

GENERAL CONFERENCE PROGRAMME

Sunday, September 1, 2019

08⁰⁰-19⁰⁰ **Registration**

Monday, September 2, 2019

08⁰⁰-19⁰⁰ **Registration**

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

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

13⁰⁰ **Photo Session**

15⁰⁰-18³⁰ **First WRTCS Plenary Session**, Main Conference Hall

19³⁰-21⁰⁰ **Cocktail Party**

Tuesday, September 3, 2019

09⁰⁰-13⁰⁰ **Second YUCOMAT Plenary Session**, Main Conference Hall

15⁰⁰-16³⁰ **Third YUCOMAT Plenary Session**, Main Conference Hall

17⁰⁰-18⁴⁵ **Second WRTCS Plenary Session**, Main Conference Hall

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

Wednesday, September 4, 2019

09⁰⁰-13⁰⁰ **Fourth YUCOMAT Plenary Session**, Main Conference Hall

15⁰⁰-17⁰⁰ **First WRTCS Oral Session**, Main Conference Hall

17³⁰-19³⁰ **Second WRTCS and First YUCOMAT Oral Session**, Main Conference Hall

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

Thursday, September 5, 2019

09⁰⁰-12⁴⁵ **Second YUCOMAT Oral Session**, Main Conference Hall

09⁰⁰-12³⁰ **Third YUCOMAT Oral Session**, Small Conference Hall

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

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

Friday, September 6, 2019

09⁰⁰-11¹⁵ **Fourth YUCOMAT Oral Session**, Main Conference Hall

09⁰⁰-11³⁰ **Fifth YUCOMAT Oral Session**, Small Conference Hall

11³⁰-12⁰⁰ **Awards and Closing Ceremony**

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| <p>SYMPOSIUM A: Advanced Methods in Synthesis and Processing of Materials</p> <p>SYMPOSIUM B: Advanced Materials for High-Technology Application</p> <p>SYMPOSIUM C: Nanostructured Materials</p> <p>SYMPOSIUM D: Eco-materials and Eco-Technologies</p> <p>SYMPOSIUM E: Biomaterials</p> <p>SYMPOSIUM F: WRTCS</p> |
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OPENING CEREMONY

Monday, September 2, 2019

Main Conference Hall

09⁰⁰-10⁰⁰

Welcome Speech

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

Welcome Address

Robert Sinclair, Chair of International Advisory Board

Presentation of YUCOMAT 2018 Awards

Slobodan Milonjić, Vice President of MRS-Serbia

MRS-Serbia 2019 Award for a Lasting and Outstanding Contribution to Materials Science and Engineering

Epitaxial integration of oxides with silicon

Danilo Suvorov

Advanced Materials Department, Jožef Stefan Institute, Ljubljana, Slovenia

Break: 10⁰⁰-10³⁰

FIRST YUCOMAT PLENARY SESSION

Main Conference Hall

Session I: 10³⁰-13⁰⁰

Chairpersons: Yoshio Bando, Elvira Fortunato and Andrea C. Ferrari

10³⁰-11⁰⁰ Stable perovskite solar cells by compositional and interface engineering

Sanghyun Paek, Hiroyuki Kanda, Yi Zhang, Hobeom Kim, Yonghui Lee, Kyung Taek Cho, Mousa Abuhelaiqa, Aron Joel Huckaba, Roldan Carmona Cristina and Mohammad Khaja Nazeeruddin

The Group for Molecular Engineering of Functional Materials, Ecole Polytechnique Fédérale de Lausanne, CH-1951 Sion, Switzerland

11⁰⁰-11³⁰ Graphene and related materials, from production to applications

Andrea C. Ferrari

Cambridge Graphene Centre, University of Cambridge, Cambridge, CB3 0FA, United Kingdom

11³⁰-12⁰⁰ Next-generation large-area graphene for electronic devices

Simon Thomas¹, Ivor Guiney¹ and Colin Humphreys²

¹Paragraf Ltd, Somersham, Cambridge, United Kingdom; ²School of Engineering and Materials Science, Queen Mary University of London, London E1 4NS, United Kingdom

12⁰⁰-12³⁰ Functionality and versatility of metal oxides

Elvira Fortunato

i3N/CENIMAT, Department of Materials Science from Faculty of Science and Technology, Universidade NOVA de Lisboa and CEMOP/UNINOVA, Campus de Caparica, 2829-516 Caparica, Portugal

