

GENERAL CONFERENCE PROGRAMME

Sunday, September 3 2017

08⁰⁰-19⁰⁰ **Registration**

Monday, September 4, 2017

08⁰⁰-19⁰⁰ **Registration**

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

10³⁰-13⁰⁰ **First Plenary Session**, Main Conference Hall

13⁰⁰ **Photo Session**

15⁰⁰-19⁰⁰ **Second Plenary Session**, Main Conference Hall

19³⁰-21³⁰ **Cocktail Party**

Tuesday, September 5, 2017

09⁰⁰-13⁰⁰ **Third Plenary Session**, Main Conference Hall

15⁰⁰-19³⁰ **Fourth Plenary Session**, Main Conference Hall

20⁰⁰-22⁰⁰ **Poster Session I** (Symposium A and B1), Villa Mimoza

Wednesday, September 6, 2017

09⁰⁰-13⁰⁰ **Symposium F**, Main Conference Hall

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

20⁰⁰-22⁰⁰ **Poster Session II** (Symposium B2 and C1), Villa Mimoza

Thursday, September 7, 2017

08³⁰-11⁰⁰ **Fifth Plenary Session**, Main Conference Hall

11³⁰-13⁰⁰ **First Oral Session**, Main Conference Hall

11³⁰-13⁰⁰ **Second Oral Session**, Small Conference Hall

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

20⁰⁰-22⁰⁰ **Poster Session III** (Symposiums C2, D and E), Villa Mimoza

Friday, September 8, 2017

09⁰⁰-12¹⁵ **Third Oral Session**, Main Conference Hall

09⁰⁰-12¹⁵ **Fourth Oral Session**, Small Conference Hall

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

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: Renowned scientists from ex-Yugoslavia

OPENING CEREMONY

Monday, September 4, 2017

Main Conference Hall

09⁰⁰-09³⁰

Welcome Speech

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

Welcome Address

Robert Sinclair, Chair of International Advisory Board

Presentation of YUCOMAT 2016 Awards

Slobodan Milonjić, Vice President of MRS-Serbia

09³⁰-10⁰⁰

MRS-Serbia 2017 Award for a Lasting and Outstanding Contribution to Materials Science and Engineering

Atomistic phenomena in engineering materials

Velimir R. Radmilović

Serbian Academy of Sciences and Arts, Knez Mihailova 35, 11000, Belgrade, Serbia, and Nanotechnology and Functional Materials Center, Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11120 Belgrade, Serbia

Break: 10⁰⁰-10³⁰

FIRST PLENARY SESSION

Main Conference Hall

Session I: 10³⁰-13⁰⁰

Chairmen: Markus Antonietti and C. Jeffrey Brinker

10³⁰-11⁰⁰

Global opportunities in nanoscience and nanotechnology

Paul S. Weiss

California NanoSystems Institute and Departments of Chemistry & Biochemistry and Materials Science & Engineering, UCLA, Los Angeles, CA 90095, USA

11⁰⁰-11³⁰

Analysis of next generation Quantum Materials

David C. Bell¹, Felix VonCube²

¹Harvard John A. Paulson School of Engineering and Applied Sciences, Harvard University, Cambridge, MA, United States, ²Hitachi High-Technologies Europe GmbH, Krefeld, Germany

11³⁰-12⁰⁰ **Carbon nitrides as active semiconductors and supports for Artificial Photosynthesis and (Photo)Catalysis**
Markus Antonietti
Max Planck Institute of Colloids and Interfaces, Research Campus Golm, D-14424 Potsdam, Germany

12⁰⁰-12³⁰ **Efficient CRISPR delivery via plasmid DNA (or ribonucleoprotein, RNP) packaged in mesoporous silica nanoparticles through cationic vesicle fusion**
Kim Butler¹, Rita Serda², Achraf Nouredine², Ayse Muniz³, Darryl Sasaki¹, Oscar Negrete¹, and C. Jeffrey Brinker^{1,2}
¹Sandia National Laboratories, ²University of New Mexico Center for Microengineered Materials and the Department of Chemical and Biological Engineering, ³University of Michigan Biointerfaces Institute, USA

12³⁰-13⁰⁰ **“Anything you can do I can do better” What can be done with Sonochemistry?**
Aharon Gedanken
Department of Chemistry, Bar-Ilan University, Ramat-Gan, Israel

13⁰⁰-13³⁰ **Photo session**

Break: 13³⁰-15⁰⁰

SECOND PLENARY SESSION

Main Conference Hall

Session I: 15⁰⁰-16³⁰

Chairpersons: Eva Olsson and Robert Sinclair

15⁰⁰-15³⁰ **Assessing material reactions in the environmental transmission electron microscope (TEM)**
Robert Sinclair¹, S. C. Lee², and A. L. Koh³
¹Dept. of Materials Science & Engineering, Stanford University, Stanford, U.S.A.
²Dept. of Materials Science & Engineering, Stanford University, Stanford, U.S.A.,
³Stanford Nano Shared Facilities, Stanford University, Stanford, U.S.A.

15³⁰-16⁰⁰ **In-situ microscopy with atomic resolution at atmospheric pressure**
Xiaoqing Pan
Department of Chemical Engineering and Materials Science, Department of Physics and Astronomy, University of California - Irvine, Irvine, California 92697, USA

16⁰⁰-16³⁰ **In situ advanced electron microscopy of nanostructured materials for energy and quantum devices**

Eva Olsson

Department of Physics, Chalmers University of Technology, Sweden

Break: 16³⁰-17⁰⁰

Session II: 17⁰⁰-19⁰⁰

Chairmen: Knut W. Urban and Rafal E. Dunin-Borkowski

17⁰⁰-17³⁰ **Atomic resolution imaging of materials in the chromatic and spherical aberration corrected transmission electron microscope**

Knut W. Urban and Lei Jin

Peter Gruenberg Institute, Research Center Juelich, Germany

17³⁰-18⁰⁰ **Model-based reconstruction of magnetisation distributions in nanostructures from electron-optical phase images**

Jan Caron¹, Patrick Diehle¹, Andras Kovács¹, Jörn Ungermann², Rafal E. Dunin-Borkowski¹

¹Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons, Forschungszentrum Jülich, 52425 Jülich, Germany, ²Institute for Energy and Climate Research, Forschungszentrum Jülich, 52425 Jülich, Germany

18⁰⁰-18³⁰ **Atomic resolution TEM characterization of GaSb/GaInAs and GaSb/GaInP bond interfaces for high-efficiency solar cells**

Andras Kovács¹, Felix Predan², Jens Ohlmann², David Lackner², Frank Dimroth², Rafal E. Dunin-Borkowski¹, Wolfgang Jäger³

¹Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons, Forschungszentrum Jülich, 52425 Jülich, Germany, ²Fraunhofer Institute for Solar Energy Systems ISE, Freiburg, Germany, ³Institute for Materials Science, Christian-Albrechts-University of Kiel, 24143 Kiel, Germany

18³⁰-19⁰⁰ **Sub-30 meV energy resolution HR-EELS and novel HR-STEM techniques for materials science in the latest generation of Thermo Scientific Themis Z**

Dominique Delille

Materials & Structural Analysis (formerly FEI), Thermo Fisher Scientific, Achtseweg Noord 5, P.O. Box 80066, 5600KA Eindhoven, The Netherlands

19³⁰-21³⁰ **Cocktail Party**

THIRD PLENARY SESSION

Tuesday, September 5, 2017

Main Conference Hall

Session I: 09⁰⁰-11⁰⁰

Chairmen: Richard W. Siegel and Vladimir Torchilin

09⁰⁰-09³⁰ **Nanoparticles as delivery vehicles: Enabling nanocomposites and healthcare**
Richard W. Siegel
Materials Science and Engineering Department, Rensselaer Polytechnic Institute,
Troy, New York 12180, USA

