GENERAL CONFERENCE PROGRAMME

SYMPOSIUM A: Advanced Methods in Synthesis and Processing of Materials
SYMPOSIUM B: Advanced Materials for High-Technology Application
SYMPOSIUM C: Nanostructured Materials
SYMPOSIUM D: Eco-materials and Eco-technologies
SYMPOSIUM E: Biomaterials
SYMPOSIUM F: Advanced Materials for Biomedical Applications
SYMPOSIUM G: Hybrid Interface Materials

Sunday, September 2 2018
08^{00}-19^{00} **Registration**

Monday, September 3, 2018
08^{00}-19^{00} **Registration**
09^{00} -10^{00} **OPENING CEREMONY**
- Introduction and Welcome
Main Conference Hall
10^{30}-13^{00} **First Plenary Session**, Main Conference Hall
13^{00} **Photo Session**
14^{30}-19^{00} **Second Plenary Session**, Main Conference Hall
19^{30}-21^{00} **Cocktail Party**

Tuesday, September 4, 2018
08^{30}-13^{30} **Third Plenary Session**, Main Conference Hall
14^{30}-20^{00} **Fourth Plenary Session**, Main Conference Hall
20^{00}-22^{00} **Poster Session I** (Symposium A and B1), Villa Mimoza

Wednesday, September 5, 2018
09^{00}-13^{00} **Symposium F**, Main Conference Hall
15^{00}-18^{45} **Symposium G**, Main Conference Hall
20^{00}-22^{00} **Poster Session II** (Symposium B2, C and D), Villa Mimoza

Thursday, September 6, 2018
09^{00}-13^{15} **First Oral Session**, Main Conference Hall
09^{00}-13^{30} **Second Oral Session**, Small Conference Hall
14^{00}-19^{00} **Boat-trip around Boka Kotorska Bay**
20^{00}-22^{00} **Poster Session III** (Symposiums E), Villa Mimoza

Friday, September 7, 2018
09^{00}-13^{15} **Third Oral Session**, Main Conference Hall
09^{00}-13^{15} **Fourth Oral Session**, Small Conference Hall
13^{30}-14^{00} **Awards and Closing of the Conference**

OPENING CEREMONY

Monday, September 3, 2018
Main Conference Hall

09^{00}-10^{00}

Welcome Speach
Dragan Uskoković, President of MRS-Serbia, Belgrade, Serbia
Presentation of YUCOMAT 2017 Awards
Slobodan Milonjić, Vice President of MRS-Serbia, Belgrade, Serbia

MRS-Serbia 2018 Award for a Lasting and Outstanding Contribution to Materials Science and Engineering
Organo-metallic lead iodide perovskites: a material science approach
Prof. Dr. László Forró
Laboratory of Physics of Complex Matter, Ecole Polytechnique Fédérale de Lausanne, Switzerland

Break: 10^{00}-10^{30}

FIRST PLENARY SESSION

Main Conference Hall

Session I: 10^{30}-13^{00}
Chairpersons: Yury Gogotsi and Joseph T Hupp

10^{30}-11^{00} **Synthesis and Properties of Two-Dimensional Carbides and Nitrides (MXenes)**
Yury Gogotsi
Department of Materials Science and Engineering, and A. J. Drexel Nanomaterials Institute, Drexel University, Philadelphia, PA 19104, USA

11^{00}-11^{30} **AIM-ing for Single-Atom Precision for Heterogeneous Catalysts**
Joseph T Hupp
Northwestern University Department of Chemistry Evanston, IL 60208, USA

11^{30}-12^{00} **Applying Chemistry to Make Today's Best Tunable Millimeter Wave Dielectric even Better**
Darrell G. Schlom
Department of Materials Science and Engineering, Cornell University, USA

12^{00}-12^{30} **Ultra-High Resolution Study by Aberration-Corrected TEM of Pyrochlore BZN Supplying Information on Displacive Atom-Site Disorder**
Knut W. Urban[1,2], Chun-Lin Jia[1,2], and Hong Wang [2]
[1]PGI-5 and Ernst Ruska Center, Research Center Juelich, Juelich/Germany; [2]School of Electronic and Information Engineering and State Key Laboratory for Mechanical Behaviour of Materials, Xi'an Jiaotong University, Xi'an, China

12^{30}-13^{00} **Electric Field Control of Magnetism**
Ramamoorthy Ramesh
Department of Physics and Department of Materials Science and Engineering Lawrence Berkeley National Laboratory, University of California, Berkeley, CA 94720, USA

13^{00}-13^{30} Photo session

Break: 13^{30}-14^{30}

SECOND PLENARY SESSION

Main Conference Hall

Session I: 14^{30}-16^{30}
Chairpersons: Knut W. Urban and Rolf Erni

14^{30}-15^{00} **Correction of Aberrations – Past – Present – and Future Perspectives**
Harald Rose
Ulm University, Ulm, Germany

15^{00}-15^{30} **Prospects and challenges for high-resolution transmission electron microscopy**
Rafal E. Dunin-Borkowski, Lei Jin, András Kovács, Andreas Thust
Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons and Peter Grünberg Institute, Forschungszentrum Jülich, 52425 Jülich, Germany

15^{30}-16^{00} **High precision STEM studies of spatial strain distribution in nanostructures with correlation to properties**
Eva Olsson
Chalmers University of Technology, Eva Olsson Group, Gothenburg, Sweden

16^{00}-16^{30} **Unconventional Imaging by Scanning Transmission Electron Microscopy**
Rolf Erni, Trond Henninen, Feng Wang, Marta Bon, Debora Keller, Nabeel Ahmad, Marta D. Rossell, Marco Campanini
Electron Microscopy Center, Empa, Swiss Federal Laboratories for Materials Science and Technology, 8600 Dübendorf, Switzerland

Break: 16^{30}-17^{00}

Session II: 17^{00}-19^{00}
Chairpersons: Eva Olsson and Rafal E. Dunin-Borkowski

17^{00}-17^{30} **Growth of wide bandgap semiconducting layers: a transmission electron microscopy study**
Bela Pecz
Institute for Technical Physics and Materials Science, Centre for Energy Research, Hungarian Academy of Sciences, MTA EK MFA, 1121 Budapest, Konkoly-Thege M. u. 29-33, Hungary

17^{30}-18^{00} **The Role of Interface Complexions on Processing Ceramic Matrix Nanocomposites**
Ruth Moshe, Rachel Marder, Wayne D. Kaplan
Department of Materials Science and Engineering, Technion - Israel Institute of Technology, Haifa, Israel

18^{00}-18^{30} **Sub 30 meV in a monochromated Themis Z**
Anil Yalcin
Thermo Fisher Scientific, Eindhoven, Netherlands

18^{30}-19^{00} **High-resolution 3D crack visualization in multi-component materials and structures during mechanical loading – A novel application of X-ray microscopy**
Ehrenfried Zschech, Sven Niese[1], Kristina Kutukova, Juergen Gluch
Fraunhofer IKTS Dresden, Germany
[1]now with AXO Dresden GmbH, Dresden, Germany

THIRD PLENARY SESSION

Tuesday, September 4, 2018
Main Conference Hall

Session I: 08^{30}-10^{30}
Chairpersons: Vladimir Torchilin and Robert Sinclair

08^{30}-09^{00} **An Update on Advanced Electron Microscopy for Cancer Nanotechnology Research**
Robert Sinclair
Dept. of Materials Science & Engineering, Stanford University, Stanford, USA

09^{00}-09^{30} **Recent developments in combination nanopreparations against cancer**
Vladimir Torchilin
Center for Pharmaceutical Biotechnology and Nanomedicine, Northeastern University, Boston, MA 02115, USA

09^{30}-10^{00} **The future of medicine: Implantable nanosensors**
Thomas J. Webster
Department Chemical Engineering; Northeastern University; USA

10^{00}-10^{30} **Ceramic Nanoparticles for Advanced Biomedical Applications: From Bone to Brain**
Vuk Uskoković
University of Illinois at Chicago, USA

Break: 10^{30}-11^{00}

Session II: 11^{00}-13^{30}
Chairperons: Paul V. Braun and Shaowei Chen

11^{00}-11^{30} **Electron-Transfer Chemistry of Functional Nanoparticles: An Interfacial Perspective**
Shaowei Chen
University of California - Santa Cruz, Department of Chemistry and Biochemistry, USA

11^{30}-12^{00} **Solid-state oxygen abstraction from stable oxides for energy storage materials**
Mamoru Senna
Keio University, Yokohama, Japan Faculty of Science and Technology, Hiyoshi, Yokohama 223-8522, Japan

12^{00}-12^{30} **High Energy Density Electrodeposited Li and Na-ion Battery Electrodes**
Paul V. Braun
University of Illinois at Urbana-Champaign, Urbana, USA

12^{30}-13^{00} **(Early Actinoid Metal)-Boron-Carbon Systems: Phase Equilibria, Crystal Structures and Physical Properties**
Peter Rogl[1], Raimund Podloucky[2], Henri Noel[3], Gerald Giester[4]
[1]Institute of Materials Chemistry & Research, University of Vienna, A-1090 Wien, Austria; [2]Institute of Physical Chemistry, University of Vienna, A-1090 Wien, Austria; [3]Laboratoire de Chimie du Solide et Materiaux, UMR-CNRS 6226, Université de Rennes I, F-35042 Rennes, France; [4]Institute of Mineralogy and Crystallography, University of Vienna, A-1090 Vienna, Austria

13^{00}-13^{30} **Solid-state synthesis of lead-free $(K/Na)_{0.5}Bi_{0.5}TiO_3$ piezoceramics: peculiarities and their influence on the electrical properties**
Danilo Suvorov, Jakob König, Matjaz Spreitzer
Advanced Materials Department, Jožef Stefan Institute, Ljubljana, Slovenia

Break: 13^{30}-14^{30}

FOURTH PLENARY SESSION

Main Conference Hall

Session I: 14^{30}-17^{00}
Chairpersons: Richard W. Siegel and Hamish L Fraser

14^{30}-15^{00} **A Unified Computational Approach for Dislocation-Based Plasticity**
Richard LeSar, John Graham, Laurent Capolungo
Iowa State University, Department of Materials Science and Engineering, Ames, IA, USA; Ames Laboratory, Ames, IA, USA; Los Alamos National Laboratory, Los Alamos, NM, USA

15^{00}-15^{30} **Materials characterization and integrated computational materials engineering: providing solutions for near-net shape manufacturing**
Hamish L Fraser
Center for the Accelerated Maturation of Materials, The Ohio State University, Columbus, USA

15^{30}-16^{00} **On the Nucleation of Planar Faults in Single Crystal Ni-base Superalloys**
Gunther Eggeler
Bochum University, Ruhr, Germany

16^{00}-16^{30} **Probing mechanical behaviour at small length scales: from spatially resolved toughness in Pt-Ni-Al bond coats on superalloys to small scale cantilever creep for residual life assessment**
Vikram Jayaram
Indian Institute of Science, Department of Materials Engineering, Bangalore 560012, India

16^{30}-17^{00} **Ultimate atom resolution**
Richard W. Siegel
Materials Science and Engineering Department, Rensselaer Polytechnic Institute, Troy, New York 12180, USA

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

Session II: 17^{30}-20^{00}
Chairpersons: Toshiaki Makabe and Ehrenfried Zschech

17^{30}-18^{00} **Quo Vadis Quantum Matter?!**
Davor Pavuna
Complex Matter Laboratory - Institute of Physics, Ecole Polytechique Federale de Lausanne, CH-1015 Lausanne, Switzerland

18^{00}-18^{30} **NV centers in diamond: potentials and limitations for quantum metrology**
Karoly Holczer[1] and Jason Cleveland[2]
[1]UCLA, Department of Physics & Astronomy 475 Portola Plaza, Los Angeles, CA 90095-1547, USA; [2]SomaLogic Inc. 2945 Wilderness Place Boulder, CO 80301, USA

