgrade, Serbia
- P.S.A.12. **Experimental and theoretical analysis of fullerene nanoparticles/water system**
Milan Vraneš, Ivana Borišev, Stevan Armaković, Sanja J. Armaković, Aleksandar Tot, Danica Jović, Slobodan Gadžurić, Aleksandar Djordjević
¹Department for Chemistry, Biochemistry and Environmental Protection, University of Novi Sad, Novi Sad, Serbia, ²Department of Physics, Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia

- P.S.A.13. **Highly Efficient Graphene Supports for Fuel Cells**
Veera Sadhu¹, Esaam Jamil², Selmiye Alkan Gürsel^{1,2}
¹Nanotechnology Research and Application Center, Sabanci University, 34956 Istanbul, Turkey, ²Faculty of Natural Science and Engineering, Sabanci University, 34956 Istanbul, Turkey
- P.S.A.14. **Modeling of optimal parameters of synthesis and sintering of nanostructured NiFeCuW powder**
Slađana Đurašević¹, Dejan Vujičić¹, Marija Nikolić², Siniša Randić¹
¹Faculty of Technical Sciences in Čačak, University of Kragujevac, Serbia
²Technical College Čačak, Serbia
- P.S.A.15. **The study of the products of off-line pyrolysis of poly(ethyleneimine)**
Vesna Balanac¹, Tatjana Šolević Knudsen², Branimir Jovančičević³, Jan Schwarzbauer⁴, Vesna Antić⁵
¹Cooper Standard Srbija doo, Sremska Mitrovica ²Center of Chemistry, Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia ³Faculty of Chemistry, Belgrade, Serbia ⁴Institute of Geology and Geochemistry of Petroleum and Coal, RWTH Aachen University, Aachen, Germany ⁵Faculty of Agriculture, Zemun, Serbia
- P.S.A.16. **Parameters and sinterability of mullite-ZrO₂(Y₂O₃) nanoparticles prepared by plasma and chemical methods**
Jānis Grabis, Dzidra Jankoviča, Inta Sīpola
Riga Technical University, Faculty of Material Science and Applied Chemistry, Institute of Inorganic Chemistry
- P.S.A.17. **Sample preparation method influence on SOP modes in ZnO(Mn)**
Branka Hadžić, Nebojsa Romčević, Maja Romčević, Witold Dobrowolski, Martina Gilić, Milica Petrović, Dusanka Stojanović, Željka Nikitović and Zorica Lazarević
¹Institute of Physics, Belgrade, Serbia, ²Institute of Physics Polish Academy of Science, Warszawa, Poland
- P.S.A.18. **Crystal structure, optical and magnetic properties of ZnO:Fe nanoparticles**
Vladimir Rajić¹, Smilja Marković², Ljiljana Veselinović², Miodrag Mitrić³, Jelena Belošević-Čavor³, Valentin Ivanovski³, Vladan Kusigerski³, Miloš Mojović¹, Srečo Davor Škapin⁴, Stevan Stojadinović⁵, Steva Lević⁶, Vladislav Rač⁶, Dragan Uskoković²
¹Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia, ²Institute of Technical Sciences of SASA, Belgrade, Serbia, ³The Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia, ⁴Jožef Stefan Institute, Ljubljana, Slovenia, ⁵Faculty of Physics, University of Belgrade, Belgrade, Serbia, ⁶Faculty of Agriculture, University of Belgrade, Zemun, Serbia