09³⁰-10⁰⁰ **Multifunctional nanocarriers for drug delivery in cancer therapy**
Vladimir Torchilin
Center for Pharmaceutical Biotechnology and Nanomedicine, Northeastern
University, Boston, MA 02115, USA

10⁰⁰-10³⁰ **Targeted nanomedicines for cancer, diabetes and cardiovascular diseases: why the size matters?**
Hélder A. Santos
Division of Pharmaceutical Chemistry and Technology, Drug Research Program,
Faculty of Pharmacy, and Helsinki Institute of Life Science, HiLIFE, University of
Helsinki FI-00014, Helsinki, Finland

10³⁰-11⁰⁰ **Bioinspired biomaterials for hard tissue repair and regeneration**
Anne George
Brodie Tooth Development Genetics & Regenerative Medicine Research Laboratory,
Department of Oral Biology, University of Illinois at Chicago, Chicago, Illinois
60612, USA

Break: 11⁰⁰-11³⁰

Session II: 11³⁰-13⁰⁰

Chairmen: Horst Hahn and Hamish L. Fraser

11³⁰-12⁰⁰ **Design of materials properties by microstructure and external fields**
Horst Hahn
Institute of Nanotechnology, Karlsruhe Institute of Technology, Germany

12⁰⁰-12³⁰ **Sucking the heat out of ceramic processing**
Clive A. Randall

The Pennsylvania State University, USA

12³⁰-13⁰⁰ **Materials characterization and integrated computational materials engineering:
Providing solutions for near-net shape manufacturing**

Hamish L. Fraser¹, Brian Welk¹ and Victor Samarov²

¹Center for the Accelerated Maturation of Materials, The Ohio State University, Columbus, OH, ²Synertech-PM, Garden Grove, CA, USA

Break: 13⁰⁰-15⁰⁰

FOURTH PLENARY SESSION

Main Conference Hall

Session I: 15⁰⁰-17⁰⁰

Chairmen: Martha R McCartney and David J. Smith

15⁰⁰-15³⁰ **From low dose In-line electron holography to atomic resolution tomography**

Fu-Rong Chen¹, D. Van Dyck², C. Kisielowski³

¹Dept. of Engineering and System Science, National Tsing Hua University, Hsin Chu, Taiwan, ²EMAT, Department of Physics, University of Antwerp, 2020 Antwerpen, Belgium. ³Lawrence Berkeley National Laboratory, The Molecular Foundry and Joint Center for Artificial Photosynthesis, One Cyclotron Road, Berkeley California 94720 USA

15³⁰-16⁰⁰ **Electron holography of nanoscale electric and magnetic fields**

Martha R. McCartney, David J. Smith

Arizona State University, USA

16⁰⁰-16³⁰ **Complex heterostructures investigated using aberration-corrected STEM**

David J. Smith and Martha R. McCartney

Department of Physics, Arizona State University, Tempe, Arizona 85287-1504, USA

16³⁰-17⁰⁰ **Pushing the limits of electron energy loss spectroscopy for materials
characterization: from phonons to core losses in real and momentum spaces**

Quentin M. Ramasse¹, Demie M. Kepaptsoglou¹, Fredrik S. Hage¹, F. Azough², R. Freer²

¹SuperSTEM Laboratory, Daresbury, U.K., ²School of Materials, University of Manchester, U.K.

Break: 17⁰⁰-17³⁰

Session II: 17³⁰-19³⁰

Chairmen: Laurence D. Marks and Ehrenfried Zschech

- 17³⁰-18⁰⁰ **Corrosion at the nanoscale: the role of chloride**
Laurence D. Marks
Department of Materials Science and Engineering, Northwestern University,
Evanston, IL 60208, USA
- 18⁰⁰-18³⁰ **Sub-100nm in-situ X-ray tomography - Applications in materials science and engineering**
Ehrenfried Zschech, Jürgen Gluch, Kristina Kutukova
Fraunhofer IKTS Dresden, Germany
- 18³⁰-19⁰⁰ **Atomic level characterization of novel hardening mechanisms in high-Mn-steels**
Joachim Mayer^{1,2}, Maryam Beigmohamadi², Marta Lipinska-Chwalek^{1,3} and James E. Wittig³
¹Central Facility for Electron Microscopy, RWTH Aachen University, Aachen, Germany, ²Ernst Ruska Centre, Forschungszentrum Jülich, Germany, ³Interdisciplinary Materials Science, Vanderbilt University, Nashville TN, 37235 USA
- 19⁰⁰-19³⁰ **Solid-solid interface reconstruction at nominally incoherent interfaces: Ni-Al₂O₃ and Ni-YSZ**
Hadar Nahor, Hila Meltzman, and Wayne D. Kaplan
Department of Materials Science and Engineering, Technion – Israel Institute of Technology, Technion City, Haifa 32000, Israel

SYMPOSIUM F: RENOWNED SCIENTISTS FROM EX-YUGOSLAVIA

Wednesday, September 6, 2017

Main Conference Hall

Session I: 09⁰⁰-11⁰⁰

Chairmen: Radoslav R. Adžić and Nenad M. Marković

09⁰⁰-09³⁰ **Platinum monolayer fuel cell electrocatalysts**

Radoslav R. Adžić

Chemistry Department, Brookhaven National Laboratory, Upton, NY 11973, U.S.A.

09³⁰-10⁰⁰ **Energy and fuels from electrochemical interfaces**

P. Papa Lopes, D. Strmcnik, V. Stamenković and Nenad M. Marković

Materials Science Division, Argonne National Laboratory, USA

10⁰⁰-10³⁰ **Tailored materials for electrochemical applications**

Vojislav Stamenković

Argonne National Laboratory, Materials Science Division, United States

10³⁰-11⁰⁰ **Nanostructured catalyst engineering towards efficient solar fuel production**

J. Jia^{1,2}, A. Jelle^{1,2}, G. A. Ozin² and Doug D. Perović¹

¹Department of Materials Science and Engineering, University of Toronto, Canada,

²Department of Chemistry, University of Toronto, Canada

Break: 11⁰⁰-11³⁰

Session II: 11³⁰-13⁰⁰

Chairmen: Zlatko Sitar and Gyula Eres

11³⁰-12⁰⁰ **On the frontiers of ultra-wide bandgap semiconductors**

Zlatko Sitar

Materials Science and Engineering, North Carolina State University, USA

12⁰⁰-12³⁰ **Exploring nanomaterials synthesis on the length scale of fundamental building blocks**

Gyula Eres

Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge TN 37831, USA

12³⁰-13⁰⁰ **Formation mechanism of photovoltaic perovskite nanowires**

Endre Horváth¹, Massimo Spina¹, Bálint Náfrádi¹, Eric Bonvin¹, Andrzej Sienkiewicz¹, Zsolt Szekrényes², Hajnalka Tóháti², Katalin Kamarás², Richard Gaal³, László Forró¹
¹EPFL SB IPHYS LPMC, station 3, 1015, Lausanne, Switzerland, ²Wigner Research Centre for Physics, 1525, Budapest, Hungary, ³EPFL SB IPHYS EPSL, station 3, 1015, Lausanne, Switzerland

Break: 13⁰⁰-15⁰⁰

Session III: 15⁰⁰-17⁰⁰

Chairpersons: Tijana Rajh, Thomas J. Webster and Marija Drndić

15⁰⁰-15³⁰ **Two decades of commercializing nanotechnology for medical devices**

Thomas J. Webster

Department of Chemical Engineering, Northeastern University, USA

15³⁰-16⁰⁰ **TiO₂ nanocomposites for biomedical applications**

Fatima Rizvi,^{1,2} Tamara Koritarov,^{1,3} Nada Dimitrijević,¹ Vani Konda,³ Marc Bissonnette,³ Tijana Rajh¹