18^{30}-19^{00} **Metastable-watching for the structure and property of low-temperature plasmas**
Toshiaki Makabe
Professor Emeritus, Keio University, Japan

19^{00}-19^{30} **On the origin of high glass forming ability in metallic systems**
E. Babić[1], R. Ristić[2], I. A. Figueroa[3], D. Pajić[1], Ž. Skoko[1], K. Zadro[1]
[1]Department of Physics, Faculty of Science, University of Zagreb, Zagreb, HR 10000, Croatia; [2]Department of Physics, University of Osijek, Osijek, HR 31000, Croatia; [3]Institute of Materials Research-UNAM, Universitaria Coyoacan, C. P. 04510 Mexico, Mexico

19^{30}-20^{00} **Fundamental aspects of the use of metal hydrides in hydrogen energy and chemical current sources**
Yuriy Solonin
Institute for Problems of Materials Sciences National Academy of Sciences of Ukraine, Ukraine

SYMPOSIUM F: ADVANCED MATERIALS FOR BIOMEDICAL APPLICATIONS

Wednesday, September 5, 2018
Main Conference Hall

Session I: 09^{00}-10^{30}
Chairperson: Feng-Huei Lin

09^{00}-09^{30} **The Preparation of Injectable Angiogenic Bone Cement for Femoral Head Avascular Necrosis**
Feng-Huei Lin
Institute of Biomed Eng & Nanomed., National Health Research Institutes, Taiwan ; Institute of Biomed Eng., National Taiwan University, Taipei, Taiwan

09^{30}-10^{00} **Tseng Gelatin nanoparticles with anti-inflammatory/anti-angiogenesis agent loading for ocular disease treatment**
Ching-Li Tseng
Graduate Institute of Biomedical Materials & Tissue Engineering, College of Biomedical Engineering; Taipei Medical University, Taipei, Taiwan, ROC

10^{00}-10^{15} **High Throughput Generation of Alginate-Gelatin Capsules for Human Osteoblask-like Cells (MG63) long-term cultivation**
Jia-En Yang[1], Yi-Chia Hsieh[1], Ching-Yun Chen[2], Kai-Fa Teo[1], Chun-Hsu Yao[3,4], Cherng-Jyh Ke[1,4]
[1]China Medical University, College of Biopharmaceutical and Food Sciences, Department of Biological Science and Technology, Taichung, Taiwan; [2]National Health Research Institutes, Institute of Biomedical Engineering and Nanomedicine, Miaoli, Taiwan; [3]China Medical University Hospital, Biomaterial Translational Research Center, Taichung, Taiwan; [4]China Medical University, College of Medicine, Department of Biomedical Imaging and Radiological Science, Taichung, Taiwan

10^{15}-10^{30} **Using Continuous Bioreactor System to Cultivate Human Bone-like Tissues for Bone Tissue Engineering**
Ching-Yun Chen[1], Cherng-Jyh Ke[2,3], Jui-Sheng Sun[4,5], Feng-Huei Lin[1,6]
[1]Institute of Biomedical Engineering and Nanomedicine (I-BEN), NHRI, Taiwan; [2]Biomaterials Translational Research Center, China Medical University Hospital, Taiwan; [3]Department of Biological Science and Technology, China Medical University, Taiwan; [4]Department of Orthopedics, College of Medicine, NTU, Taiwan; [5]Department of Orthopedic Surgery, NTUH, Taiwan ; [6]Institute of Biomedical Engineering, College of Medicine and College of Engineering, NTU, Taiwan

Break: 10^{30}-11^{00}

Session II: 11^{00}-12^{15}
Chairperson: Chien-Chung Chen

11^{00}-11^{30} **The self-assembled, microtube array membranes (MTAM) and their applications for cancer translation**
CC Chen[1], CH Chew[1], JK Lai[1], WT Huang[1], PL Wei[2], SH Tu[2], KY Lee[3].
[1]Grad Inst. Biomed Mater & Tissue Eng.; [2]Taipei Medical University, Taiwan

11^{30}-11^{45} **Cornea epithelium reconstruction by a new way to engineer cell sheet**
How Tseng, Chein-Cheng TAI, Yuan-Yi WU, Kun-De Lin
Taipei Medical University,Medical School, Department of Biochemistry and Molecular Cell Biology, Taipei 11031, Taiwan

11^{45}-11^{50}. **Addition of porogens improved the characteristics of biodegradable implants made of poly(ε-caprolactone)/calcium phosphate ceramic composites**
Chang-Chin Wu[1,2], Kai-Chiang Yang[3,4], Feng-Huei Lin[5]
[1]Department of Orthopedics, En Chu Kong Hospital, New Taipei City, Taiwan; [2]Department of Orthopedics, National Taiwan University Hospital, College of Medicine, National Taiwan University, Taipei, Taiwan; [3]Department of Organ Reconstruction, Institute for Frontier Medical Sciences, Kyoto University, Kyoto,

Japan; [4]School of Dental Technology, College of Oral Medicine, Taipei Medical University, Taipei, Taiwan; [5]Ins. of Biomed. Eng., National Taiwan University, Taiwan

11^{50}-11^{55} **The application of hydroxyapatite as the Bletilla striata polysaccharide carrier for sarcopenia treatment**
Ya-Jyun Liang, Jia-Yu Hong, Chun-Han Hou, Feng-Huei Lin
National Taiwan University, Institute of Biomedical Engineering, Taipei, Taiwan; National Taiwan University Hospital, Department of orthopedic surgery, Taipei, Taiwan

11^{55}-12^{00} **Hydroxyapatite/Gelatin Particles Embedding Stromal Cell-derived Factor-1 for Bone Tissue Engineering**
Chih Hsiang Fang[1], Yi Wen Lin[1], Jui Sheng Sun[2], Feng Huei Lin [1,3]
[1]Institute of Biomedical Engineering, College of Medicine and College of Engineering, National Taiwan University, Taipei 100, Taiwan; [2]Department of Orthopedic Surgery, National Taiwan University Hospital, Taiwan; [3]Division of Biomedical Engineering and Nanomedicine Research, National Health Research Institutes, Miaoli 350, Taiwan

12^{00}-12^{05} **A novel multilayer capsule as desensitizing agent for dental hypersensitivity**
Kuo-Hui Chiu[1], Hsiu-Min Chen[1], Yuan-Yu Hsia[1], Ting-Ru Chung[2], Chih-Yu Shu[3], Chia-Yung Lin[4], Cherng-Jyh Ke[1,3]
[1]China Medical University, College of Biopharmaceutical and Food Sciences, Department of Biological Science and Technology, Taichung, Taiwan; [2]China Medical University, College of Medicine, Department of Biomedical Imaging and Radiological Science, Taichung, Taiwan; [3]China Medical University Hospital, Biomaterial Translational Research Center, Taichung, Taiwan; [4]Taichung Hospital, Ministry of Health and Welfare, Department of Dentistry, Taichung, Taiwan

12^{05}-12^{10} **Electrospun Silk Fibroin Composite Scaffold for Tendon Repair**
Yi-You Huang
Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan.

12^{10}-12^{15} **BMP-2 and Insulin delivered from Plasma Synthesis of Carbon-Based Nanocarriers for bone regeneration**
Yi Wen Lin[1], Chih Hsiang Fang[1], Jui Sheng Sun[2], Feng Huei Lin[1,3]
[1]Institute of Biomedical Engineering, College of Medicine and College of Engineering, National Taiwan University, Taipei 100, Taiwan; [2]Department of Orthopedic Surgery, National Taiwan University Hospital, Taiwan; [3]Division of Biomedical Engineering and Nanomedicine Research, National Health Research Institutes, Miaoli 350, Taiwan

SYMPOSIUM G: HYBRID INTERFACE MATERIALS

Wednesday, September 5, 2018
Main Conference Hall

Session I: 15^{00}-16^{45}
Chairperson: Kwang Ho Kim

15^{00}-15^{30} **Vertical Alignment of $BaTiO_3$ Nanoparticles for Enhanced Piezoelectric Performance**
Je Moon YUN[1], Kwang Ho Kim[1,2]
[1]Global Frontier R&D Center for Hybrid Interface Materials (GFHIM), Republic of Korea; [2]School of Materials Science and Engineering, Pusan National University, Republic of Korea.

15^{30}-15^{45} **High performance photodetector using graphene barristor**
Byoung Hun Lee
Center for emerging electronic devices and systems (CEEDS), Korea; School of Materials Science and Engineering, Gwangju Institute of Science and Technology(GIST), Republic of Korea.

15^{45}-16^{00} **High performance Al alloys development by simultaneous increasing strength and its trade-off properties**
Seung Zeon Han[1], Kwang Ho Kim[2,3]
[1]Computational materials department, Korea Institute of Materials Science (KIMS), Korea; [2]Global Frontier R&D Center for Hybrid Interface Materials (GFHIM), Republic of Korea; [3]School of Materials Science and Engineering, Pusan National

16^{00}-16^{15} **Improving the mechanical properties and wettability of metals by control interfacial characteristics: Study based on first-principles**
Eun-Ae Choi*
Computational materials department, Korea Institute of Materials Science (KIMS), Korea

16^{15}-16^{30} **Hybrid Materials Imaging Initiative: Past, Present and Future**
Seungbum Hong
Dept. of Materials Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST), Korea

16^{30}-16^{45} **Circular Double-Patterning Lithography Using a Block-Copolymer Template and Atomic Layer Deposition**
Se-Hun Kwon, Kyung Mox Cho
School of Materials Science and Engineering, Pusan National University, Korea

Break: 16^{45}-17^{15}

Session II: 17^{15}-18^{45}
Chairperson: Kyung Ho Shin

17^{15}-17^{45} **Various Nanoarchitectural Hybrid Materials for High-performance Supercapacitors**
Kyung Ho Shin[1], Kwang Ho Kim[2,3], Je Moon YUN[2]
[1]Technology Business Division, Korea Institute of Science and Technology (KIST), Republic of Korea; [2]Global Frontier R&D Center for Hybrid Interface Materials (GFHIM), Republic of Korea; [3]School of Materials Science and Engineering, Pusan National University, Republic of Korea

17^{45}-18^{00} **High-Performance Hybrid Energy Storages Enabling Ultrafast Charging and High Energy Density along with Robust Cycle Life**
Jeung Ku Kang
Dept. of KAIST, 373-1 Guseong Dong, Yuseong Gu, Daejeon (305-701), Republic of Korea

18^{00}-18^{15} **Thermal management by electrochemical process: Thermoelectric and radiative cooling materials**
Jae-Hong Lim
Department of Electrochemistry, Korea Institute of Material Science, Korea

18^{15}-18^{30} **Solution plasma synthesized carbon-supported hybrid catalysts for energy converting systems**
Oi Lun (Helena) Li
School of Materials Science and Engineering, Pusan National University, Korea

18^{30}-18^{45} **3-Dimensional Hybrid Nanostructures: Novel Fabrication Strategies and Applications**
Yeon Sik Jung
Dept. of Materials Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST), Korea

FIRST ORAL SESSION

Thursday, September 6, 2018
Main Conference Hall

Session I: 09^{00}-10^{45}
Chairpersons: Branko Z. Matović and Zoran Jovanović

09^{00}-09^{15} **Anion-Mediated Photophysical Behaviour in a C_{60} Fullerene [3] Rotaxane Shuttle**
Timothy A. Barendt[1], Ilija Rašović[2], Maria A. Lebedeva[2], George A. Farrow[3], Alexander Auty[3], Dimitri Chekulaev[3], Igor V. Sazanovich[4], Julia A. Weinstein[3], Kyriakos Porfyrakis[2], Paul D. Beer[1]