POSTER SESSION II

Wednesday, September 7, 2016, 20⁰⁰-22⁰⁰

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

- P.S.B.1. **Electrone structure, valence state Ce(Yb) and magnetic properties of new ternary intermetallic compounds**
Ivan Shcherba^{1,2}, Dragan Uskokovic³, Viktor Antonov⁴, Maria Kovalska², Ljubov Romaka², Sergij Senkiv²
¹Institute of Technology, the Pedagogical University of Cracow, Podchorozych st. 2 Cracow 30-084 Poland, ²Ivan Franko National University of Lviv, Ukraine, ³Institute of Technical Sciences of SASA, Belgrade, Serbia, ⁴Institute of Physics of Metals, NASU, Kyiv, Ukraine
- P.S.B.2. **Influence of different precursor solutions on final characteristics of barium titanate based thin films**
Jovana Stanojević¹, Jelena Vukmirović¹, Branimir Bajac¹, Elvira Djurdjic², Srdjan Rakic², Vladimir V. Srdic¹
¹Faculty of Technology, Department of Materials Engineering, University of Novi Sad, Bul. Cara Lazara 1, 21000 Novi Sad, Serbia, ²Faculty of Sciences, Department of Physics, University of Novi Sad, Trg D. Obradovića 4, 21000 Novi Sad, Serbia
- P.S.B.3. **YBCO bulk superconductor exposed to air moisture**
Pavel Diko¹, Mária Kaňuchová², Samuel Piovarčí¹, Vitaliy Antal¹, Daniela Volochová¹
¹Institute of Experimental Physics, Slovak Academy of Sciences, Watsonova 47 04001 Košice, Slovakia, ²Faculty of Mining, Ecology, Process Control and Geotechnology, Technical University of Košice, Park Komenského 17, 042 00 Košice, Slovakia
- P.S.B.4. **Computational study of loratadine reactivity in order to understand its degradation properties from the aspect of DFT and MD simulations**
Sanja J. Armaković¹, Stevan Armaković² and Biljana Abramović¹
¹University of Novi Sad, Faculty of Sciences, Department of Chemistry, Biochemistry and Environmental Protection, Trg D. Obradovića 3, 21000 Novi Sad, Serbia, ²University of Novi Sad, Faculty of Sciences, Department of Physics, Trg D. Obradovića 4, 21000 Novi Sad, Serbia
- P.S.B.5. **Synthesis and characterization of Pd nanocatalyst at tungsten carbide based support for fuel cells application**

Ljiljana M. Gajic-Krstajic¹, P. Zabinski², V.R. Radmilovic³, P. Ercius⁴, M. Krstajic-Pajic⁵, U.Č. Lačnjevac⁶, N.V. Krstajic³, N.R. Elezovic⁶

¹Institute of Technical Sciences of SASA, Knez Mihailova 35, Belgrade, Serbia, ²AGH University of Science and Technology, Faculty of Non-Ferrous Metals, Al. Mickiewicza 30,30-059 Krakow, Poland, ³Faculty of Technology and Metallurgy University of Belgrade, Karnegijeva 4, 11000 Belgrade, Serbia, ⁴National Center for Electron Microscopy, LBNL University of California, Berkeley, CA, USA, ⁵Institute for Chemistry Technology and Metallurgy University of Belgrade, Njegoseva 12, Belgrade, ⁶Institute for Multidisciplinary Research, University of Belgrade, Kneza Viseslava 1, 11030 Belgrade, Serbia

P.S.B.6. **Corrosion stability of graphene coatings on metallic substrates**

Ivana Jevremović¹, Samira Naghdi², Kyong Yop Rhee², Vesna Mišković-Stanković¹

¹Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia, ²Department of Mechanical Engineering, College of Engineering, Kyung Hee University, 446-701 Yongin, Republic of Korea

P.S.B.7. **Solid-state reactions in nanomaterials based on monolayered chalcogenides of transition metals**

Svetlana Kozlova, Maxsim Ryzhikov, Vladimir Fedorov

Nikolaev Institute of Inorganic Chemistry SB RAS, 630090, Ave. Akad. Lavrentiev 3, Novosibirsk, Russia

P.S.B.8. **SiC and Si-C-N ceramics derived from new siliconorganic polymers**

Aleksei Utkin, Natalya Baklanova

Institute of Solid State Chemistry and Mechanochemistry SB RAS, Russia

P.S.B.9. **Macroporous conducting cryogels based on polyaniline**

Jaroslav Stejskal, Miroslava Trchová, Patrycja Bober

Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, 162 06 Prague 6, Czech Republic

P.S.B.10. **Temperature responsive hydrogels with ethylene glycol propylene glycol pendant chains**

Edin Suljovrujic, Zorana Rogic Miladinovic, Dejan Milicevic, Maja Micic

Vinca Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia

P.S.B.11. **Nanocomposites of polypyrrole nanotubes and noble-metal nanoparticles**

Miroslava Trchová¹, Irina Sapurina^{1,2}, Jaroslav Stejskal¹

¹Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, 162 06 Prague 6, Czech Republic, ²Institute of Macromolecular Compounds, Russian Academy of Sciences, St. Petersburg 199004, Russian Federation

P.S.B.12. **Electrical properties of mechanically activated magnesium-titanate ceramics**

Nebojša Mitrović¹, Suzana Filipović², Jelena Oreļ¹, Aleksandra Kalezić-Glišović¹,
Slobodan Djukić¹

¹Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia

²Institute of Technical Sciences of SASA, Belgrade, Serbia

- P.S.B.13. **Influence of mechanical activation on the MgO-Al₂O₃-SiO₂ system with TeO₂**
Nataša Đorđević¹, Nina Obradović², Suzana Filipović², Darko Kosanović², Smilja Marković², Miodrag Mitrić³, Vladimir B. Pavlović²