¹Center for Nanoscale Materials, Argonne National Laboratory, Lemont, Illinois, USA, ²Department of Bioengineering, University of Illinois, Chicago, Illinois, USA, ³Department of Medicine, The University of Chicago, Chicago, Illinois, USA

16⁰⁰-16³⁰ **2D materials nanosculpting and bioelectronics applications**

Marija Drndić

Department of Physics and Astronomy, University of Pennsylvania, USA

16³⁰-17⁰⁰ **Calcium phosphate as a key material for socially responsible tissue engineering**

Vuk Uskoković, Victoria M. Wu

Department of Biomedical and Pharmaceutical Sciences, Center for Targeted Drug Delivery, Chapman University, Irvine, CA 92618-1908, USA

Break: 17⁰⁰-17³⁰

Session IV: 17³⁰-19⁰⁰

Chairmen: Andraš Kiš and Dušan Lošić

17³⁰-18⁰⁰ **Graphene research and development: opportunities and challenges**

Dušan Lošić, Diana Tran, Tran Thanh Tung, Md J. Nine, Shervin Kabiri, Ramesh Karunakaran, Faisal Alotaibi, Campbell Coghlan

The University of Adelaide, School of Chemical Engineering, North Eng. Building,
Adelaide, 5000, SA, Australia

18⁰⁰-18³⁰ **2D dichalcogenide electronic materials and devices**

Andraš Kiš

École Polytechnique Fédérale de Lausanne, Switzerland

18³⁰-19⁰⁰ **Nanopores in 2D materials - opportunities and challenges**

Aleksandra Radenović

Laboratory of Nanoscale Biology, Institute of Bioengineering, School of
Engineering, École Polytechnique Fédérale de Lausanne, Switzerland

FIFTH PLENARY SESSION

Thursday, September 7, 2017

Main Conference Hall

Session I: 08³⁰-11⁰⁰

Chairmen: Zoran V. Popović and Yimei Zhu

08³⁰-09⁰⁰ **From MAX to MXene - From 3D to 2D**

Michel W. Barsoum

Department of Materials Science and Engineering, Drexel University, Philadelphia, PA 19104, USA

09⁰⁰-09³⁰ **Atomically resolved interfacial coupling and polarization of ABO₃ heterostructures**

Yimei Zhu

Department of Condensed Matter Physics and Materials Science, Brookhaven National Laboratory, Upton, NY 11973 USA

09³⁰-10⁰⁰ **Half-Heusler spinodal thermoelectrics with high ZT**

Peter Rogl¹, Andrij Grytsiv¹, Matthias Gürth¹, Philipp Sauerschnig¹, Jan Vrestal², Vitalij Romaka³, Gerda Rogl¹, Kunio Yubuta⁴, Ernst Bauer¹

¹Christian Doppler Laboratory for Thermoelectricity at the Institute of Materials Chemistry and Research, University of Vienna, Vienna, Austria and at the Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria,

²Department of Chemistry, Masaryk University, Kotlarska 2, Brno 61137, CR,

³Department of Materials Science and Engineering, Lviv Polytechnic National University, 79013 Lviv, Ukraine, ⁴Institute for Materials Research, Tohoku University, Katahira 2-1-1, Sendai 980-8577, Japan

10⁰⁰-10³⁰ **Nanomagnetism: Superparamagnetism in iron - doped CeO_{2-y} nanocrystals**

Zoran V. Popović

Center for Solid State Physics and New Materials, Institute of Physics, University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia

10³⁰-11⁰⁰ **Tailoring epitaxial oxide thin film on Si(001) using pulsed-laser deposition**

Matjaž Spreitzer, Daniel Diaz, Tjaša Parkelj, Urška Gabor, Danilo Suvorov
Advanced Materials Department, Jožef Stefan Institute, Jamova 39, Ljubljana, Slovenia

Break: 11⁰⁰-11³⁰

FIRST ORAL SESSION

Main Conference Hall

Session I: 11³⁰-13⁰⁰

Chairpersons: Gerda Rogl and Jan Cerny

- 11³⁰-11⁴⁵ **Mechanical properties of high efficiency thermoelectric materials (skutterudites, half Heusler alloys and clathrates)**
Gerda Rogl^{1,2,3,4}, Andriy Grytsiv^{1,2,3}, Ernst Bauer^{1,3}, Micheal Zehetbauer⁴, Peter Rogl^{1,2}
¹Christian Doppler Laboratory for Thermoelectricity, ²Institute of Materials Chemistry and Research, University of Vienna, Austria, Währingerstrasse 42, A-1090 Wien, ³Institute of Solid State Physics, Vienna University of Technology, Austria, Wiedner Hauptstrasse, 8-10, A-1040 Wien, ⁴Faculty of Physics, University of Vienna, Austria, Boltzmanngasse 5, A-1090 Wien, Austria
- 11⁴⁵-12⁰⁰ **Plasma electrolytic oxidation of TA6V for the improvement of its surface hardness**
Marie Laveissière^{1,2}, Hélène Cerda¹, Jérôme Roche², Laurent Arurault²
¹IRT Saint-Exupéry, 118 route de Narbonne – CS 44248, 31432 Toulouse cedex 4, France, ²CIRIMAT, Université de Toulouse, CNRS, INPT, UPS, Université Toulouse III Paul Sabatier, Bât. CIRIMAT, 118 route de Narbonne, 31062 Toulouse cedex 9, France
- 12⁰⁰-12¹⁵ **Structural investigation of the AZ61 Magnesium alloy, in dependence of various heat treatment processes, TEM analyze**
Edlira Prespa, Jorgaq Kacani, Ylli Shehu
Polytechnic University of Tirana, Albania
- 12¹⁵-12³⁰ **Application of new modifier CaSiBa containing barium during production of low alloy steel**
Jan Černý, Pavel Ludvik, Martina Sipova, Josef Odehnal
COMTES FHT, Prumyslova 995, Dobrany, 334 41, Czech Republic
- 12³⁰-12⁴⁵ **Influence of the type of substrate rotation on microstructure of magnetron sputtered nanolayered TiAlN/TiSiN coatings**
Aleksandar Miletić¹, Peter Panjan², Miha Čekada², Lazar Kovačević¹, Pal Terek¹, Branko Škorić¹, Goran Dražić³, Janez Kovač²
¹Faculty of Technical Sciences, University of Novi Sad, Novi Sad, Serbia, ²Jožef Stefan Institute, Ljubljana, Slovenia, ³National Institute of Chemistry, Ljubljana, Slovenia
- 12⁴⁵-13⁰⁰ **Synthesis and thermal stability of immiscible metal (Au–Rh, Au–Ir, Au–Ir–Rh and Pd–Rh) nanoalloys**

Yury Shubin, Pavel Plyusnin, Sergey Korenev, Aleksey Vedyagin
¹Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia, ²Boreskov
Institute of Catalysis SB RAS, Novosibirsk, Russia