[1]University of Oxford, Chemistry Research Laboratory, Department of Chemistry, Oxford, United Kingdom; [2]University of Oxford, Department of Materials, Oxford, United Kingdom; [3]University of Sheffield, Department of Chemistry, Sheffield, United Kingdom; [4]Research Complex at Harwell, Laser for Science Facility, Rutherford Appleton Laboratory, Didcot, United Kingdom

09^{15}-09^{30} **Synthesis and densification of monolithic nanocrystalline SiC ceramics**
Branko Z Matovic
Belgrade University, Institute for nuclear sciences Vinca, CEXTREME LAB, Serbia

09^{30}-09^{45} **First principles investigations of structural, electronic, elastic and mechanical properties of barium sulfide from standard to extreme high pressures**
D. Zagorac[1,2], J. Zagorac[1,2], D. Jordanov[1], M. Rosić[1], M. Čebela[1], J. Luković[1,2], B. Matović[1,2]
[1]Institute of Nuclear Sciences Vinča, Materials Science Laboratory, Belgrade University, Belgrade, Serbia; [2]Center for synthesis, processing and characterization of materials for application in the extreme conditions-CextremeLab, Belgrade, Serbia

09^{45}-10^{00} **Tuning of the stoichiometry of PLD grown SrO thin films via fluency optimization**
Zoran Jovanović[1,2], Matjaž Spreitzer[1], Anže Založnik[3], Danilo Suvorov[1]
[1]Advanced Materials Department, Jožef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia; [2]Laboratory of Physics, Vinča Institute of Nuclear Sciences, University of Belgrade, P.O. Box 522, 11001 Belgrade, Serbia; [3]Department of Low and Intermediate Energy Physics, Jožef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia

10^{00}-10^{15} **Conduction in calcium containing $LaAlO_3$ solid solutions prepared via ball milling**
Martin Fabián[1], Aleksey Yaremchenko[2], Hristo Kolev[3], Mária Kaňuchová[4], Jaroslav Briančin[1], Martin Fabián
[1]Institute of Geotechnics, Slovak Academy of Sciences, 040 01 Kosice, Slovak Republic; [2]Aveiro Institute of Materials, Department of Materials and Ceramic Engineering, University of Aveiro, 3810-193 Aveiro, Portugal; [3]Institute of Catalysis, Bulgarian Academy of Sciences, Acad. G. Bonchev St., Bldg. 11, 1113 Sofia, Bulgaria; [4]Technical University of Košice, Letná 9, 04200 Košice, Slovakia

10^{15}-10^{30} **Properties of Composite Parts Manufactured with help of LATP Technology**
Samoil Samak[1], Svetlana Risteska[2], Dijana Cvetkoska[1], Julija Gogu[2], Stefanija Acevska[1]
[1]Mikrosam A.D.
[2]Institute for Advanced Composites and Robotics (IACR) Prilep, Macedonia

10^{30}-10^{45} **The alternative way of obtaining DMSO and DMF ruthenium nitrosyl complexes**
Rechitskaya Elena, Makhinya Alexander, Mikhailov Artem
Novosibirsk State University, faculty of natural sciences, Novosibirsk, RU; Siberian Branch of the Russian Academy of Sciences, Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia

Break: 10^{45}-11^{15}

Session II: 11^{15}-13^{15}
Chairpersons: Gerda Rogl and Remon Pop-Iliev

11^{15}-11^{30} **High pressure torsion - a rapid tool for the production of high ZT skutterudites**
Ramakrishnan Anbalagan[1], Ernst Bauer[2], Jiri Bursik[3], Andriy Grytsiv[4], Gerda Rogl[4], Peter Rogl[4], Michael Zehetbauer[5]
[1]Institute of Atomic and Molecular Sciences, Taipei City, Taiwan, Province of China; [2]Institute of Solid State Physics, TU Wien, Vienna, Austria; [3]Academy of Sciences of the Czech Republic, Brno, Czech Republic; [4]Christian Doppler Laboratory for Thermoelectricity, TU Wien, Vienna, Austria; [5]Faculty of Physics, University of Vienna, Vienna, Austria

11^{30}-11^{45} **Advanced concepts for processing integral-skin multilayered cellular polymeric composites**
Remon Pop-Iliev
UOIT- University of Ontario Institute of Technology Faculty of Engineering & Applied Science Canada, Canada

11^{45}-12^{00} **Interaction between flow and faceted crystal growth**
Mihaela Stefan-Kharicha, Abdellah Kharicha, Andreas Ludwig, Meghuai Wu
Montanuniversitaet Leoben, Department Metallurgy, Simulation and Modelling Metallurgical Processess, Leoben, Austria

12^{00}-12^{15} **Tool geometry effect on microstructure and properties of friction stir welded 5083 and 7075 aluminium alloys**
Izabela Kalemba-Rec[1], Mateusz Kopyściański[1], Damian Miara[2], Krzysztof Krasnowski[2]
[1]Faculty of Metal Engineering and Industrial Computer Science, AGH University of Science and Technology, Av. Mickiewicza 30, 30-059 Krakow, Poland; [2]Instytut Spawalnictwa (Institute of Welding), 16-18 Bł. Czesława Str., 44-100 Gliwice, Poland

12^{15}-12^{30} **Development of Highly Piezoelectric Coaxial Fiber for Energy Harvest by Using Thermal Drawing and Post-Process Towers**
Thinh Tam Luong, Anh Tuan Luu, Quang Van Duong, Thu Thi Nguyen, and Seung Tae Choi
School of Mechanical Engineering, Chung-Ang University, Republic of Korea

12^{30}-12^{45} **Fabrication and application of polyvinylidene fluoride (PVDF) fabric sensors for in situ health monitoring of fibrous composite structures**
Seung-Hwan Chang* and Kyung-Chae Jung
Chung-Ang University, School of Mechanical Engineering, Seoul, Republic of Korea

12^{45}-13^{00} **Characterization of the TiNi surface after modified by electron beam and its effect on the morphology and cytoskeleton of mesenchymal stem cells**

Ekaterina Yu. Gudimova[1], Ludmila L. Meisner[1,3], Evgenii V. Yakovlev[2], Olga I. Shabalina[1,3]
[1]Institute of Strength Physics and Materials Science SB RAS, Tomsk, Russia; [2]Institute of High Current Electronics SB RAS, Tomsk, Russia; [3]National Research Tomsk State University, Tomsk, Russia

13^{00}-13^{15} **Advanced superionic conductors**
Alexandra V. Andreeva, Alexandr L. Despotuli
Institute of Microelectronics Technology and High Purity Materials Russian Academy of Science, Chernogolovka, Moscow Region, 142432, Russia

SECOND ORAL SESSION

Small Conference Hall

Session I: 09^{00}-10^{45}
Chairpersons: Rosalía Cid Barreno and Pozhhan Mokhtari

09^{00}-09^{15} **MBE growth and characterization of topological isolators based on semimetal HgCdTe**
Jacub Grendysa, Grzegorz Tomaka, Pawel Śliż, Charles R. Becker, Malgorzata Trzyna, Renata Wojnarowsk-Nowaka, Ewa Bobko, Eugen M. Sheregii
University of Rzeszow, Center of Microelectronics and Nanotechnology, Rzeszow, Poland

09^{15}-09^{30} **Metal-matrix composites reinforced by fullerenes**
O.Sizonenko[1], S.Prokhorenko[2], A.Torpakov[1], D.Żak[2], Y.Lypian[1], R. Wojnarowska-Nowak[2], J.Polit[2], Eugen M.Sheregii[2]
[1]Institute of Pulse Processes and Technologies National Academy of Science of Ukraine, Department of Disperse Systems Pulse Treatment, Mykolaiv, Ukraine; [2]University of Rzeszow, Center of Microelectronics and Nanotechnology, Rzeszow, Poland

09^{30}-09^{45} **Eco-technology: the application of calcined waste mine overburdun clay materials as cement substitution**
Pozhhan Mokhtari, Sorour Semsari Parapari, Noyan Ozkan, Mehmet Ali Gulgun
Department of Material Sciences and Nano-Engineering, Sabanci University, Tuzla, Istanbul, Turkey

09^{45}-10^{00} **Fe_3O_4-based heterostructures for semiconductor spintronics**
Iciar Arnay, Juan Rubio-Zuazo, German R. Castro
ICMM-CSIC (Instituto de Ciencia de Materiales de Madrid), Ciudad Universitaria de Cantoblanco, 28049 Madrid, Spain; BM25-SpLine, ESRF (European Synchrotron Radiation Facility), 71 Avenue Martyrs, 38000 Grenoble, France

10^{00}-10^{15} **Epitaxial $Fe_3O_4/La_{0.7}Ca_{0.3}MnO_3$ thin films heterostructures for spintronic devices**
Rosalía Cid Barreno, Juan Rubio Zuazo, Eduardo Salas Colera, Germán Rafael Castro
SpLine CRG BM25 Beamline at the European Synchrotron Radiation Facility, 3800 Grenoble, France; Instituto de Ciencia de Materiales de Madrid, Consejo Superior de Investigaciones Científicas (ICMM-CSIC), 28049 Madrid, Spain

10^{15}-10^{30} **The new integrated process flow sheet for production of Fe-NiAl composite microgranules for the additive technology**.
Vitalii V. Sanin[1] , Mikhail R. Filonov[2], Evgenii A. Levashov[3], Yurii S. Pogozhev[3], Vladimir I. Yukhvid [4], Denis M. Ikornikov[4]
[1]NUST «MISIS», Scientific-educational center "Nanomaterials and nanotechnologies", Moscow, Russia; [2]NUST «MISIS», Department of Science and innovation, Moscow, Russia; [3]NUST «MISIS», Division of Powder Metallurgy and Functional Coatings, Moscow, Russia; [4]ISMAN Department SHS Melts and Cast Materials, Chernogolovka, Russia

10^{30}-10^{45} **Damage prediction of composite notched plate under traction and torsion behavior**
Fouzia Arbi Chaht, Mohamed Mokhtari, Habib Benzaama
Laboratoire Mécanique Physique des Matériaux, Department of Mechanical Engineering, Polytechnique of Oran, Oran31000, Algeria; Laboratoire Mécanique Physique des Matériaux (LMPM), Department of Mechanical Engineering, University of Sidi Bel Abbes, SidiBel Abbes 22000, Algeria; Laboratoire de Biomécanique Appliquée et de Biomatériaux, Ecole Nationale Polytechnique of Oran, Oran, Algeria

Break: 10^{45}-11^{15}

Session II: 11^{15}-13^{30}
Chairpersons: Smilja Markovic and Dragana Jugovic

11^{15}-11^{30} **Structural and electrochemical study of lithium iron (II) pyrophosphate**
Dragana Jugović[1], Miloš Milović[1], Miodrag Mitrić[2], Valentin Ivanovski[2], Srečo Škapin[3], Dragan Uskoković[1]
[1]Institute of Technical Sciences of SASA, Belgrade, Serbia; [2]Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia; [3]Jožef Štefan Institute, Jamova 39, SI-1000 Ljubljana, Slovenia

11^{30}-11^{45} **$Li_4Ti_5O_{12}$. Promissing anode material for Li-ion batteries synthesized via mechanochemically assised route**
Martin Fabián[1], Markéta Žukalová[2], Ladislav Kavan[2], Vladimír Šepelák[1,], Mamoru Senna[3]

[1]Institute of Geotechnics, Slovak Academy of Sciences, 040 01 Košice, Slovak Republic; [2]J. Heyrovsky Institute of Physical Chemistry, Acad. Sci. Czech Republic, 182 23 Praha, Czech Republic; [3]Faculty of Science and Technology, Keio University, 223-8522, Yokohama, Japan