¹Institute for Technology of Nuclear and Other Mineral Raw Materials, Bulevar Franse dčEperea 86, 11000 Belgrade, Serbia, ²Institute of Technical Sciences of SASA, Knez Mihailova 35/IV, 11000 Belgrade, Serbia, ³Vinča Institute of Nuclear Sciences, University of Belgrade, Mike Alasa 12-14, 11000 Belgrade, Serbia

- P.S.B.14. **Temperature dependence of thermal conductivity of two-layered graphene**
Stevo Jaćimovski¹, Dejan Raković²

¹Academy of Criminalistic and Police Studies, Belgrade, Serbia

²University of Belgrade, Faculty of Electrical Engineering, Serbia

- P.S.B.15. **The electrical resistance decay of a metallic granular packing**

Zorica M. Jakšić¹, Milica Cvetković¹, Julija. R. Šćepanović¹, Ivana Lončarević²,
Ljupka Budinski-Petković² and Slobodan B. Vrhovac¹

¹Institute of Physics Belgrade, University of Belgrade, Pregrevica 118, Zemun 11080, Belgrade, Serbia, ²Faculty of Engineering, Trg D. Obradovićca 6, Novi Sad 21000, Serbia

- P.S.B.16. **Analyses of commercially and laboratory produced ODS steels**

Jarmila Degmová, Jana Šimeg Veterniková, Veronika Sabelová, Július Dekan, Milan Pavúk, Stanislav Sojak, Martin Petriska, Vladimír Slugeň

Institute of Nuclear and Physical Engineering, Slovak University of Technology, Ilkovičova 3, 812 19 Bratislava, Slovakia

- P.S.B.17. **Ni-based alloys coatings for high temperature applications**

Monika Solecka, Agnieszka Kopia, Agnieszka Radziszewska, Jan Kusiński, Łukasz Cieniek

Department of Surface Engineering and Materials Characterisation, Faculty of Metals Engineering and Industrial Computer Science, AGH University of Science and Technology in Krakow, Poland

- P.S.B.18. **Effects of retrogression and reaging treatments on the mechanical characteristics of alloy EN AW 7049A-T6**

Jelena Marinković, Ljubica Radović, Milutin Nikačević

Military Technical Institute, Belgrade, Serbia

- P.S.B.19. **Characteristics of stress distribution in the case of singl LAP joint of two composite plates**

Abdurrahman Houssein
Alabel algharbi univesrty, Dean of Engineering Facutly zintan, Libya

P.S.B.20. **OLE of tribology effects on cup anemometer classification**

Miodrag Zlatanović¹, Ivan Popović²

¹Wind Electricity doo, ²School of Electrical Engineering, Beograd, Serbia

P.S.B.21. **Monte Carlo simulations of He+ in CF4**

Željka D. Nikitović, Zoran M. Raspopović, Vladimir D. Stojanović

Institute of Physics, Univerzity of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia

POSTER SESSION III

Thursday, September 8, 2016, 20⁰⁰-22⁰⁰

SYMPOSIUM C: NANOSTRUCTURED MATERIALS

P.S.C.1. **Characterization of graphite-encapsulated iron nanoparticles synthesized by milling-assisted low-pressure chemical vapor deposition**

Duygu Ağaoğulları¹, Steven Madsen², Ai Leen Koh³, Robert Sinclair²

¹Department of Metallurgical and Materials Engineering, Istanbul Technical University, Maslak, Istanbul 34469, Turkey, ²Department of Materials Science and Engineering, Stanford University, Stanford, CA 94305-4034, USA, ³Stanford Nano Shared Facilities, Stanford University, Stanford, CA 94305-4045, USA

P.S.C.2. **Structures and properties of quasi-one-dimensional vanadium and niobium sulfides with Peierls distortion**

Vladimir E. Fedorov¹, Andrey N. Enyashin², Svetlana G. Kozlova¹, Mariia N. Kozlova¹, Maxim R. Ryzhikov¹

¹Nikolaev Institute of Inorganic Chemistry, Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia, ²Institute of Solid State Chemistry, Ural Branch of Russian Academy of Sciences, Ekaterinburg, Russia

P.S.C.3. **Aqueous sol-gel route toward selected quaternary metal oxides with single and double perovskite-type structure containig tellurium**

Igor Djerđ¹, Berislav Marković¹, Jasminka Popović², Tobias Weller³, Zvonko Jagličić^{4,5}, Željko Skoko⁶, Damir Pajić⁶, Christian Suchomski³, Pascal Voepel³, Roland Marschall³, and Bernd M. Smarsly³