SECOND ORAL SESSION

Small Conference Hall

Session I: 11³⁰-13⁰⁰

Chairmen: Branko Matović and Blažej Scheibe

- 11³⁰-11⁴⁵ **Synthesis, processing, thermal and luminescence properties of Eu³⁺-doped Gd₂O₃ powders**
Branko Matović¹, Jelena Maletaskić¹, Marija Prekajski Đorđević¹, Katsumi Yoshida², Toyohiko Yano², Marko Nikolić³, Branimir Jelenković³
¹Centre of Excellence-CextremeLab Vinca, Institute for Nuclear Sciences, University of Belgrade, Belgrade, Serbia, ²Laboratory for Advanced Nuclear Energy, Institute of Innovative Research, Tokyo Institute of Technology, 2-12-1, Ookayama, Meguro-ku, Tokyo, 152-8550 Japan, ³Institute for Physics, University of Belgrade
- 11⁴⁵-12⁰⁰ **Interrelations between positive and negative coercive fields of ferroelectric domains measured by variable amplitude cycling**
Mikhail V. Katkov^{1,2} and Yuriy V. Pershin^{3,1}
¹Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk 630090, Russia, ²Institute of Systems Science, Durban University of Technology, P.O. Box 1334, Durban 4000, South Africa, ³Department of Physics and Astronomy, University of South Carolina, Columbia, SC 29208 USA
- 12⁰⁰-12¹⁵ **Synthesis and characterization of Li₂FeP₂O₇ cathode material**
Dragana Jugović¹, Miloš Milović¹, Miodrag Mitrić², Nikola Cvjetičanin³, Srečo Škapin⁴, Dragan Uskoković¹
¹Institute of Technical Sciences of SASA, Belgrade, Serbia, ²Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia, ³Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia, ⁴Jožef Štefan Institute, Jamova 39, SI-1000 Ljubljana, Slovenia
- 12¹⁵-12³⁰ **Preparation, modification and application of multi-layered MXene structures in gas sensors**
Blažej Scheibe¹, Katarzyna Dunst², Marcin Jarek¹, Barbara Peplińska¹, Piotr Jasiński², Stefan Jurga¹

¹NanoBioMedical Centre Adam Mickiewicz University in Poznań, ²Faculty of Electronics, Telecommunications and Informatics, Gdańsk University of Technology, Poland

12³⁰-12⁴⁵ **Tuning electronic properties of MoS₂ by doping nonisovalent niobium and rhenium ions**

Alexandra Yu. Ledneva, Svetlana A. Dalmatova, Anastasiya D. Fedorenko, Lev N. Mazalov, Vladimir E. Fedorov
Nikolaev Institute of Inorganic Chemistry SB RAS, Russia

12⁴⁵-13⁰⁰ **Enhanced natural sunlight- and artificial UV-driven photocatalytic activity of mechanically activated ZnO/SnO₂ composite**

Smilja Marković¹, Ana Stanković¹, Jasmina Dostanić², Lidija Mančić¹, Srečo Davor Škapin³, Dragan Uskoković¹

¹Institute of Technical Sciences of SASA, Knez Mihailova 35/IV, 11000 Belgrade, Serbia, ²University of Belgrade, IChTM Center for Catalysis, Belgrade, Serbia, ³Jožef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia

THIRD ORAL SESSION

Friday, September 8, 2017

Main Conference Hall

Session I: 09⁰⁰-10³⁰

Chairpersons: Nenad L. Ignjatović and Irena Nikolić

- 09⁰⁰-09¹⁵ **Highly selective anticancer activity of core shell particles based on hydroxyapatite, chitosan lactate and different androstane derivatives**
Nenad L. Ignjatović¹, Katarina M. Penov-Gaši², Jovana J. Ajduković², Marija Sakač², Ivana Kuzminac², Vesna V. Kojić³, Smilja Marković¹, Dragan P. Uskoković¹
¹Institute of Technical Sciences of the Serbian Academy of Science and Arts, Knez Mihailova 35/IV, P.O. Box 377, 11000 Belgrade, Serbia, ²University of Novi Sad, Faculty of Sciences, Department of Chemistry, Biochemistry and Environmental Protection, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, ³Oncology Institute of Vojvodina, Put Dr Goldmana 4, 21204 Sremska Kamenica, Serbia
- 09¹⁵-09³⁰ **The atomic-scale defects at the surface of MgO particles and their antibacterial applications**
Nemanja Aničić, Marija Vukomanović, Danilo Suvorov
Advanced Materials Department, Jozef Stefan Institute, Jamova 39 Ljubljana, Slovenia
- 09³⁰-09⁴⁵ **Design and evaluation of biocompatible 90Y-labeled phosphate-coated MNPs for possible applications in cancer therapy**
Magdalena Radović, Marija Mirković, Drina Janković, Aleksandar Vukadinović, Marko Perić, Dragana Stanković, Đorđe Petrović, Sanja Vranješ-Đurić
University of Belgrade, Vinča Institute of Nuclear Sciences, Laboratory for radioisotopes, P. O. Box 522, 11001 Belgrade, Serbia
- 09⁴⁵-10⁰⁰ **Hierarchical self-assembly of highly water-soluble fullerene derivatives**
Ilija Rašović and Kyriakos Porfyrakis
Department of Materials, University of Oxford, UK

- 10⁰⁰-10¹⁵ **Networks of welded silver nanowires as transparent electrodes**
Vuk V. Radmilović¹, Peter Ercius², Colin Ophus³, Erdmann Spiecker⁴, Velimir V. Radmilović⁵
¹Innovation Center, Faculty of Technology and Metallurgy, University of Belgrade, Serbia, ²National Center for Electron Microscopy, Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, USA, ³National Center for Electron Microscopy, Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, USA, ⁴Center for Nanoanalysis and Electron Microscopy, Friedrich Alexander University, Erlangen, Germany, ⁵Serbian Academy of Sciences and Arts, Belgrade, Serbia
- 10¹⁵-10³⁰ **Properties of organic conjugated molecules sensitized by fullerenes**
Svetlana Vladimirovna Likhomanova¹, Natalia Vladimirovna Kamanina^{1,2}
¹Vavilov State Optical Institute, Kadetskaya Liniya V.O., dom.5, korpus 2, St.-Petersburg, 199053, Russia, ²Saint-Petersburg Electrotechnical University (“LETI”), St. Petersburg, 197376, Russia
- Break: 10³⁰-11⁰⁰**
- Session II: 11⁰⁰-12³⁰**
Chairmen: Satoshi Ohara and Wilfried Gille
- 11⁰⁰-11¹⁵ **Organic-ligand-assisted hydrothermal synthesis of tailor-made ceramic nanocrystals towards bio-medical applications**
Satoshi Ohara¹, Kosuke Nozaki², Akiko Nagai², and Kimihiro Yamashita²
¹Joining and Welding Research Institute, Osaka University, ²Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, Japan
- 11¹⁵-11³⁰ **Small-angle scattering of non-convex nanoparticles: The case of a cube, possessing a rectangular indent**
Wilfried Gille
Formerly of Martin-Luther-University Halle-Wittenberg, Institute of Physics, SAS Laboratory, Germany
- 11³⁰-11⁴⁵ **Au hollow cylindrical nanostructures as optical tunable nanoresonators**
Ana Conde-Rubio^{1,2}, Francesc Pérez-Murano³, Xavier Batlle^{1,2}, Amilcar Labarta^{1,2}
¹Department de Física de la Matèria Condensada, Universitat de Barcelona, Barcelona, Spain, ²Institut de Nanociència i Nanotecnologia (IN2UB), Universitat de Barcelona, ³Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC) UAB, 08193 Bellaterra, Barcelona, Spain