11^{45}-12^{00} **Microstructure, conductivity and mechanical properties of calcia stabilized zirconia solid electrolytes obtained from nanosized precursor and composite rGO doped precursor powders**
Olga Yu. Kurapova, Oleg V. Glumov, Ivan V. Lomakin, Vladimir G. Konakov
Saint Petersburg State University, Universitetskya nab, 7/9, St. Petersburg 199034, Russia

12^{00}-12^{15} **Impedance spectroscopy and microstructure study of ZrO_2-Y_2O_3 ceramics obtained from nanocomposite precursor ZrO_2-Y_2O_3-rGO (reduced graphene oxide)**
Artyom G. Glukharev, Olga Y. Kurapova, Oleg V. Glumov, Vladimir G. Konakov
Saint-Petersburg State University, Institute of chemistry, Department of physical chemistry, Saint-Petersburg, Russia; Science and Technical center "Glass and ceramics", Saint-Petersburg, Russia

12^{15}-12^{30} **Thermochemistry aspects of mechanochemistry activation of the flotation processes**
Milan M. Petrov, Marina S. Blagojev, LJubisa D. Andric, Dragan S. Radulovic
Institute for Technology of Nuclear and other Raw Materials, Belgrade, Serbia

12^{30}-12^{45} **CTAB- and Pluronic F-127-assisted microwave processing of ZnO particles with modified morphology and optical properties**
Smilja Marković[1], Ivana Stojković-Simatović[2], Sanita Ahmetović[2], Ljiljana Veselinović[1], Stevan Stojadinović[3], Vladislav Rac[4], Srečo Davor Škapin[5], Dragan Uskoković[1]
[1]Institute of Technical Sciences of SASA, Knez Mihailova 35/IV, 11000 Belgrade, Serbia; [2]University of Belgrade, Faculty of Physical Chemistry, Belgrade, Serbia; [3]University of Belgrade, Faculty of Physics, Belgrade, Serbia; [4]University of Belgrade, Faculty of Agriculture, Belgrade, Serbia; [5]Jožef Stefan Institute, Ljubljana, Slovenia

12^{45}-13^{00} **Determination of structure of heterometallic cage complexes with NMR spectroscopy**
Ilia V. Eltsov, Mikhail A. Vershinin, Aleksey B. Burdukov
Novosibirsk State University, Novosibirsk, Russia

13^{00}-13^{15} **Synthesis of tribological WS_2 powder from oxide precursor**
Nataša Gajić[1], Željko Kamberović[2], Zoran Anđić[3], Jarmila Trpčevska[4], Beatrice Plešingerova[4], Jovana Đokić[3]
[1]University of Belgrade, Innovation Center of the Faculty of Technology and Metallurgy in Belgrade Ltd.,Belgrade, Serbia; [2]University of Belgrade, Faculty of

Technology and Metallurgy, Belgrade, Serbia; [3]University of Belgrade, Innovation center of Faculty of Chemistry Ltd., Belgrade, Serbia; [4]Technical University of Košice, Faculty of Materials, Metallurgy and Recycling, Košice, Slovakia

13^{15}-13^{30} **Design miniaturized tensile testing machine**
Fabler Hamid
HITEC University Taxila Cantt. , Pakistan

THIRD ORAL SESSION

Friday, September 7, 2018
Main Conference Hall

Session I: 9^{00}-10^{45}
Chairpersons: Nenad L. Ignjatović and Milena Špírková

9^{00}-9^{15} **Electrodes Modified with Nanoparticles Combined with Tyrosinase (A Multi-Potent Enzyme) for Highly Sensitive Environmental Monitoring and Medical Diagnostics**
Judith Rishpon, Michal Mossberg
Tel Aviv University, Life Science, Biotechnology, Tel-Aviv, Israel

9^{15}-9^{30} **CaP that Kills: The Intrinsic Antimicrobial Effect of Calcium Phosphate Nanoparticles**
Victoria Wu
Advanced Materials and Nanobiotechnology Laboratory, Garage & Backyard @ Woodbridge, Irvine, CA 92604, USA

9^{30}-9^{45} **Cell-selective toxicity of hydroxyapatite-chitosan oligosaccharide lactate particles loaded with a steroid cancer inhibitor**
Nenad Ignjatović[1], Marija Sakač[2], Ivana Kuzminac[2], Vesna Kojić[3], Smilja Marković[1], Victoria Wu[4], Vuk Uskoković[4], Dragan Uskoković[1]
[1]Institute of Technical Sciences of the Serbian Academy of Science and Arts, Knez Mihailova 35/IV, P.O. Box 377, 11000 Belgrade, Serbia; [2]University of Novi Sad, Faculty of Sciences, Department of Chemistry, Biochemistry and Environmental Protection, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia; [3]University of Novi Sad, Faculty of Medicine, Oncology Institute of Vojvodina, Put Dr Goldmana 4, Sremska Kamenica 21204, Serbia; [4]Advanced Materials and Nanobiotechnology Laboratory, Department of Bioengineering, University of Illinois, 851 South Morgan Street, Chicago, IL 60607-7052, USA

9^{45}-10^{00} **New agent for no-chemotherapy of socially significant diseases: structure and properties of nitrosile [1Fe -2S] ferredoxins mimetics – nitric oxide donors**
Nataliya A. Sanina

Russian Academy of Sciences Institute of Problems of Chemical Physics, 1, Acad. Semenov Av., 142432, Chernogolovka, Russia

10^{00}-10^{15} **Bias voltage effect in the development of new beta/alpha-Ti-Nb-Zr biocompatible coating with low Young's modulus and high toughness for medical applications**

Emilio Frutos[1], Miroslav Karlík[2,3], José Antonio Jiménez[4], Tomas Polcar[1,5]
[1]Department of Control Engineering, Faculty of Electrical Engineering, Czech Technical University in Prague, Technická 2, Prague, Czech Republic; [2]Department of Materials, Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in Prague, Trojanova 13, 120 00 Prague, Czech Republic; [3]Charles University, Department of Physics of Materials, Ke Karlovu 5, 121 16 Prague, Czech Republic; [4]Centro Nacional de Investigaciones Metalúrgicas (CENIM-CSIC), Avd. Gregorio del Amo no 8, 28040 Madrid, Spain; [5]nCATS, University of Southampton, University Road, Southampton SO17 1BJ, United Kingdom

10^{15}-10^{30} **Correlation methods of analysis in studies of mechanochemical reactions**

Dmitriy S. Rybin, Grigoriy N. Konygin
The Udmurt Federal Research Center of the Ural Branch of the Russian Academy of Sciences, Physical-Technical Institute, Department of Physics and Chemistry of Nanomaterials, Laboratory of Mechanoactivation of Organic Systems, Izhevsk 426001, Russia

10^{30}-10^{45} **Waterborne polycarbonate-based polyurethane films**

Milena Špírková, Jiří Hodan, Jana Kredatusová and Luďka Machová
Institute of Macromolecular Chemistry AS CR, Heyrovského nám. 2, 162 06 Prague 6, Czech Republic

Break: 10^{45}-11^{15}

Session II: 11^{15}-13^{15}
Chairpersons: Yoshio Kobayashi and Natalia Kamanina

11^{15}-11^{30} **Fabrication of multilayered gold/silica/gadolinium compound core-shell particles and their properties of X-ray imaging and MRI**

Yuta Shindo, Tomoya Inose, Takahiro Oikawa, Masayuki Tokunaga, Yohsuke Kubota, Kohsuke Gonda, Yoshio Kobayashi
Ibaraki University, College of Engineering, Department of Materials Science and Engineering, Hitachi, Japan; Tohoku University, Graduate School of Medicine, Department of Gastroenterological Surgery, Sendai, Japan; Tohoku University, Graduate School of Medicine, Department of Medical Physics, Sendai, Japan

11^{30}-11^{45} **Synthesis of highly porous monolithic 3D nanomaterials based on aluminum oxides: development of methods for their functionalization using structural and chemical modification**

Anatole N. Khodan[1], Alexander G. Martynov[1], Andrei V. Bykov[5], Yulia G. Gorbunova[1], Aslan Yu. Tsivadze[1], Mohamed R. Amamra[2], Andrei V Kanaev[2], Alexander E. Baranchikov[3], Vladimir K. Ivanov[3], Sergey P. Kopitsa[4], Andrei A. Konovko[5], Khursand E. Yorov[6]
[1]A.N. Frumkin Institute of Physical Chemistry and Electrochemistry RAS (IPCE RAS) Moscow, Russia; [2]Laboratoire des Sciences des Procédés et des Matériaux CNRS, Université Paris 13, Villetaneuse, France; [3]N.S. Kurnakov Institute of General and Inorganic Chemistry RAS (IGIC RAS) Moscow, Russia; [4]B.P. Konstantinov Petersburg Nuclear Physics Institute, National Research Center ""Kurchatov Institute"", Gatchina, Russia; [5]M.V. Lomonosov Moscow State University, Physics Faculty, Chair of General Physics and Wave Processes, Moscow, Russia; [6]M.V. Lomonosov Moscow State University, Department of Materials Science, Moscow, Russia

11^{45}-12^{00} **Synthesis of antimicrobial cobalt ferrite/gold nanocomposites**

Sonja Jovanovic[1,2] Lea Udovc[1] , Jelena Rmus[2], Matjaz Spreitzer[1], Marija Vukomanovic[1]
[1]Institute Jožef Stefan, Advanced Materials Department, Ljubljana, Slovenia; [2]University of Belgrade, Vinca Institute of Nuclear Sciences, Laboratory of Physics, Belgrade, Serbia

12^{00}-12^{15} **Modeling transport through an environment crowded by obstacles of different shapes and sizes**

Dijana Dujak[1], Aleksandar Karač[2], Ivana Lončarević[3], Ljuba Budinski-Petković[3], Zorica M. Jakšić[4], Slobodan B.Vrhovac[4]
[1]University of Zenica, Faculty of Metallurgy and Materials, Zenica, Bosnia and Herzegovina, [2]University of Zenica, Polytechnic faculty, Zenica, Bosnia and Herzegovina, [3]University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia, [4]University of Belgrade, Institute of Physics Belgrade, Scientific Computing Laboratory, Center for the Study of Complex Systems, Belgrade, Serbia

12^{15}-12^{30} **Amorphous FeSiB ribbons crystallized by using laser interference treatment**

Jan Kusinski[1], Olaf Czyz[1], Agnieszka Radziszewska[1], Roman Ostrowski[2], Antoni Rycyk[2], Jarosław Kanak[3], Małgorzata Kac[4]
[1]AGH – University of Science and Technology, Faculty of Metals Engineering and Industrial Computer Science, Department of Surface Engineering and Materials Characterisation, 30 Mickiewicza, 30-059 Krakow, Poland; [2]Military University of Technology, Institute of Optoelectronics, Warsaw, 2 Gen. S. Kaliskiego, 00-908 Warsaw, Poland; [3]AGH – University of Science and Technology, Faculty of Computer Science, Electronics and Telecommunications, Department of Electronics, 30 Mickiewicza, 30-059 Krakow, Poland; [4]Institute of Nuclear Physics Polish Academy of Sciences, ul. Radzikowskiego 152, 31-342 Krakow, Poland

12^{30}-12^{45} **Superconductivity in Novel 2D Materials**
Jelena Pešić, Andrijana Šolajić, Radoš Gajić
University of Belgrade, Institute of Physics Belgrade, Department for Solid State Physics and New Materials, Graphene Laboratory, Pregrevica 118, 11080, Belgrade, Serbia

12^{45}-13^{00} **Bulk Ceramic Matrix Composites manufactured by Field Assisted Sintering Technology**
Andrey V. Ragulya
Frantsevich Institute for Problems in Materials Science NAS of Ukraine, Kiev, Ukraine

13^{00}-13^{15} **Nanotechnology approach in optical materials modification**
Natalia Vladimirovna Kamanina
Lab for Photophysics of media with nanoobjects Vavilov State Optical Institute, Kadetskaya Liniya V.O., dom.5, korpus 2,St.- Petersburg, 199053, Russia
St.-Petersburg Electrotechnical University ("LETI"), Russia