12³⁰-13⁰⁰ Boron nitride nanotube/nanosheet for energy applications

Yoshio Bando^{1,2,3}

¹Institute of Molecular Plus, Tianjin University, Tianjin, China; ²International Center for Materials Nanoarchitectonics (WPI-MANA), National Institute for Materials Science (NIMS), Ibaraki 305-044, Japan, ³Australian Institute for Innovative Materials (AIIM), University of Wollongong (UOW), NSW, 2522, Australia

13⁰⁰-13¹⁵ Photo session

Break: 13¹⁵-15⁰⁰

FIRST WRTCS PLENARY SESSION

Main Conference Hall

Session I: 15⁰⁰-16³⁰

Chairpersons: Suk-Joong L. Kang and Bernd Kieback

15⁰⁰-15³⁰ Challenges and further developments in modeling of sintering

Eugene A. Olevsky

College of Engineering, San Diego State University, San Diego, CA 92182, United States

15³⁰-16⁰⁰ Micromechanics of sintering in particle scale

Fumihiko Wakai

Laboratory for Materials and Structures, Institute of Innovative Research, Tokyo Institute of Technology, Yokohama, Japan

16⁰⁰-16³⁰ Coupled experimental and numerical investigation of evolution of anisotropic microstructures during stress-assisted and constrained sintering

Rajendra K. Bordia¹, Eugene A. Olevsky², Christophe Martin³

¹Clemson University, Clemson, SC 29634, United States; ²San Diego State University, San Diego, CA 92182, United States; ³Univ. Grenoble Alpes, CNRS, SIMaP, Grenoble F-38000, France

Break: 16³⁰-17⁰⁰

Session II: 17⁰⁰-18³⁰

Chairpersons: Eugene A. Olevsky and Fumihiko Wakai

17⁰⁰-17³⁰ Fundamentals of solid state sintering in multicomponent high entropy alloys

Bernd Kieback¹ and Nadine Eißmann²

¹Technische Universität Dresden, Institute for Materials Science, Dresden, Germany;

²Fraunhofer Institute for Manufacturing and Advanced Materials (IFAM), Dresden, Germany

17³⁰-18⁰⁰ What we should consider for full densification when sintering

Suk-Joong L. Kang

Korea Advanced Institute of Science and Technology (KAIST), Department of Materials Science and Engineering, Daejeon 34141, Republic of Korea

18⁰⁰-18³⁰ Increase of fracture toughness of transparent ceramics by functional, low thermal-expansion coatings

Marc Rubat du Merac², Martin Bram¹, Jürgen Malzbender¹, Mirko Ziegner¹, Marcin Rasinski¹, Olivier Guillon³

¹Forschungszentrum Jülich GmbH, Jülich, Germany; ²CeramTec GmbH, Plochingen, Germany;

³JARA-Energy, Aachen, Jülich, Germany

SECOND YUCOMAT PLENARY SESSION

Tuesday, September 3, 2019

Main Conference Hall

Session I: 09⁰⁰-11⁰⁰

Chairpersons: Robert Sinclair and Vladimir Torchilin

09⁰⁰-09³⁰ **Model based characterisation of magnetic moments and charge densities in the transmission electron microscope**

Rafal E. Dunin-Borkowski, Jan Caron, Patrick Diehle, Fengshan Zheng, Vadim Migunov and András Kovács

Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons and Peter Grünberg Institute, Forschungszentrum Jülich, 52425 Jülich, Germany

09³⁰-10⁰⁰ **Using STEM-EELS to optimize gold nanoparticles for early cancer detection**

Robert Sinclair, Yitian Zeng and Steven Madsen

Department of Materials Science and Engineering, Stanford University, Stanford, CA 94305, United States

10⁰⁰-10³⁰ **Engineering of novel pharmaceutical drug delivery systems for combination therapy of multidrug resistant cancer**

Vladimir Torchilin

Center for Pharmaceutical Biotechnology and Nanomedicine, Northeastern University, Boston, MA 02115, United States

10³⁰-11⁰⁰ **Synthesis and applications of megamolecules**

Milan Mrksich

Department of Biomedical Engineering and Chemistry, Northwestern University, Evanston, IL 60208, United States