- 11⁴⁵-12⁰⁰ **Process development for reproducible synthesis of magnetic eco-friendly adsorbent**
Doina Hritcu, Alina Ibanescu, Marcel I. Popa
Faculty of Chemical Engineering and Environmental Protection, "Gheorghe Asachi"
Technical University of Iasi, Romania
- 12⁰⁰-12¹⁵ **The slag based adsorbents for Cu²⁺ removal from aquatic solutions**
Irena Nikolić¹, Dijana Đurović², Ivana Milašević³, Smilja Marković⁴, Vuk Radmilović⁵, Velimir Radmilović⁶
¹University of Montenegro, Faculty of Metallurgy and Technology, Podgorica, Montenegro, ²Institut of Public Health of Montenegro, Podgorica, Montenegro, ³Centre of Excellence in Bioinformatics, Faculty of Electrical Engineering, University of Montenegro, Podgorica, Montenegro, ⁴Institute of Technical Sciences of SASA, Belgrade, Serbia, ⁵Innovation center, University of Belgrade, Faculty of Technology and Metallurgy, Belgrade, Serbia, ⁶Serbian Academy of Sciences and Arts, Belgrade, Serbia

FOURTH ORAL SESSION

Small Conference Hall

Session I: 09⁰⁰-10⁴⁵

Chairpersons: Julija R. Šćepanović and Marko Radović

- 09⁰⁰-09¹⁵ **Particle morphology effects in random sequential adsorption**
Ljupka Budinski Petković¹, Ivana Lončarević¹, Dijana Dujak², Aleksandar Karac³, Julija R. Šćepanović⁴, Zorica M Jakšić⁴, Slobodan B Vrhovac⁴
¹Faculty of Engineering, Trg D. Obradovica 6, Novi Sad, 21000 Serbia, ²Faculty of Metallurgy and Materials, University of Zenica, Zenica, Bosnia and Herzegovina, ³Polytechnic Faculty, University of Zenica, Zenica, Bosnia and Herzegovina, ⁴Scientific Computing Laboratory, Center for the Study of Complex Systems, Institute of Physics Belgrade, University of Belgrade, Pregrevice 118, Zemun 11080, Belgrade, Serbia
- 09¹⁵-09³⁰ **Inkjet printing of TiO₂ nanoparticles on flexible substrates**
Slavica M. Savić¹, Sanja Kojić², Jaroslav Katona³, Jelena Vukmirović³, Georges Dubourg¹, George Niarchos¹, Marko Radović¹
¹Biosense Institute, Research Institute for Information Technologies in Biosystems, Novi Sad, Serbia, ²Faculty of Technical Sciences, University of Novi Sad, Novi Sad, Serbia, ³Faculty of Technology, University of Novi Sad, Novi Sad, Serbia
- 09³⁰-09⁴⁵ **Photocatalytic hollow TiO₂ and ZnO nanospheres prepared by atomic layer deposition**

László Péter Bakos¹, Nóra Justh¹, Klára Hernádi², Gabriella Kiss², Balázs Réti², Zoltán Erdélyi³, Bence Parditka³ and Imre Miklós Szilágyi¹

¹Department of Inorganic and Analytical Chemistry, Budapest University of Technology and Economics, H-1111 Budapest, Hungary, ²Department of Applied and Environmental Chemistry, University of Szeged, H-6720 Szeged, Hungary, ³Department of Solid State Physics, University of Debrecen, H-4026 Debrecen, Hungary

09⁴⁵-10⁰⁰

Preparation of iron tungstate (FeWO₄) nanosheets by hydrothermal method

Teodóra Nagyné Kovács^{1,*}, György Pokol^{1,2}, Fanni Gáber¹, Dávidné Nagy³, Tamás Igricz⁴, István Endre Lukács⁵, Zsolt Fogarassy⁵, Katalin Balázsi⁵, Imre M. Szilágyi¹

¹Department of Inorganic and Analytical Chemistry, Budapest University of Technology and Economics, Műegyetem rakpart 3., Budapest, H-1111, Hungary, ²Research Centre for Natural Sciences, Hungarian Academy of Sciences, Magyar tudósok körútja 2., Budapest, H-1117, Hungary, ³Institute for Materials and Processes, School of Engineering, The University of Edinburgh, The King's Buildings, Mayfield Road, Edinburgh, EH9 3JL, United Kingdom, ⁴Department of Organic Chemistry and Technology, Budapest University of Technology and Economics, H-1111 Budapest, Budafoki út 8. Hungary; ⁵Research Institute for Technical Physics and Materials Science, Hungarian Academy of Sciences, Konkoly-Thege út 29-33., Budapest, H-1121 Hungary

10⁰⁰-10¹⁵

Preparation and investigation of the photocatalytic properties of core/shell nanocomposites

Orsolya Kéri¹, Eszter Kocsis¹, Lenke Kócs², Zoltán Hórvölgyi², Levente Kárpáti², Bence Parditka³, Zoltán Erdélyi³, Imre Miklós Szilágyi¹

¹Budapest University of Technology and Economics, Department of Inorganic and Analytical Chemistry, ²Budapest University of Technology and Economics, Department of Physical Chemistry and Materials Science, ³University of Debrecen, Department of Solid State Physics, Hungary

10¹⁵-10³⁰ **Reductive properties of nanocrystalline Al-modified cobalt oxides: in situ XRD investigation**

Svetlana Cherepanova^{1,2}, Olga Bulavchenko^{1,2}, Irina Simentsova¹

¹Boskov Institute of Catalysis, Lavrentieva prospect 5, Novosibirsk, 630090, Russia, ²Novosibirsk State University, Pirogova street 2, Novosibirsk, 630090, Russia

Break: 10³⁰-11⁰⁰

Session II: 11⁰⁰-12¹⁵

Chairmen: Waldemar Swiderski and Alexander Kurbakov

11⁰⁰-11¹⁵ **Non-destructive testing of cover made of CFRP after ballistic impacts by IR thermography methods**

Waldemar Swiderski

Military Institute of Armament Technology, Poland

11¹⁵-11³⁰ **Ductile/brittle polymer system modified with carbon nanoplatelets: Effect of components coupling**

Ivan Kelnar, Jaroslav Kratochvíl

Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Heyrovsky Sq. 2, 162 06 Prague, Czech Republic

11³⁰-11⁴⁵ **Neutron and synchrotron diffraction studies of low dimensional frustrated magnets with unique magnetic, electrical and redox properties**

Alexander Kurbakov^{1,2}, Artem Korshunov^{1,2}, Mariia Kuchugura^{1,2}, Stanislav Podchezertsev¹, Juan Rodriguez-Carvajal³

¹Petersburg Nuclear Physics Institute, NRC Kurchatov Institute, 188300, Gatchina, Russia, ²St.Petersburg State University, Faculty of Physics, 198504, St. Petersburg, Russia, ³Institut Laue Langevin – CS 20156 - 38042 Grenoble, France

11⁴⁵-12⁰⁰ **The study of the correlation between surface chemistry and charge storage properties of graphene oxide**

Zoran Jovanović¹, Danica Bajuk-Bogdanović², Sonja Jovanović¹, Željko Mravik², Ivanka Holclajtner-Antunović², Milica Vujković²

¹Laboratory of Physics, Vinča Institute of Nuclear Sciences, University of Belgrade, P.O. Box 522, 11001 Belgrade, Serbia, ²Faculty of Physical Chemistry, University of Belgrade, P.O. Box 47, 11158 Belgrade, Serbia

12⁰⁰-12¹⁵ **Influence of zinc doping on the magnetic properties of cobalt ferrite nanoparticles**

Sonja Jovanović¹, Bojana Nedić-Vasiljević², Danica Bajuk-Bogdanović², Davide Peddis³

¹Laboratory of Physics, Vinca Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia, ²Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia, ³nM2-Lab, Istituto di Struttura della Materia, CNR, Monterotondo Scalo (Roma) 00015, Italy