FOURTH ORAL SESSION

Small Conference Hall

Session I: 9^{00}-10^{45}
Chairpersons: Aleksandr Kryshtal and Evgeny Yurievich Filatov

9^{00}-9^{15} **In Situ Aberration-Corrected STEM of Metal-Induced Crystallization: The Case of the Ag/Ge Couple**
Aleksandr Kryshtal[1], Sergiy Bogatyrenko[2], Alexey Minenkov[2], Paulo Ferreira[3,4,5]
[1]AGH University of Science and Technology, Faculty of Metals Engineering and Industrial Computer Science & International Centre of Electron Microscopy for Material Science, Krakow, Poland; [2]Karazin National University, Department of Physics and Technology, Kharkiv, Ukraine; [3]Iberian International Institute of Nanotechnology, Braga, Portugal; [4]The University of Texas at Austin, Materials Science & Engineering Program, Austin, USA; [5]University of Lisbon, Instituto Superior Técnico, Mechanical Engineering Department and IDMEC, Lisbon, Portugal

9^{15}-9^{30} **Microstructure characterization of a nanostructured austenitic steel annealed under high hydrostatic pressure**
A.T. Krawczynska[1], S. Gierlotka[2], P. Suchecki[1], D. Setman[3], B. Adamczyk-Cieslak[1], M. Gloc[1], W. Chrominski[1], M. Lewandowska[1], M. Zehetbauer [3]
[1]Warsaw University of Technology, Faculty of Materials Science and Engineering, Warsaw, Poland; [2]Institute of High Pressure Physics UNIPRESS, Warsaw, Poland
[3]University of Vienna, Faculty of Physics, Vienna, Austria

9^{30}-9^{45} **Oxalatopalladates of Co, Ni and Zn as precursors of nanoalloys: from thermal properties to supported catalysts**
Andrey Vladimirovich Zadesenets, Ilia Aleksandrovich Garkul, Sergey Vasilevich Korenev
Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russian Federation
Novosibirsk State University, Novosibirsk, Russia

9^{45}-10^{00} **Double complex salts as precursors of bimetallic nanoalloys**
Evgeny Yurievich Filatov, Andrey Vladimirovich Zadesenets, Sergey Vasilievich Korenev
Nikolaev Institute of Inorganic Chemistry of Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia; Novosibirsk State University, Novosibirsk, Russia

10^{00}-10^{15} **Ni-Pd/Al_2O_3 catalyst in the form of foam for dry methane reforming**
Vesna Nikolic[1], Zoran Andjic[2], Dragana Radovanovic[1], Jelena Uljarevic[1], Maja Stevanovic[1]
[1]University of Belgrade, Innovation Center of the Faculty of Technology and Metallurgy in Belgrade Ltd, Belgrade, Serbia; [2]University of Belgrade, Innovation Center of the Faculty of Chemistry, Belgrade, Serbia

10^{15}-10^{30} **Citric acid production by Yarrowia lipolytica yeast**
Svetlana V. Kamzolova, Igor G. Morgunov
G.K. Skryabin Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Sciences, Pushchino, Moscow region, 142290 Russia

10^{30}-10^{45} **Rheological aspects of formation thin smooth nanostructured ceramic films for printed electronics**
Saide Umerova, Andrey Ragulya, Olha Kovalenko
Frantsevich Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

Break: 10^{45}-11^{15}

Session II: 11^{15}-13^{15}
Chairpersons: Jan Grym and Stefan Stanciu

11^{15}-11^{30} **Interfaces and mechanisms: a Molecular Dynamics approach to fine tunning manipulation of interfaces**
Alberto Fraile[1], Hakan Yavas[1], Emilio Frutos[1], Teodor Huminiuc[2], Tomas Polcar[1,2]
[1]Department of Control Engineering. Czech Technical University, Czech Republic; [2]Engineering Science, Faculty of Engineering and the Environment. University of Southampton, United Kingdom

11^{30}-11^{45} **Properties of ZnO Nanorods Grown in Continuous-Flow Reactors**

Jan Grym, Roman Yatskiv, Hana Faitová, Šárka Kučerová, Nikola Bašinová, Ondřej Černohorský, Stanislav Tiagulskyi, David Roesel, Jan Vaniš
Institute of Photonics and Electronics of the CAS, Prague, Czech Republic

11^{45}-12^{00} **The use of layered nanomaterials in composites with metals and their compounds**
Ekaterina D. Grayfer, Mariia N. Kozlova, Sofya B. Artemkina, Pavel A. Poltarak, Anastasiia A. Poltarak, Elena E. Plotnikova, Vladimir E. Fedorov
Nikolaev Institute of Inorganic Chemistry (NIIC) of the Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia; Novosibirsk State University, Novosibirsk, Russia

12^{00}-12^{15} **Effect of Precipitates on Deformation Nanostructuring and Strengthening of Aluminum Alloys**
Mikhail V. Markushev, Stanislav V. Krymskiy, Elena V. Avtokratova and Oleg Sh. Sitdikov
Institute for Metals Superplasticity Problems Russian Academy of Sciences, Ufa, Russia

12^{15}-12^{30} **Dielectric Behaviour of Polyimide/Silica based Nanocomposites at Low Temperatures**
Marius Andrei OLARIU, Arcire ALEXANDRU, Elena HAMCIUC
Gh. Asachi" Technical University, Electrical Engineering Faculty, B-dul D. Mangeron 67, Iasi-700050, Romania; Petru Poni" Institute of Macromolecular Chemistry, Aleea Gr. Ghica Voda 41A, 700487 Iasi, Romania

12^{30}-12^{45} **In-depth characterization of nanostructured materials with correlative far-field near-field microscopy**
Stefan G. Stanciu, Denis E. Tranca, Radu Hristu, Alina Holban, George A. Stanciu
University Politehnica of Bucharest, Center for Microscopy-Microanalysis and Information Processing, Bucharest, Romania

12^{45}-13^{00} **Optimizing mechanical properties and manufacturing of biodegradable polylactic acid (PLLA)/ bioactive glass (BG) composite screws for orthopedic applications**
Amir Shafaat, Emad Hosseini, Anousheh Zargar Kharazi
Arak university of Technology, Faculty of Mechanical Engineering, Department of Mechanical Engineering, Arak, Iran, Islamic Republic of; Faculty of Biomaterials, Nano technology and Tissue engineering, School of Advanced Technology in medicine, Isfahan University of Medical Sciences, Isfahan, Iran

13^{00}-13^{15} **The term "nanoionics" means here a fast ion transport (FIT)**
Alexandr L. Despotuli, Alexandra V. Andreeva
Institute of Microelectronics Technology and High Purity Materials Russian Academy of Science, Chernogolovka, Moscow Region, 142432, Russia

POSTER SESSION I

Tuesday, September 4, 2018, 20^{00}-22^{00}

SYMPOSIUM A: ADVANCED METHODS IN SYNTHESIS AND PROCESSING OF MATERIALS

P.S.A.1. **Plasma Assisted Strategies for Advanced Synthesis and Processing of Materials**
C. Côté[1], G.R. Bigras[2], R. Porter[1], S. Wolfe[1], M.Ionescu[3], D. Mantovani[4], Stafford[2], A. Sarkissian[1]
[1]Plasmionique Inc, Varennes, QC, Canada; [2]University of Montreal, QC, Canada; [3]National Research, Council, London, ON, Canada, [4]Biomaterials Engineering Unit, Saint-François d'Assise Hospital, Laval University, QC, Canada

P.S.A.2. **Synthesis of TiO_2 -WO_3 composite nanofibers by electrospinning for application in photocatalysis and fuel cells**
Vincent Otieno Odhiambo, Orsolya Kéri, Imre Miklós Szilágyi
Department of Inorganic and Analytical Chemistry, Budapest University of Technology and Economics, Hungary

P.S.A.3. **Microstructure development of the Cu-Ti-TiB_2 composite obtained by laser sintering**
J. Stašić, D. Božić
Centre of Excellence-CextremeLab, Institute of Nuclear Sciences "Vinča", University of Belgrade, Mike Petrovića Alasa 12-14, PO Box 522, 11001 Belgrade, Serbia

P.S.A.4. **Anomalous electron pulse annealing in Ti implanted GaP**
Zbigniew Werner[1], Marek Barlak[1], Alexey Markov[2], Dmitry Proskurovsky[2], René Heller[3]
[1]National Centre for Nuclear Research, Otwock, Poland; [2]High Current Electronics, Institute, Tomsk, Russia; [3]Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany

P.S.A.5. **The effect of nitrogen ion implantation on the properties of WC-Co composites used in wood-based materials machining**
Jacek Wilkowski[1], Marek Barlak[2], Roman Böttger[3], Zbigniew Werner[2], Joanna Wachowicz[1], Paweł Czarniak[1]
[1]Warsaw University of Life Sciences - SGGW, Faculty of Wood Technology, Department of Mechanical Processing of Wood, Warsaw, Poland; [2]National Centre for Nuclear Research Świerk - NCBJ, Plasma and Ion Technology Division (FM2), Otwock, Poland, [3]Helmholtz-Zentrum Dresden-Rossendorf, Institute of Ion Beam Physics and Materials Research, Ion Beam Center, Dresden, Germany

P.S.A.6. **Shungite - a Russian Mineral: Possible Application as a Microwave Absorber**
Nina Obradović[1], Mihajlo Gigov[2], Aleksandar Đorđević[3], Frank Kern[4], Svetlana Dmitrović[5], Branko Matović[5], Antonije Đorđević[6,7], Vladimir Pavlović[1]
[1]Institute of Technical Sciences of SASA, Knez Mihailova 35/IV, 11000 Belgrade, Serbia; [2]Mining Institute Ltd., Batajnički put 2, 11080 Belgrade, Serbia; [3]Faculty of Science, Department of Chemistry, Biochemistry and Environmental Protection, University of Novi Sad, Trg Dositeja Obradovica 3, 21000 Novi Sad, Serbia; [4]Universität Stuttgart, Institut für Fertigungstechnologie keramischer Bauteile (IFKB), D- 70567 Stuttgart, Germany; [5]University of Belgrade, Vinča Institute of Nuclear Sciences, Mike Petrovića Alasa 12-14, 11000 Belgrade, Serbia; [6]School of Electrical Engineering, University of Belgrade, Bulevar kralja Aleksandra 73, 11000 Belgrade, Serbia; [7]Serbian Academy of Sciences and Arts, Knez Mihailova 35, 11000 Belgrade, Serbia

P.S.A.7. **Sintering of alumina doped with different oxides, followed by sensitive dilatometer**
Suzana Filipović[1], Nina Obradović[1], Smilja Marković[1], Antonije Đorđević[2,3], Aleksandra Dapčević[4], Jelena Rogan[4], Vladimir Pavlović[4]
[1]Institute of Technical Sciences of SASA, Knez Mihailova 35/IV, 11000 Belgrade Serbia; [2]School of Electrical Engineering, University of Belgrade, Bulevar kralja Aleksandra 73, 11000 Belgrade, Serbia; [3]Serbian Academy of Sciences and Arts, Knez Mihailova 35, 11000 Belgrade, Serbia; [4]Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11120 Belgrade, Serbia
"

P.S.A.8. **The influence of structural changes on the magnetic properties of the 10% Fe and 90% BaTiO3 powder**
Dejan S. Vujičić, Siniša S. Ranđić, Slobodan R. Đukić, Branka A. Jordović
University of Kragujevac, Faculty of Technical Sciences, Čačak, Serbia

P.S.A.9. **$Ni_{1-x}Mo_x$ dispersed alloys: synthesis and catalytic properties in 1,2-dichloroethane decomposition process**
Yuliya V. Rudneva[1], Yury V. Shubin[1], Pavel E. Plyusnin[1],Yurii I. Bauman[2], Ilya V. Mishakov[2]
[1]Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia; [2]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