¹Department of Chemistry, J. J. Strossmayer University of Osijek, Osijek, Croatia, ²Ruder Bošković Institute, Zagreb, Croatia, ³Institute of Physical Chemistry, Justus-Liebig-University Giessen, Giessen, Germany, ⁴Institute of Mathematics, Physics and Mechanics, Ljubljana, Slovenia, ⁵Faculty of Civil and Geodetic Engineering, University of Ljubljana, Ljubljana, Slovenia, ⁶Department of Physics, Faculty of Science, University of Zagreb, Zagreb, Croatia

P.S.C.4. **Thiol click chemistry on gold-decorated MoS₂: elastomer composites and structural phase transitions**

Peter Topolovsek¹, Luka Cmok¹, Christoph Gadermaier¹, Milos Borovsak¹, J. Kovac², Ales Mrzel¹

¹Department of Complex Matter, Jozef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia, ²Department of Surface Engineering and Optoelectronics, Jozef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia

- P.S.C.5. **Positronics of sub-nanometer-structured functional materials**
Oleh Shpotyuk^{1,2}, Adam Ingram³, Yaroslav Shpotyuk⁴, Jacek Filipiecki¹
¹Jan Dlugosz University in Czestochowa, 13/15, Armii Krajowej str., 42200, Czestochowa, Poland, ²Vlokh Institute of Physical Optics, 23, Dragomanov str., 79005 Lviv, Ukraine, ³Opole University of Technology, 75, Ozimska str., 45370 Opole, Poland, ⁴Centre for Innovation and Transfer of Natural Sciences and Engineering Knowledge, University of Rzeszow, 1, Pigionia str., 35-959 Rzeszow, Poland
- P.S.C.6. **Colloidal dispersions of zirconium and titanium trisulfides**
Pavel A. Poltarak¹, Anastasiia A. Poltarak², Mariia N. Kozlova¹, Sofia B. Artemkina¹, Vladimir E. Fedorov¹
¹Nikolaev Institute of Inorganic Chemistry,
²Novosibirsk State University
- P.S. C.7. **Investigation of rheological properties of barium titanate inks and adaptation to requirements of inkjet printing**
Jelena Vukmirovic¹, Jovana Stanojev¹, Branimir Bajac¹, Elvira Djurdjic², Sanja Kojic³, Goran Stojanovic³, Srdjan Rakic², Vladimir V. Srdic¹
¹Faculty of Technology, Department of Materials Engineering, University of Novi Sad, Serbia, ²Faculty of Sciences, Department of Physics, University of Novi Sad, Serbia, ³Faculty of Technical Sciences, Department of Microelectronics, University of Novi Sad, Serbia
- P.S.C.8. **Sputter-deposited Fe/Al thin superlattices: scanning of non-magnetic layer thickness**
Ali Karpuz¹, Hakan Kockar², Salih Colmekci², Mehmet Uckun²
¹Department of Physics, Karamanoglu Mehmetbey University, Karaman, Turkey,
²Department of Physics, Balikesir University, Balikesir, Turkey
- P.S.C.9. **Effect of IF-WS₂ nanoparticles addition on physical-mechanical and rheological properties and on chemical resistance of water-based paints**
Dragana Lazić, Danica Simić, Aleksandra Samolov
Military Technical Institute, Ratka Resanovića 1, 11000 Belgrade, Serbia
- P.S.C.10. **Nanocrystalline boehmite obtained at low temperature**
Ivan Stijepović¹, Marija Milanović¹, Ljubica Nikolić¹, Zoran Obrenović²
¹University of Novi Sad, Faculty of Technology, Department of Materials Engineering, Bulevar cara Lazara 1, 21000 Novi Sad, Serbia, ²Faculty of Technology, University of East Sarajevo, Zvornik, Republic of Srpska, B&H
- P.S.C.11. **Chromatic discretization and selectivity in optical properties of whole crystalline nanofilm-structures in IR region**
Jovan P. Šetrajčić¹, Ana J. Šetrajčić–Tomić², Igor J. Šetrajčić¹, Siniša M. Vučenović³

¹University of Novi Sad, Faculty of Sciences, Department of Physics, Novi Sad, Vojvodina – Serbia, ²University of Novi Sad, Faculty of Medicine, Department of Pharmacy, Novi Sad, Vojvodina – Serbia, ³University of Banja Luka, Faculty of Sciences – Physics, Banja Luka, Republic of Srpska – B&H