12³⁰-13⁰⁰ **CLOSING CEREMONY in Main Hall**

POSTER SESSION I

Tuesday, September 5, 2017, 20⁰⁰-22⁰⁰

SYMPOSIUM A: ADVANCED METHODS IN SYNTHESIS AND PROCESSING OF MATERIALS

- P.S.A.1. **Preparation and properties of photocatalyst in TiO₂-ZnO system**
Anita Letlena, Jānis Grabis, Aija Krūmiņa
Riga Technical University, Faculty of Material Science and Applied Chemistry,
Institute of Inorganic Chemistry, Latvia
- P.S.A.2. **Modified TiO₂ thin films prepared by spray pyrolysis deposition and their photocatalytic activity**
Laura Rozenberga-Voska, Jānis Grabis
Institute of Inorganic Chemistry, Faculty of Material Science and Applied
Chemistry, Riga Technical University, Latvia
- P.S.A.3. **Nanobanksia - novel hybrid inorganic/organic nanomaterial**
Aleš Mrzel, Damjan Vengust, Mojca Vilfan
Jozef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia
- P.S.A.4. **Leaching of trace elements from packaging material into canned meat products**
Branislav Stojanović¹, Ljubica Radović², Tatjana Šolević Knudsen³, Branimir Jovančičević⁴, Tanja Petrović⁵, Steva Lević⁵ and Vesna Antić⁵
¹Ministry of Defence-Republic of Serbia, Belgrade, Serbia, ²Military Technical Institute, Belgrade, Serbia, ³Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia, ⁴University of Belgrade-Faculty of Chemistry, Belgrade, Serbia, ⁵University of Belgrade-Faculty of Agriculture, Zemun, Serbia
- P.S.A.5. **Characterization of pressureless sintered MgO-Al₂O₃-SiO₂-TeO₂ system**
Nina Obradović¹, Nataša Đorđević², Darko Kosanović¹, Suzana Filipović¹, Martin Kachlik³, Karel Maca³, Dragan Olčan⁴, Antonije Đorđević^{4,5}, Vladimir Pavlović¹
¹Institute of Technical Sciences of SASA, Knez Mihailova 35/IV, 11000 Belgrade, Serbia, ²Institute for Technology of Nuclear and Other Mineral Raw Materials, Bulevar Franse d'Eperea 86, 11000 Belgrade, Serbia, ³CEITEC BUT, Brno University of Technology, 61600 Brno, Czech Republic, ⁴School of Electrical Engineering, University of Belgrade, Bulevar kralja Aleksandra 73, 11000 Belgrade, Serbia, ⁵Serbian Academy of Sciences and Arts, Knez Mihailova 35, 11000 Belgrade, Serbia

- P.S.A.6. **Temperature responsive hydrogels based on ethylene glycol propylene glycol “block” units with VPTT close to human body temperature**
Edin Suljovrujić, Maja Mičić, Zorana Rogić Miladinović, Dejan Miličević
Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia
- P.S.A.7. **Composition of red mud and/or metakaolin-based modified geopolymers**
Mira Vukčević¹, Ivana Bošković¹, Snežana Nenadović², Miljana Mirković², Bojan Čalija³, Vladimir Pavlović⁴, and Ljiljana Kljajević²
¹Faculty of Metallurgy and Technology, University of Montenegro, ²Laboratory for Materials Sciences, Institute of Nuclear Sciences Vinča, University of Belgrade, Serbia, ³Department of Pharmaceutical Technology, Faculty of Pharmacy, University of Belgrade, Serbia, ⁴Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, University of Belgrade, Serbia
- P.S.A.8. **Fabrication and characterization of Al-5 wt.% Si matrix composites reinforced with various boride particles**
Duygu Ağaoğulları, Sıddıka Mertdinç, Emre Tekoğlu, M. Lütfi Öveçoğlu
Istanbul Technical University, Chemical and Metallurgical Engineering Faculty, Metallurgical and Materials Engineering Department, Particulate Materials Laboratories (PML), 34469 Maslak, Istanbul, Turkey
- P.S.A.9. **Combustion synthesis of yttrium aluminum perovskites doped by rare earth ions**
Daniel Michalik¹, Krzysztof Strzech¹, Radoslaw Lisiecki², Tomasz Pawlik¹, Malgorzata Sopicka Lizer¹
¹Silesian University of Technology, Department of Materials Science, Krasinskiego 8, 40-019 Katowice, Poland, ²Institute of Low Temperature and Structure Research, Okolna 2, 50-422 Wrocław, Poland
- P.S.A.10. **Modification of poly(ethylene terephthalate) by blending with polyamide-6 utilizing reactive compatibilization**
Seung Yong Shin¹, Kwan Han Yoon², Byung Gil Min³
^{1&2}Dept. of Materials Design and Engineering, Kumoh National Institute of Technology, Korea, ³Dept. of Chemical Engineering, Kumoh National Institute of Technology, Korea
- P.S.A.11. **Thermal and mechanical properties of poly(ethylene terephthalate) copolymer containing bis(dimethyl-2-hydroxyethyl) tetraoxaspiro undecane**
Seung Ho Jeong¹, Byung Gil Min², Kwan Han Yoon¹
¹Department of Chemical Engineering, and ²Department of Material Design Engineering, Kumoh National Institute of Technology, Gumi, 730-701, Korea

**SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY
APPLICATIONS – SESSION 1**

- P.S.B.1. **The influence of changes in Ca/Y concentration ratio on the spectroscopic properties of europium doped $\text{Ca}_9\text{Y}(\text{PO}_4)_7$ phosphor for white light emitting diodes**
Natalia Gorecka, K. Szczodrowski, A. Lazarowska, J. Barzowska, M. Grinberg
Institute of Experimental Physics, Faculty of Mathematics, Physics and Informatics,
University of Gdansk, Wita Stwosza 57, 80-308 Gdansk, Poland
- P.S.B.2. **Spectroscopic properties of Eu^{2+} and Eu^{3+} doped barium potassium phosphate**
Anna Baran¹, Sebastian Mahlik¹, Marek Grinberg¹, Adam Watras², Robert Pazik²,
Przemyslaw Deren²
¹Institute of Experimental Physics, Faculty of Mathematics, Physics and
Informatics, University of Gdansk, Wita Stwosza 57, 80-308 Gdansk, Poland,
²Institute of Low Temperature and Structure Research, Polish Academy of
Sciences, 2 Okólna Street, 50-422 Wroclaw, Poland
- P.S.B.3. **Effect of external influences on Fe- Cr - based alloys studied by positron annihilation spectroscopy**
Jarmila Degmová, Jana Šimeg Veterniková, Veronika Sabelová, Július Dekan,
Milan Pavúk, Stanislav Sojak, Martin Petriská, Vladimír Slugeň
Institute of Nuclear and Physical Engineering, Slovak University of Technology,
Ilkovičova 3, 812 19 Bratislava, Slovakia
- P.S.B.4. **The optimization of EVA monolith synthesis for effective immobilization of *Candida rugosa* lipase**
Zorica Veličić¹, Nataša Tomić², Nevena Prlainović², Jelena Rusmirović²,
Aleksandar D. Marinković³, Milka Vidović¹
¹Institute of Chemistry, Technology and Metallurgy, University of Belgrade,
Njegoševa 4, 11000, Serbia, ²Innovation Center of the Faculty of Technology and
Metallurgy, University of Belgrade, Karnegijeva 4, 11120 Belgrade, Serbia,
³Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4,
11120 Belgrade, Serbia
- P.S.B.5. **Transport properties of Ar^+ in Ar/CF_4 mixtures for technological applications**
Željka Nikitović, Zoran Raspopović and Vladimir Stojanović
Institute of Physics University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia
- P.S.B.6. **Optimization of magnetoimpedance sensing properties of FeCuNbSiB amorphous microwires**
Nebojša Mitrović, Jelena Orelj, Siniša Randić, Slobodan Đukić
Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia

- P.S.B.7. **Improvement of cup anemometer class by bearing design**
Miodrag Zlatanović and Ivan Popović
School of Electrical Engineering, University of Belgrade, Serbia

POSTER SESSION II

Wednesday, September 6, 2017, 20⁰⁰-22⁰⁰

SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATIONS – SESSION 2

- P.S.B.8. **Determination of the elastic modulus of partially intercalated and exfoliated polymer-clay nanocomposites using numerical homogenization techniques**
Youcef Djebara¹, Salah Madani¹, Toufik Kanit²
¹Laboratory of Mechanical Structures and Materials, University of Batna 2, Algeria,
²Laboratory of Mechanics of Lille, University of Lille 1, France
- P.S.B.9. **Production of 99Mo/99mTc generators - Advantages of dry column**
Dorde Petrović, Marko Perić, Drina Janković, Aleksandar Vukadinović, Dragana Stanković, Marija Mirković, Magdalena Radović, Sanja Vranješ-Đurić
University of Belgrade, Vinča Institute of Nuclear Sciences, Laboratory for radioisotopes, P. O. Box 522, 11001 Belgrade, Serbia
- P.S.B.10. **High-energy spectroscopy of YbM₂P₂ compounds**
Ivan Shcherba^{1,2}, Henrik Noga¹, Viktor Antonov³, Dragan Uskoković⁴, Maria Kovalska², Bohdan Jatcyk⁵
¹Institute of Technology, the Pedagogical University of Cracow, Podchorożych st. 2 Cracow 30-084 Poland, ²Ivan Franko National University of Lviv, Ukraine,
³Institute of Physics of Metals, NASU, Kyiv, Ukraine, ⁴Institute of Technical Sciences of SASA, Belgrade, Serbia, ⁵Lviv National University of Veterinary Medicine and Biotechnologies, Lviv, Ukraine
- P.S.B.11. **Influence of electrode thickness on the electrochemical properties of activated ion-track carbon supercapacitors**
Petar Laušević^{1,2}, Milica Marčeta Kaninski¹, Vladimir Nikolić¹, Pavel Apel³, Maria Eugenia Toimil-Molares⁴ and Zoran Laušević¹
¹Laboratory of physical chemistry, Vinča institute of nuclear sciences, University of Belgrade, PO Box 522, 11001 Belgrade, Serbia, ²School of Electrical Engineering, University of Belgrade, Bulevar kralja Aleksandra 73, 11120 Belgrade, Serbia,
³Flerov laboratory of nuclear reactions, Joint institute for nuclear research, 141980 Dubna, Russia, ⁴GSI Helmholtzzentrum für Schwerionenforschung, 64291 Darmstadt, Germany
- P.S.B.12. **Temperature dependence of relaxation times of quasiparticles in graphene**
Stevo Jaćimovski¹, Dejan Raković²
¹Academy of Criminalistic and Police Studies, Belgrade, Serbia, ²University of Belgrade, Faculty of Electrical Engineering, Serbia

- P.S.B.13. **Crystal structure and magnetic properties of $\text{Bi}_{1-x}\text{Ae}_x\text{Fe}_{1-x}\text{Ti}_x\text{O}_3$ (Ae=Ca, Sr, Ba) multiferroics**
Uladimir Khomchanka and José António Paixão
CFisUC, Department of Physics, University of Coimbra, P-3004-516 Coimbra, Portugal
- P.S.B.14. **The fabrication of tubular spinel cobalt manganese oxide by single-spinneret electrospinning as a high-performance electrode for aqueous supercapacitors**
Daniel M. Mijailović, Vesna J. Radojević, Dušica B. Stojanović, Đorđe T. Janačković, Petar S. Uskoković
University of Belgrade, Faculty of Technology and Metallurgy; Serbia

SYMPOSIUM C: NANOSTRUCTURED MATERIALS – SESSION 1

P.S.C.1. Effect of W-doped TiO₂ nanopowders on photocatalytic degradation of selected psychoactive drugs

Nina Finčur¹, Maja Šćepanović², Mirjana Grujić-Brojčin², Aleksandar Golubović², 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 Belgrade, Institute of Physics, Center for Solid State Physics and New Materials, Pregrevica 118, 11080 Belgrade, Serbia

P.S.C.2. Activity of pure ZnO and ZnO/MWCNTs nanoparticles in degradation of clomazone under different type of irradiation

Vesna Despotović¹, Nina Finčur¹, Goran Bošković², Sanja Panić², Biljana Abramović¹

¹University of Novi Sad, Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, ²University of Novi Sad, Faculty of Technology, Bulevar Cara Lazara 1, Novi Sad, Serbia

P.S.C.3. In-situ study of the oxygen-induced transformation of pyrochlore Ce₂Zr₂O_{7+x} to the kK-Ce₂Zr₂O₈ phase

Igor Đerd¹, Sven Urban², Paolo Dolcet³, Limei Chen⁴, Maren Möller², Silvia Gross³, Peter J. Klar⁴, Bernd Smarsly², Herbert Over²

¹Department of Chemistry, Josip Juraj Strossmayer University of Osijek, Cara Hadrijana 8/A, 31000 Osijek, Croatia, ²Physikalisch-Chemisches Institut, Justus-Liebig-Universität, Heinrich-Buff-Ring 17, 35392 Gießen, Germany, ³Dipartimento di Scienze Chimiche, Università degli Studi di Padova via Francesco Marzolo, 1, I-35131 Padova, Italy, ⁴I. Physikalisches Institut, Justus Liebig University, Heinrich-Buff-Ring 16, 35392 Giessen, Germany

P.S.C.4. One-step production of nanoalloys in Pt-Co, Pt-Fe, Pt-Ni systems

Evgeny Y. Filatov, Andrey V. Zadesenets, Sergey V. Korenev

¹Nikolaev Institute of Inorganic Chemistry of Siberian Branch of the Russian Academy of Sciences, Akademika Lavrenteva ave., 3, Novosibirsk, 630090, Russia, ²Novosibirsk State University, Pirogova str., 2, Novosibirsk, 630090, Russia

P.S.C.5. Liquid phase sodium intercalation into layered transition metal chalcogenides

Pavel A. Poltarak, Sofia B. Artemkina, Vladimir E. Fedorov

Nikolaev Institute of Inorganic Chemistry, Russia

P.S.C.6. Temperature dependence of morphology and size of ZrS₃ and TiS₃ particles in colloidal dispersions

Anastasiia A. Poltarak, Pavel A. Poltarak, Mariia N. Kozlova, Sofía B. Artemkina,
Vladimir E. Fedorov
Nikolaev Institute of Inorganic Chemistry, Russia

P.S.C.7. **Oxidative longitudinal unzipping of short MWCNTs toward graphene nanoribbons**

Igor Medić¹, Sanja Panić², Elvira Đurđić³, Danica Jović¹, Goran Bošković², Željka Cvejić³, Srđan Rakić³, Aleksandar Đorđević¹

¹Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, ²Faculty of Technology, University of Novi Sad, Bulevar Cara Lazara 1, 21000 Novi Sad, Serbia, ³Department of Physics, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 4, 21000 Novi Sad, Serbia

P.S.C.8. **Selectivity manipulation of ultrathin film-structure optical characteristics**

Jovan P. Šetrajčić¹, Igor J. Šetrajčić¹, Ana J. Šetrajčić–Tomić², Siniša M.