P.S.A.10. **The influence of the method of preparation and temperature of thermal treatment on the phase composition of the $NiO-Al_2O_3$ catalyst using the X-ray diffraction method**
Matilda M. Lazić.
Technical College of Applied Sciences in Zrenjanin, Zrenjanin, Serbia

P.S.A.11. **Chalcogenides of niobium and molybdenum with stoichiometry metal: chalcogen = 2:3**
M.N. Kozlova[1], A.N. Enyashin[2], E.D. Grayfer[1], V.E. Fedorov[1]

[1]Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia; [2]Institute of Solid State Chemistry UB RAS, Ekaterinburg, Russia

P.S.A.12. **Crystallographic structure of electron pulse annealed GaP implanted with Ti**
Marek Barlak[1], Zbigniew Werner[1], Alexey Markov[2], Dmitry Proskurovsky[2], René Heller[3]
[1]National Centre for Nuclear Research, Otwock, Poland; [2]High Current Electronics Institute, Tomsk, Russia; [3]Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany

P.S.A.13. **The influence of boron on synthesis and characteristics of PM copper-zirconium alloys**
D. Božić, J. Stašić, J. Ružić
Centre of Excellence-CextremeLab, Institute of Nuclear Sciences "Vinča", University of Belgrade, Mike Petrovića Alasa 12-14, PO Box 522, 11001 Belgrade, Serbia

P.S.A.14. **Synthesis and structure of Zinc(II) complex with 2-Acetylpyridine - Aminoguanidine**
Mirjana M. Radanović, Ljiljana S. Vojinović-Ješić, Marko V. Rodić, Željko K. Jaćimović, Katalin Mészáros Szécsényi
University of Novi Sad, Faculty of Sciences, Department of Chemistry, Biochemistry and Environmental Protection, Novi Sad, Serbia; University of Montenegro, Faculty of Metallurgy and Technology, Podgorica, Montenegro

P.S.A.15. **Magnetic and mechanical characteristics of nickel-based superalloy after laser induced deformation**
A. Milosavljevic[1], S. Polic[2], M. Sreckovic[3], S. Petronic[4],D. Vasiljevic[5], D. Bekric[1], D. Nasradin[1]
[1]Faculty of Mechanical Engineering, University of Belgrade; [2]Central Institute for Conservation, Belgrade; [3]Faculty of Electrical Engineering, University of Belgrade, Serbia; [4]Institute of Nuclear Science "Vinca", University of Belgrade; [5]Institute of Physics, University of Belgrade, Serbia

P.S.A.16. **Characterization and study of chemical deposits of Nickel-phosphorus on ordinary steel A33**
Nadir Mesrati, Karima Chouchane, Razika Mehadaoui, Abdelkader Khadraoui
Polytechnic School of Algeries, Départements of Metalurgy, LSGM, Algeria; Djilali Bounaama University, SNV-ST Faculty, LSGM, Algeria; Blida University, Sciences Faculty, LGC, Algeria; Djilali Bounaama University, Science and technology Faculty,LVSN, Algeria

SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATIONS

P.S.B.1. **Autowaves of localized plastic deformation in a material with an unstable phase structure**
Vladimir Ivanovich Danilov, Vadim Vladimirovich Gorbatenko, Dina Vladimirovna Orlova, Lidia Vladislavovna Danilova
Institute of Strength Physics and Materials Science of Siberian Branch of Russian Academy of Sciences, Russia

P.S.B.2. **Study of the structure – phase state of the Al_2O_3 -ZrW_2O_8 system**
Elena S. Dedova[1,2], Mariya Yu. Petrushina[3,4], Alexander I. Gubanov[3,4], Sergey N. Kulkov[1,2]
[1]Institute of strength physics and materials science SB RAS, Tomsk, Russia; [2]Tomsk polytechnic university, Tomsk, Russia; [3]Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia; [4]Novosibirsk State University, Novosibirsk, Russia

P.S.B.3. **High temperature stability of YSZ and Mullite-YSZ coatings deposited by atmospheric plasma spraying**
David Jech[1], Pavel Komarov[2], Karel Slámečka[1], Michaela Remešová[1], Lucie Dyčková[1], Ladislav Čelko[1]
[1]Brno University of Technology, CEITEC – Central European Institute of Technology, Materials Characterization and Advanced Coatings, Brno, Czech Republic; [2]Novosibirsk State Technical University, Faculty of Mechanical Engineering and Technologies, Novosibirsk, Russia

P.S.B.4. **Barium-Magnesium-Aluminium-Silicate Environmental Barrier Coatings: Powder Manufacturing and Plasma Spraying**
Lenka Klakurková, Ladislav Čelko, David Jech, Michaela Remešová, Martin Juliš, Pavel Gejdoš, Karel Slámečka
Brno University of Technology, CEITEC, Materials Characterization and Advanced Coatings, Brno, Czech Republic

P.S.B.5. **Magnetic and mechanical properties of nickel-based superalloy after laser induced deformation**
Andjelka Milosavljevic[1], Suzana Polic[2], Sanja Petronic[3], Milesa Sreckovic[4], Dusan Nasradin[5], Darko Vasiljevic[5]
[1]University of Belgrade, Faculty of Mechanical Engineering, Belgrade, Serbia; [2]Central Institute for Conservation, Belgrade, Serbia; [3]University of Belgrade, Institute of Nuclear Science Vinca, Belgrade, Serbia; [4]University of Belgrade, Faculty of Electrical Engineering, Belgrade, Serbia; [5]Institute of Physics, Belgrade, Serbia

P.S.B.6. **Influence of Diffusion Coatings on Magnetic Properties of 41CrMo$_4$ Steel**
Zina Pavloušková[1], David Jech[1], Ladislav Čelko[1], Rostislav Huzlík [2], Tomáš Bulín [2], Lenka Klakurková[1], Jiří Švejcar[1], Jozef Kaiser[1]
[1]Brno University of Technology, CEITEC, Materials Characterization and Advanced Coatings, Brno, Czech Republic; [2]Brno University of Technology, Faculty of Electrical Engineering and Communication, Dept. of Electrical Engineering, Brno, Czech Republic

P.S.B.7. **Electrical and magnetic properties of multiferroic BiFeO$_3$-based flexible composites**
Nikola I. Ilić, Guilhermina F. Teixeira, Jelena D. Bobić, Mirjana M. Vijatović Petrović, Adis. S. Džunuzović, Maria A. Zaghete, Biljana D. Stojanović
University of Belgrade, Institute for Multidisciplinary Research, Materials science department, Belgrade, Serbia; State University of Sao Paulo, Chemistry Institute, Araraquara, Sao Paulo, Brasil

P.S.B.8. **Characterization of different MMC coatings deposited by PTA and FS processes**
Vesna M.Maksimović, Aleksandar M. Maslarević, Gordana M. Bakić, Miloš B. Đukić, Bratislav M. Rajičić, Vladimir D. Pavkov
University of Belgrade, Vinča, Institute of Nuclear Sciences, Belgrade, Serbia; University of Belgrade, Innovation Center, Faculty of Mechanical Engineering, Belgrade, Serbia; University of Belgrade, Faculty of Mechanical Engineering, Belgrade, Serbia

P.S.B.9. **Determination of ceramic proppant impact on efficiency of shale gas production and the environment**
Joanna Szymanska, Pawel Wisniewski, Jaroslaw Mizera
Warsaw University of Technology, Faculty of Materials Science and Engineering, Warsaw, Poland

P.S.B.10. **Temperature dependence of thermal conductivity of graphene monolayer in the framework of debay and calawey models**
S. Jaćimovski[1], D. Raković[2]
[1]Academy of Criminalistic and Police Studies, Belgrade, Serbia; [2]University of Belgrade, Faculty of Electrical Engineering, Serbia

POSTER SESSION II

Wednesday, September 5, 2018, 20^{00}-22^{00}

SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATIONS

P.S.B.11. **Cup anemometer tribology and revised IEC standard**
Ivan Popović, Miodrag Zlatanović
University of Belgrade, School of Electrical Engineering, Serbia

P.S.B.12. **Prediction of new B_6O structures and their properties using ab initio data mining approach**
J. Zagorac[1,2], D. Zagorac[1,2], D. Jordanov[1], M. Rosić[1], M. Čebela[1], J. Luković[1,2], B. Matović[1,2]
[1]Institute of Nuclear Sciences Vinča, Materials Science Laboratory, Belgrade University, Belgrade, Serbia; [2]Center for synthesis, processing and characterization of materials for application in the extreme conditions-CextremeLab, Belgrade, Serbia

P.S.B.13. **Impact of thickness on properties of high-entropy and conventional metallic glasses**
Ramir Ristić[1], Ahmed Kuršumović[2], Ignacio A. Figueroa[3], Emil Babić[4]
[1]Department of Physics, University of Osijek, Trg Ljudevita Gaja 6, HR-3100 Osijek, Croatia; [2]Department of Materials Science, Cambridge University, Pembroke Street, Cambridge CB2 3QZ, UK; [3]Institute for materials research-UNAM, Ciudad Universitaria Coyoacan, C.P. 04510 Mexico D.F., Mexico; [4]Department of Physics, Faculty of Science, Bijenička cesta 32, 10002 Zagreb, Croatia

P.S.B.14. **Crystal structure and X-Ray spectroscopic properties of R.E.2Ni12P5 compounds**
I. D. Shcherba[1], H. Noga[2], V. N. Antonov[3], O.V. Zhak[1], D. Uskokovic[4], B. M. Jatcyk[5]
[1]Ivan Franko National University of Lviv, Ukraine; [2]Institute of Technology, the Pedagogical University of Cracow, Podchorazych st. 2 Cracow 30-084 Poland; [3]Institute of Physics of Metals, NASU, Kyiv, Ukraine; [4]Institute of Technical Sciences of SASA Knez Mihailova 35/IV, PO Box 377 11000 Belgrade, Serbia; [5]Lviv National University of Veterinary Medicine and Biotechnologies, Lviv, Ukraine

P.S.B.15. **Study of the interaction between graphene oxide and 12-tungstophosphoric acid in their nanocomposite**
Željko Mravik[1], Danica Bajuk-Bogdanović[2], Smilja Marković[3], Janez Kovač[4], Ivanka Holclajtner-Antunović[2], Zoran Jovanović[1]
[1]University of Belgrade, Vinča Institute of Nuclear Sciences, Laboratory of Physics, Belgrade, Serbia; [2]University of Belgrade, Faculty of Physical Chemistry,

Belgrade, Serbia; [3]Institute of Technical Sciences of SASA, Belgrade, Serbia; [4]Jožef Stefan Institute, Department of Surface Engineering and Optoelectronics, Ljubljana, Slovenia

P.S.B.16. **Transport Coefficients of Ar^+ in BF_3 gas**
Željka D. Nikitović, Vladimir D. Stojanović, Zoran M. Raspopović
Institute of Physics, University of Belgrade, Pregrevica 118, Belgrade, Serbia

P.S.B.17. **The influence of Basalt content on the properties of austenitic stainless steel 316L**
Vladimir D. Pavkov[1], Gordana M. Bakic[2], Vesna Maksimovic[1], Branko Matovic[1], Tatjana Volkov-Husovic[3]
[1]University of Belgrade, Vinca Institute of Nuclear Sciences, Belgrade, Serbia.
[2]University of Belgrade, Faculty of Mechanical Engineering, Belgrade, Serbia.
[3]University of Belgrade, Faculty of Technology and Metallurgy, Belgrade, Serbia