P.S.C.12. **Effect of IF-WS₂ nanoparticles addition on thermo-rheological and mechanical behavior of aramid/phenolic resin/PVB composite material**

Danica M. Simić¹, Dušica B. Stojanović², Ana D. Tasić¹, Petar S. Uskoković², Radoslav R. Aleksić²

¹Military Technical Institute, Ratka Resanovića 1, 11000 Belgrade, Serbia,

²University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4, 11000 Belgrade, Serbia

P.S.C.13. **Microstructure characterization of friction stir welded joints made from ultrafine grained aluminium**

Marta Lipinska¹, Lech Olejnik², Adam Pietras³, Andrzej Rosochowski⁴, Malgorzata Lewandowska¹

¹Faculty of Materials Science and Engineering, Warsaw University of Technology, Woloska 141, 02-507 Warsaw, Poland, ²Institute of Manufacturing Processes, Warsaw University of Technology, Narbutta 85, 02-524 Warsaw, Poland,

³Department of Friction and Resistance Welding and Environmental Engineering, Institute of Welding, Czesława 16/18, 44-100 Gliwice, Poland, ⁴Design, Manufacture and Engineering Management, University of Strathclyde, 75 Montrose Street, Glasgow G1 1XJ, United Kingdom

P.S.C.14. **Synthesis of colloidal NIR-luminescent nanoparticles of rare-earth fluorides using microwave-hydrothermal treatment**

Alexander Vanetsev^{1,2}, IlmoSildos¹, Yurii Orlovskii^{1,2}

¹Institute of Physics, University of Tartu, Tartu, Estonia, ²General Physics Institute, Russian Academy of Sciences, Moscow, Russia

SYMPOSIUM E: BIOMATERIALS

- P.S.E.1. **Synthesis, characterization and biological application of opto-magnetic nanocomposites with up-converting properties based on $\text{NaYF}_4\text{:Fe}_3\text{O}_4\text{:SiO}_2$ nanoparticles**
Przemysław Kowalik¹, Bożena Sikora¹, Krzysztof Fronc¹, Jakub Mikulski¹, Izabela Kamińska¹, Anna Borodziuk², Magdalena Duda², Katarzyna Łysiak³, Maciej Szewczyk^{4,5}, Karolina Zajdel⁶, Grzegorz Gruzel⁷, Leandro C. Figueiredo⁸, Paulo C. Morais^{8,9}, Laise Andrade¹⁰, João P. Longo¹⁰, Ricardo B. de Azevedo¹⁰, Zulmira G. M. Lacava¹⁰, Ewa Mosiniewicz-Szablewska¹, Magdalena Parlińska-Wojtan⁷, Roman Minikayev¹, Tomasz Wojciechowski¹, Anita Gardias³, Jarosław Rybusiński³, Andrzej Sienkiewicz^{1,12}, Mariusz Łapiński¹³, Piotr Stępień^{4,5,14}, Wojciech Paszkowicz¹, Jacek Szczytko³, Andrzej Twardowski³, Małgorzata Frontczak-Baniewicz⁶, Danek Elbaum¹
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- P.S.E.2. **Development and characterization of Mg-containing hydroxyapatite, β -tricalcium phosphate and biphasic calcium phosphate bioceramics**
Liga Stipniece, Inga Narkevica, Kristine Salma-Ancane, Liga Berzina-Cimdina
Rudolfs Cimdins Riga Biomaterials Innovations and Development Centre of RTU, Institute of General Chemical Engineering, Faculty of Materials Science and Applied Chemistry, Riga Technical University, Latvia
- P.S.E.3. **Design and characterization of hydroxyapatite/poly(vinyl alcohol) nanocomposite coated titania scaffolds for bone repair**
Inga Narkevica, Liga Stipniece, Jurijs Ozolins
Rudolfs Cimdins Riga Biomaterials Innovations and Development Centre of RTU, Institute of General Chemical Engineering, Faculty of Materials Science and Applied Chemistry, Riga Technical University, Pulka St. 3, Riga, LV-1007, Latvia
- P.S.E.4. **Color of dental composite restorations related to dentin substituents**

Jovana Marjanović¹, Djordje Veljović², Tatjana Savić-Stanković¹, Branka Trifković³,
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P.S.E.5. **Synthesis, characterization and antimicrobial activity of pentagonal bipyramidal Fe(III) complexes with 2,6-diacetyl- pyridine bis(trimethylammoniumacetohydrazone)**

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P.S.E.6. **Synthesis and development of polymeric scaffolds based on (meth)acrylates for tissue regeneration applications**

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