Vučenović³, and Stevo K. Jaćimovski⁴

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, ⁴Academy of Criminalistic and Police Studies, Zemun – Belgrade, Serbia

P.S.C.9. **Accelerated service life test of electrodeposited NiSn coatings as bifunctional hydrogen and oxygen evolution catalysts for alkaline water electrolysis**

Ljiljana Gajić-Krstajić¹, Vladimir Jović², Borka Jović², Uroš Lačnjevac², Nedeljko Krstajić³, Piotr Zabinski⁴, Nevenka Elezović²

¹Institute of Technical Sciences SASA, Knez Mihajlova 35, 11000 Belgrade, Serbia, ²Institute for Multidisciplinary Research University of Belgrade, P.O. Box 33, 11030 Belgrade, Serbia, ³Faculty of Technology and Metallurgy University of Belgrade, Karnegijeva 4, 11000 Belgrade, Serbia, ⁴AGH University of Science and Technology, Faculty of Non-Ferrous Metals, Al. Mickiewicza 30,30-059 Krakow, Poland

P.S.C.10. **Zero-dimensional hexagonal stanene nanostructures in a magnetic field**

Dušan Z. Jakovljević¹, Milan Ž. Tadić¹, Marko M. Grujić¹, Vladimir V. Arsoski¹, François M. Peeters²

¹School of Electrical Engineering, University of Belgrade, P.O. Box 3554, 11120 Belgrade, Serbia, ²Department of Physics, University of Antwerp, Groenenborgerlaan 171, B-2020 Antwerp, Belgium

P.S.C.11. **Three novel bis-phosphonate-coated MNPs labeled with ^{99m}Tc as multifunctional agents for possible use in medicine**

Marija Mirković, Magdalena Radović, Drina Janković, Aleksandar Vukadinović, Marko Perić, Dragana Stanković, Đorđe Petrović, Sanja Vranješ-Đurić
University of Belgrade, Vinča Institute of Nuclear Sciences, Laboratory for radioisotopes, P. O. Box 522, 11001 Belgrade, Serbia

P.S.C.12. **Spectral analysis of the ordering effect of starch coated magnetite nanoparticles**

Marko Perić, Drina Janković, Aleksandar Vukadinović, Dragana Stanković, Đorđe Petrović, Marija Mirković, Magdalena Radović, Sanja Vranješ-Đurić
University of Belgrade, Vinča Institute of Nuclear Sciences, Laboratory for radioisotopes, P. O. Box 522, 11001 Belgrade, Serbia

POSTER SESSION III

Thursday, September 7, 2017, 20⁰⁰-22⁰⁰

SYMPOSIUM C: NANOSTRUCTURED MATERIALS – SESSION 2

P.S.C.13. **Electrospun PMMA nanofibers doped with CdSe/ZnS core shell quantum dots**

Rouaida M. Abozaid¹, Dušica B. Stojanović¹, Anđela Radisavljević¹, Dragutin M. Sević², Maja S. Rabasović², Petar S. Uskoković¹, Vesna Radojević¹

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

²University of Belgrade, Institute of Physics, Zemun, Serbia

P.S.C.14. **Formation of nanocrystalline 9R silicon hexagonal phase under multi-ion implantation into Si and SiO₂/Si substrates**

David Tetelbaum, Dmitry Korolev, Alena Nikolskaya, Alexey Belov, Alexey Mikhaylov, Nikolay Krivulin, Dmitry Pavlov

Lobachevsky University, Nizhny Novgorod, Russia

P.S.C.15. **Enhancing Pt catalytic properties by addition of Au: Could less be more?**

Mila N. Krstajić Pajić¹, Sanja I. Stevanović¹, Vuk V. Radmilović², Nevenka R. Elezović³, Piotr Zabinski⁴, Nedeljko V. Krstajić⁵, Velimir R. Radmilović^{5,6}, Snežana Lj. Gojković⁵, Vladislava M. Jovanović¹

¹ICTM - Department of Electrochemistry, University of Belgrade, Serbia, ²IC Faculty of Technology and Metallurgy, University of Belgrade, Serbia, ³Institute for Multidisciplinary Research, University of Belgrade, Serbia, ⁴AGH University of Science and Technology, Krakow, Poland, ⁵Faculty of Technology and Metallurgy, University of Belgrade, Serbia, ⁶Serbian Academy of Sciences and Arts, Belgrade, Serbia

P.S.C.16. **Texture evolution of Cu-Al single crystals after drawing**

Dorota Moszczyńska, Bogusława Adamczyk-Cieślak, Jarosław Mizera

Faculty of Materials Science and Engineering, Warsaw University of Technology, Woloska 141, 02-507 Warsaw, Poland

SYMPOSIUM D: ECO-MATERIALS AND ECO-TECHNOLOGIES

P.S.D.1. Magnetite functionalized cellulose membranes for heavy metal removal from water

Jelena D. Rusmirović¹, Jovana Nikolić², Dragana L. Milošević², Khaled Taleb³, Milka Vidović², Aleksandar D. Marinković⁴

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P.S.D.2. Application of NIR spectroscopy in study of adsorption process of p-nitrophenol on activated carbon in presence of selected amides

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P.S.D.3. Calorimetric research of arsenate adsorption on silica-based materials

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SYMPOSIUM E: BIOMATERIALS

P.S.E.1. **Mono- and dinuclear azido Co(II) complexes with the condensation product of 2-quinolinecarboxaldehyde and Girard's T reagent**

Mima Romanović, Marko Jeremić, Milica Milenković, Božidar Čobeljić, Katarina Anđelković

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P.S.E.2. **Calvarial defects in rats filled with innovative nanocomposite material. Histological and biochemical studies**

Margarita Gabrashanska¹, Elena Dyulgerova², Radost Ilieva², Veselin Nanev¹, Ivelin Vladov¹, Petar Dimitrov¹, Neli Tsocheva-Gaytandzhieva¹

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P.S.E.3. **Biomimetic approach for preparation of calcium phosphate based cements**

Radost Ilieva¹, Rumiana Gergulova¹, Stefka Tepavitcharova¹, Kostadinka Sezanova¹, Anton A. Apostolov², Diana Rabadjieva¹

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P.S.E.4. **Corrosion behavior of nanotubular oxide layer formed on titanium and Ti–13Nb–13Zr alloy processed by high pressure torsion**

Dragana R. Barjaktarević¹, Ivana D. Dimić¹, Ivana Lj. Cvijović-Alagić², Veljko R. Đokić¹, Jelena B. Bajat¹, Marko P. Rakin¹

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P.S.E.5. **Effects of composition and method of preparation on biocompatible and biodegradable behavior of 3-D polymeric scaffolds based on gelatin/alginate/methacrylate**

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P.S.E.6. **Composite nanostructured HAp/YSZ dental inserts – processing, mechanical properties and application in dental restorations**

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P.S.E.7. **Novel composite alginate hydrogels with activated charcoal as a carrier of therapeutically active substances**

Andrea Osmokrović¹, Ivan Jančić², Jovana Vunduk³, Nevena Dabović¹, Marina Milenković², Bojana Obradović¹

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P.S.E.8. **Towards a bio-nanoreactor by engineering inorganic nanoparticles with cancer cell membranes**

Vimal Balasubramanian¹, Alexandra Correia¹, Hong Zhang², Flavia Fontana¹, Ermei Mäkilä³, Jarno Salonen³, Jouni Hirvonen¹, and Hélder A. Santos^{1,4}

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P.S.E.9. **Alumina based reinforcements for PMMA dental composite materials**

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P.S.E.10. **Comparative spectroscopic characterization of fullerene nanomaterials**

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P.S.E.11. **3D finite elements modeling of the interfacial stresses bone/dental implant. Effects of the geometric parameters**

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