P.S.B.18. **Comparative study on noble metal based nanocatalysts on different supports for low temperature fuel cells application**
Ljiljana M. Gajić Krstajić[1], Velimir R. Radmilović[2], Peter Ercius[3], Borka M. Jović[4], Vladimir D. Jović[4], Piotr Zabinski[5], Nevenka R.Elezović[4]
[1]Institute of Technical Sciences SASA, Knez Mihajlova 45, 11000 Belgrade, Serbia; [2]Innovation Center of Faculty of Technology and Metallurgy University of Belgrade, Karnegijeva 4, Belgrade; [3]National Center for Electron Microscopy, LBNL University of California, Berkeley, USA; [4]Institute for Multidisciplinary Research University of Belgrade, P.O. Box 33, 11030 Belgrade, Serbia; [5]AGH University of Science and Technology, Faculty of Non-Ferrous Metals, Al. Mickiewicza 30, Krakow, Poland

P.S.B.19. **Mechanical behavior of twinning induced plasticity steel processed by warm rolling and annealing**
Wen Wang, Fusheng Han
Institute of Solid State Physics, Chinese Academy of Sciences, China

P.S.B.20. **Experimental Study of Drying Process of Porous Materials**
Elhassen Ali Ahmed Omer, Ramadan Alhadi Almadani, Mustafa Jarnaz, Abdoalhamied Twair
Mechanical Engineering department, Engineering faculty, Zawia University, Zawia – Libya; Libyan Authority for Research of Natural Science and Technology, Tripoli, Libya; Libyan Academy for Higher Studies, Tripoli, Libya; Industrial organization, Tripoli, Libya

SYMPOSIUM C: NANOSTRUCTURED MATERIALS

P.S.C.1. **Identical location (scanning) transmission electron microscopy for the study of catalyst nanomaterials**
Francisco Ruiz-Zepeda, Matija Gatalo, Nejc Hodnik, Primož Jovanović, Leonard Moriau, Andraž Pavlišič, Marjan Bele, Goran Dražić, Miran Gaberšček
National Institute of Chemistry, Hajdrihova Ulica 19, 1000 Ljubljana, Slovenia

P.S.C.2. **Production of synthesis gas by carbon dioxide over catalytically active molybdenum based carbide and nitride nanowires**
Mrzel Aleš[1], Damjan Vengust[1], Janez Kovač[1], Venkata Dasireddy[2], Blaž Likozar[2]
[1]Jozef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia; [2]National Institute of Chemistry, Hajdrihova 19, 1000 Ljubljana, Slovenia

P.S.C.3. **Nanofibrous polyaniline preparation by the oxidative polymerization of aniline with the oxidant in excess: Raman and FTIR spectroscopy study**
Jana Mišurović, Gordana Ćirić-Marjanović
University of Belgrade, Faculty of Physical Chemistry, Studentski trg 12-16, 11158 Belgrade, Serbia

P.S.C.4. **One-pot synthesis of biocompatible $NaYF_4$:Yb,Er nanoparticles for cell labeling**
Ivana Dinic[1], Marina Vukovic[1], Lidija Mancic[2], Aleksandar Krmpot[3], Olivera Milosevic[2]
[1]Innovation Center of the Faculty of Chemistry, University of Belgrade, Serbia; [2]Institute of Technical Sciences of SASA, Belgrade, Serbia; [3]Photonic Center, Institute of Physics Belgrade, University of Belgrade, Belgrade, Serbia

P.S.C.5. **Shape-controlled synthesis of CeO_2 nanoparticles: Effects of different precursors on the formation of oxygen vacancies**
Igor Djerdj[1], Jelena Bijelić[1], Chenwei Li[2,3], Bernd Smarsly[2], Herbert Over[2]
[1]Department of Chemistry, Josip Juraj Strossmayer University of Osijek, Cara Hadrijana 8/A, 31000 Osijek, Croatia; [2]Physikalisch-Chemisches Institut, Justus-Liebig-Universität, Heinrich-Buff-Ring 17, 35392 Gießen, Germany; [3]Key Laboratory for Advanced Materials, Research Institute of Industrial Catalysis, School of Chemistry and Molecular Engineering, East China University of Science and Technology, Shanghai 200237, China

P.S.C.6. **Characterization of mechanochemically synthesized $CuInS_2$/ZnS nanocomposite**
Erika Dutková[1], Nina Daneu[2], Zdenka Bujňáková[1], Matej Baláž[1], Jaroslav Kováč[3], Jaroslav Kováč Jr. [3]
[1]Institute of Geotechnics, Slovak Academy of Sciences, 04001 Košice, Slovakia; [2]Jožef Stefan Institute, Department for Nanostructured Materials, Ljubljana, SI-1000, Slovenia; [3]Institute of Electronics and Photonics, Slovak University of Technology, 81219 Bratislava, Slovakia

P.S. C.7. **Preparation and characterization of nanostructured silver supported on carbonaceous material obtained by hydrothermal carbonization process**
Branka V. Kaludjerović, Vesna LJ. Mandušić, Djuro M. Čokeša3, Jelena Hranisavljević, Srđan Đ Milanović and Zlatko LJ.Rakočević
University of Belgrade, Serbia, INN Vinca, Center for the synthesis, processing and characterization of materials for use in extreme conditions, Belgrade, Serbia; University of Belgrade, Serbia, INN Vinca,Laboratory of Radiobiology and Molecular Genetics,; University of Belgrade, Serbia, INN Vinca, Laboratory of Chemical Dynamics and Permanent Education; University of Belgrade, Serbia, INN Vinca, Laboratory of Atomic Physics, Serbia

P.S.C.8. **Effect of deposition current density and annealing temperature on the microstructure and magnetic properties of nanostructured Ni-Fe-W-Cu alloys**
Aleksa Maričić, Milica Spasojević, Dušan Marković, Miroslav Spasojević, Zoran Vuković, , Lenka Ribić-Zelenović
Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems; Faculty of Technical Sciences, Čačak, University of Kragujevac, Čačak, Serbia; Faculty of Chemistry, University of Belgrade, Belgrade, Serbia

P.S.C.9. **Electrodeposition, microstructure and magnetic properties of nickel-cobalt-copper alloy powders**
Pavle Spasojević, Milica Spasojević, Pavle Mašković
Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems; Faculty of Technical Sciences, Čačak, University of Kragujevac, Čačak, Serbia; Faculty of Chemistry, University of Belgrade, Belgrade, Serbia

P.S.C.10. **Morphological, microstructural and magnetic characteristics of electrodeposited Ni-Fe-W-Cu alloy powders**
Tomislav Trišović, Miroslav Spasojević, Aleksa Maričić, Milica Spasojević
Institute of Technical Sciences of Serbian Academy of Science and Arts, Belgrade, Serbia; Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems; Faculty of Technical Sciences, Čačak, University of Kragujevac, Čačak, Serbia; Faculty of Chemistry, University of Belgrade, Belgrade, Serbia

P.S.C.11. **Adsorption of arsenic(III) from aqueous solution on carbon cryogel and carbon cryogel/ceria composite**
Tamara Z. Minović Arsić[1], Ana M. Kalijadis[1], Bojan M. Jokić[2], Milovan M. Stoiljković[1], Biljana M. Babić[3]
[1]University of Belgrade, Vinča Institute of Nuclear Sciences, Belgrade, Serbia; [2]University of Belgrade, Faculty of Applied Arts, Belgrade, Serbia; [3]University of Belgrade, Institute of Physics Belgrade, Belgrade, Serbia

P.S.C.12. **Peculiar Optical Features of Molecular Crystalline Films**
Jovan P. Šetrajčić[1,2], Igor J. Šetrajčić[1], Ana J. Šetrajčić–Tomić[3]

[1]University of Novi Sad, Faculty of Sciences, Department of Physics, Novi Sad, Vojvodina, Serbia; [2]University "Union – Nikola Tesla", Faculty of Sports, Novi Beograd, Vojvodina, Serbia; [3]University of Novi Sad, Faculty of Medicine, Department of Pharmacy, Novi Sad, Vojvodina, Serbia

P.S.C.13. **Ultrasound induced preparation of poly(1-vinyl-3-octyl imidazolium bromide/clay nanocomposites using an Algerian modified clay (Maghnite-CTAB)**
Aniss Zaoui, Zakaria Cherifi, Belbachir Mohammed
University of Oran 1 AB, faculty of exact and applied science, department of chemistry, Oran, Algeria

SYMPOSIUM D: ECO-MATERIALS AND ECO-TECHNOLOGIES

P.S.D.1. **Lipid production with a high palmitoleic acid content by Debaryomyces globosus yeast under conditions of continuous cultivation**
Nadezda N. Stepanova[1], Grigorii I. Morgunov[2], and Svetlana V. Kamzolova[1]
[1]G.K. Skryabin Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Sciences, Pushchino, Moscow region, 142290, Russia; [2]Peoples' Friendship University of Russia (RUDN University), Moscow, 117198, Russia

P.S.D.2. **New multifunctional materials based on steel slag**
Ivana Milašević[1], Ljubica Ivanović[1], Irena Nikolić[1,2], Dijana Đurović[2], Smilja Marković[3], Vuk Radmilović[4],Velimir Radmilović[5]
[1]Institut of Public Health of Montenegro, Podgorica, Montenegro; [2]University of Montenegro, Faculty of Metallurgy and Technology, Podgorica,Montenegro; [3]Institute of Technical Sciences of SASA, Belgrade, Serbia; [4]Innovation center, University of Belgrade, Faculty of Technology and Metallurgy, Belgrade, Serbia; [5]Serbian Academy of Sciences and Arts, Belgrade, Serbia

P.S.D.3. **Biological markers of the petroleum alkane fraction as a forensic tool for determining the presence of petroleum pollutants in the environment**
Nada Vidović[1], Ivan Samelak[1], Milica Balaban[1], Mališa Antić[2], Tatjana Šolević-Knudsen[3], Branimir Jovančićević[4]
[1]University of Banja Luka, Faculty of Natural Sciences and Mathematics, 78000 Banja Luka, Bosnia and Herzegovina; [2]University in Belgrade, Faculty of Agriculture, 11080, Belgrade, Serbia; [3]University of Belgrade, Center of Chemistry, Institute of Chemistry, Technology and Metallurgy, 11000 Belgrade, Serbia; [4]University of Belgrade, Faculty of Chemistry, 11001 Belgrade, Serbia

POSTER SESSION III

Thursday, September 6, 2018, 20^{00}-22^{00}

SYMPOSIUM E: BIOMATERIALS

P.S.E.1. **Addition of porogens improved the characteristics of biodegradable implants made of poly(ε-caprolactone)/calcium phosphate ceramic composites**
Chang-Chin Wu[1,2], Kai-Chiang Yang[3,4], Feng-Huei Lin[5]
[1]Department of Orthopedics, En Chu Kong Hospital, New Taipei City, Taiwan; [2]Department of Orthopedics, National Taiwan University Hospital, College of Medicine, National Taiwan University, Taipei, Taiwan; [3]Department of Organ Reconstruction, Institute for Frontier Medical Sciences, Kyoto University, Kyoto, Japan; [4]School of Dental Technology, College of Oral Medicine, Taipei Medical University, Taipei, Taiwan; [5]Ins. of Biomed. Eng., National Taiwan University, Taiwan

P.S.E.2. **The application of hydroxyapatite as the Bletilla striata polysaccharide carrier for sarcopenia treatment**
Ya-Jyun Liang, Jia-Yu Hong, Chun-Han Hou, Feng-Huei Lin
National Taiwan University, Institute of Biomedical Engineering, Taipei, Taiwan; National Taiwan University Hospital, Department of orthopedic surgery, Taipei, Taiwan

P.S.E.3. **Hydroxyapatite/Gelatin Particles Embedding Stromal Cell-derived Factor-1 for Bone Tissue Engineering**
Chih Hsiang Fang[1], Yi Wen Lin[1], Jui Sheng Sun[2], Feng Huei Lin [1,3]
[1]Institute of Biomedical Engineering, College of Medicine and College of Engineering, National Taiwan University, Taipei 100, Taiwan; [2]Department of Orthopedic Surgery, National Taiwan University Hospital, Taiwan; [3]Division of Biomedical Engineering and Nanomedicine Research, National Health Research Institutes, Miaoli 350, Taiwan

P.S.E.4. **A novel multilayer capsule as desensitizing agent for dental hypersensitivity**
Kuo-Hui Chiu[1], Hsiu-Min Chen[1], Yuan-Yu Hsia[1], Ting-Ru Chung[2], Chih-Yu Shu[3], Chia-Yung Lin[4], Cherng-Jyh Ke[1,3]
[1]China Medical University, College of Biopharmaceutical and Food Sciences, Department of Biological Science and Technology, Taichung, Taiwan; [2]China Medical University, College of Medicine, Department of Biomedical Imaging and Radiological Science, Taichung, Taiwan; [3]China Medical University Hospital, Biomaterial Translational Research Center, Taichung, Taiwan; [4]Taichung Hospital, Ministry of Health and Welfare, Department of Dentistry, Taichung, Taiwan

P.S.E.5. **Electrospun Silk Fibroin Composite Scaffold for Tendon Repair**
Yi-You Huang
Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan.

P.S.E.6. **BMP-2 and Insulin delivered from Plasma Synthesis of Carbon-Based Nanocarriers for bone regeneration**

Yi Wen Lin[1], Chih Hsiang Fang[1], Jui Sheng Sun[2], Feng Huei Lin[1,3]
[1]Institute of Biomedical Engineering, College of Medicine and College of Engineering, National Taiwan University, Taipei 100, Taiwan; [2]Department of Orthopedic Surgery, National Taiwan University Hospital, Taiwan; [3]Division of Biomedical Engineering and Nanomedicine Research, National Health Research Institutes, Miaoli 350, Taiwan

P.S.E.7. **Growth Factor Rich Membrane: Cell Carrier Enhancement for Bone Regeneration**

Yi-An Li[1], Yu-Yun Gao[2], Yi-syuan Lin[2], Ting-Jui Hsu[3], Chun-Hsu Yao[4,5],Cherng-Jyh Ke[2,5];
[1]China Medical University, College of Medicine, Graduate Institute of Biomedical Sciences, Taichung, Taiwan; [2]China Medical University, College of Biopharmaceutical and Food Sciences, Department of Biological Science and Technology, Taichung, Taiwan; [3]China Medical University, College of Medicine, School of Medicine, Taichung, Taiwan; [4]China Medical University, College of Medicine, Department of Biomedical Imaging and Radiological Science, Taichung, Taiwan; [5]China Medical University Hospital, Biomaterial Translational Research Center, Taichung, Taiwan

P.S.E.8. **Rare earth dual-doped multifunctional hydroxyapatite particles for potential application in preventive medicine**

Nenad Ignjatović[1], Lidija Mančić[1], Zoran Stojanović[1], Marko Nikolić[2], Srečo Škapin[3], Ljiljana Veselinović[1], Dragan Uskoković[1]
[1]Institute of Technical Sciences of the Serbian Academy of Science and Arts, Knez Mihailova 35/IV, P.O. Box 377, 11000 Belgrade, Serbia; [2]Photonic Center, Institute of Physics Belgrade, University of Belgrade, Zemun, Belgrade, Serbia; [3]Jožef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia

P.S.E.9. **The processing and application of modified dental composites and dental inserts based on Mg-doped HAp**

Djordje Veljovic[1], Tamara Matic[1], Giuma Ayoub[1], Maja Lezaja Zebic[2], Vesna Miletic[2], Rada Petrovic[1], Djordje Janackovic[1]
[1]University of Belgrade, Faculty of Technology and Metallurgy, Department of Inorganic Chemical Technology, Karnegijeva 4, 11120 Belgrade, Serbia, [2]University of Belgrade, School of Dental Medicine, DentalNet Research Group, Rankeova 4, Belgrade, Serbia.

P.S.E.10. **Surface properties of magnesium containing hydroxyapatite bioceramic microspheres**

Liga Stipniece, Valentina Stepanova, Inga Narkevica, Kristine Salma-Ancane
Riga Technical University, Faculty of Materials Science and Applied Chemistry, Institute of General Chemical Engineering, Rudolfs Cimdins Riga Biomaterials Innovations and Development Centre, Riga, Latvia

P.S.E.11. **Hybrid dental composites with improved mechanical properties**
Abdulsalam. A. Elmadani[1], Ivana M. Radovic[2], Marija N. Radojevic[1], Milos. Petrovic[1], Dusica. B. Stojanovic[1], Petar S. Uskokovic[1], Vesna J. Radojevic[1]
[1]University of Belgrade, Faculty of Technology and Metallurgy, Belgrade, Serbia;
[2]University of Belgrade, Vinča Nuclear Institute, Belgrade, Serbia

P.S.E.12. **Biomimetic evaluation of novel β-TCP/alginate macroporous scaffolds in perfusion bioreactors for potential in bone tissue engineering**
Natasa Stanojevic, Milica Andrejevic, Jovana Zvicer, Jasmina Stojkovska, Djordje Veljovic, Bojana Obradovic
University of Belgrade, Faculty of Technology and Metallurgy, Belgrade, Serbia
Innovation Center of the Faculty of Technology and Metallurgy, Belgrade, Serbia

P.S.E.13. **The morphology of the osteoporotic rabbit bone after implantation of strontium doped biphasic ceramic**
Mara Pilmane[1], Iize Salma[2], Girts Salms[2], Janis Locs[3]
[1]Institute of Anatomy and Anthropology; [2]Institute of Stomatology, Riga Stradins University; [3]R.Cimdins Centre for Biomaterial Innovation and Development, Riga, Latvia

P.S.E.14. **Spider silk coated with maghemite nanoparticles-synthesis and characterization**
Svetlana Dmitrović[1], Vojislav Spasojević[1], Goran Branković[2], Georgios Constantinides[3], Aleksandra Zarubica[4], Branko Matović[1]
[1]University of Belgrade, "Vinča" Institute of Nuclear Sciences, Belgrade, Serbia;
[2]University of Belgrade, Institute for Multidisciplinary Research, Belgrade, Serbia;
[3]Cyprus University of Technology, Lemesos, Cyprus; [4]University of Niš, Faculty of Science and Mathematics, Department of Chemistry, Niš, Serbia

P.S.E.15. **Cefazolin-loaded polycaprolactone fibers produced via blend and co-axial electrospinning**
Andjela N. Radisavljevic[1], Dusica B. Stojanovic[2], Srdjan D. Perisic[1], Vesna J. Radojevic[2], Mirjana D. Rajilic-Stojanovic[2], Petar S. Uskokovic[2]
[1]University of Belgrade, Innovation Centre, Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia; [2]University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia

P.S.E.16. **In silico simulation of carvedilol absorption from oral films and nanofibers**
Marija N. Radojević[1], Sandra V. Cvijić[2], Dušica B. Stojanović[1], Svetlana R. Ibrić[2], Petar S. Uskoković[1]
[1]University of Belgrade - Faculty of Technology and Metallurgy, Department of Materials Science and Engineering, Karnegijeva 4, 11120 Belgrade, Serbia;
[2]University of Belgrade - Faculty of Pharmacy, Department of Pharmaceutical Technology and Cosmetology, Vojvode Stepe 450, 11221 Belgrade, Serbia

P.S.E.17. **Stability of the magnetite particles dispersed in different surfactans using wet stirred media milling**
Zdenka Bujňáková[1], Erika Dutková[1], Erika Tóthová[1], Jozef Kováč[2], Matej Baláž[1]
[1]Institute of Geotechnics, Slovak Academy of Sciences, Watsonova 45, 04001 Košice, Slovakia; [2]Institute of Experimental Physics, Slovak Academy of Sciences, Watsonova 47, 04001 Košice, Slovakia

P.S.E.18. **Preparation of magnetic macroporous poly(glycidyl methacrylate-co-ethylene glycol dimethacrylate) for the enzyme immobilization**
Milica Spasojević , Ana Marija Balaž, Miroslav Spasojević, Aleksa Maričić, Radivoje Prodanović
Faculty of Chemistry, University of Belgrade, Belgrade, Serbia; Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems, Faculty of Technical Sciences, Čačak, University of Kragujevac, Čačak, Serbia

P.S.E.19. **Electrochemical characterization of Mg-Zn bulk materials prepared by powder metallurgy method**
Pavel Doleža[1], Michaela Krystýnová[2], Jozef Minda[1], Stanislava Fintová[1], Matěj Březina[1], Josef Zapletal[1], Jaromír Wasserbauer[2]
[1]Brno University of Technology, Faculty of Chemistry, Materials Research Centre, Purkynova 464/118, 612 00 Brno, Czech Republic; [2]Brno University of Technology, Faculty of Mechanical Engineering, Institute of Materials Science and Engineering, Technicka 2896/2, 616 69 Brno, Czech Republic

P.S.E.20. **Improvement of Biocompatibility by Formation of Nanotubular Oxide Layer on the Ultrafine-Grained Ti-13Nb-13Zr Alloy**
Veljko R. Đokić[1], Dragana R. Barjaktarević[1], Đorđe N. Veljović[1], Ivana D. Dimić[1], Vesna V. Kojić[2], Marko P. Rakin[1]
[1]University of Belgrade, Faculty of Technology and Metallurgy, 11120 Belgrade, Serbia; [2]University of Novi Sad, Faculty of Medicine, Oncology Institute of Vojvodina, 21204 Sremska Kamenica, Serbia

P.S.E.21. **Characterization of Powder Metallurgy Processed Zn-Mg Materials for Biomedical Applications**
Michaela Krystýnová[1], Pavel Doležal[1,2], Tomáš Podrábský[2], Josef Zapletal[2], Jaromír Wasserbauer[1]
[1]Brno University of Technology, Faculty of Chemistry, Materials Research Centre, Purkynova 464/118, 612 00 Brno, Czech Republic; [2]Brno University of Technology, Faculty of Mechanical Engineering, Institute of Materials Science and Engineering, Technicka 2896/2, 616 69 Brno, Czech Republic

P.S.E.22. **The longterm chemical degradation of magnesium alloy AZ31 and AZ61 processed by method squeeze casting in SBF solution**
Helena Doležalová Weissmannová, Ivana Ročňáková, Pavel Doležal
Brno University of Technology, Faculty Chemistry, Institute of Chemistry and

Technology of Environmental Protection, Brno, Czech Republic; Brno University of Technology, Faculty of Mechanical Engineering, Institute of Materials Science and Engineering, Dept. of Metal Materials, Brno, Czech Republic; Brno University of Technology, Faculty Chemistry Materials Research Centre (MRC), Brno, Czech Republic

P.S.E.23. **Crystal structures of mixed chloride-azide zinc (II) and chloride-isocyanate cadmium (II) complexes with the condensation product of 2-quinolinecarboxaldehyde and girard's reagent**

Tanja Keškić[1], Milica Milenković[1], Božidar Čobeljić[1], Dušanka Radanović [2], Katarina Anđelković[1]
[1]Faculty of Chemistry, University of Belgrade, Studentski trg 12–16, 11000 Belgrade, Serbia; [2]Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Njegoševa 12, P.O. Box 815, 11000 Belgrade, Serbia

P.S.E.24. **Inelastic and elastic properties of radiation cross-linked hydrogels, porous polystyrene and automated system**

Anatoliy P. Onanko, Dmitriy V. Charny, Yuriy A. Onanko, Nick P. Kulish, Oksana P. Dmitrenko
Kyiv national university, physics department, faculty of physics functional materials, radiation physics laboratory, Volodymyrs'ka str., 64/13, Kyiv, 01601, Ukraine