Break: 11⁰⁰-11³⁰

Session II: 11³⁰-13⁰⁰

Chairpersons: Sotiris E. Pratsinis and Milan Mrksich

11³⁰-12⁰⁰ **Combustion spray synthesis of nanostructured materials: from carbon black to breath sensors**

Sotiris E. Pratsinis

Particle Technology Laboratory, Institute of Process Engineering, Swiss Federal Institute of Technology (ETH Zurich), CH-8092 Zurich, Switzerland

12⁰⁰-12³⁰ Making the hospital a safer place by the sonochemical coating of all its textiles and medical devices with antibacterial nanoparticles

Aharon Gedanken

Bar-Ilan University Department of Chemistry, and the BINA center, Ramat-Gan 5290002, Israel

12³⁰-13⁰⁰ Earthlike and its discontents

Vuk Uskoković

Department of Mechanical and Aerospace Engineering, University of California, Irvine, CA, United States

Break: 13⁰⁰-15⁰⁰

THIRD YUCOMAT PLENARY SESSION

Main Conference Hall

Session I: 15⁰⁰-16³⁰

Chairpersons: Yuntian Zhu and Mamoru Senna

15⁰⁰-15³⁰ Heterostructured materials: a new paradigm for superior mechanical properties

Yuntian Zhu

Nano & Heterogeneous Materials Center, Nanjing University of Science and Technology, Nanjing, China; Department of Materials Science and Engineering, North Carolina State University, Raleigh, NC 27695, United States

15³⁰-16⁰⁰ Optimizing the properties of titanium alloys processed using additive manufacturing

Brian Welk, Nevin Taylor, Samuel Kuhr, G.B Viswanathan, Hamish L. Fraser

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

16⁰⁰-16³⁰ Hybridization of solid carbohydrates or hydrocarbon with metal oxides under mechanical stressing toward sustainable materials

Mamoru Senna¹, Chika Takai², Masayoshi Fuji³

¹Faculty of Science and Technology, Keio University, Hiyoshi, Yokohama, 223-8522, Japan;

²Faculty of Engineering, Gifu University, Yanagido, Gifu, 501-1193, Japan; ³Advanced Ceramics Research Center, Nagoya Institute of Technology, Honmachi, Tajimi, 507-0033, Japan

Break: 16³⁰-17⁰⁰

SECOND WRTCS PLENARY SESSION

Main Conference Hall

Session II: 17⁰⁰-18⁴⁵

Chairpersons: Heli Jantunen and Andrey V. Ragulya

17⁰⁰-17³⁰ Electroceramics without sintering

Heli Jantunen

Microelectronics Research Unit, Faculty of Information Technology and
Electrical Engineering, P. O. BOX 4500, University of Oulu, FI-90014 Oulu,
Finland

17³⁰-18⁰⁰ The mechanisms behind solute-drag and solute-acceleration during microstructural evolution of alumina

Ruth Moshe, Rachel Marder, Leon Rudnik, Wayne D. Kaplan

Department of Materials Science and Engineering, Technion – Israel Institute of Technology,
Haifa, Israel

18⁰⁰-18³⁰ Understanding of sintering in Ukraine: overview of results

Andrey V. Ragulya, Mikhail Borisovich Shtern

Frantsevich Institute for Problems in Materials Science NAS of Ukraine, 3 Krzhizhanovsky str.,
03142 Kiev, Ukraine

18³⁰-18⁴⁵ Field assisted reaction sintering of ceramic materials

Andrey V. Ragulya

Frantsevich Institute for Problems in Materials Science NAS of Ukraine, 3 Krzhizhanovsky str.,
03142 Kiev, Ukraine

FOURTH YUCOMAT PLENARY SESSION

Wednesday, September 4, 2019

Main Conference Hall

Session I: 09⁰⁰-10³⁰

Chairpersons: Shizhang Qiao and Richard Catlow

09⁰⁰-09³⁰ Nanostructured materials for energy-relevant electrocatalytic processes

Shizhang Qiao

School of Materials Science and Engineering, Tianjin University, Tianjin 300072, China; School of Chemical Engineering, The University of Adelaide, SA 5005, Australia

09³⁰-10⁰⁰ Computer modelling as a predictive tool in materials and catalytic science

Richard Catlow^{1,2,3}

¹Department of Chemistry, University College London, London WC1E 6BT, United Kingdom;

²School of Chemistry, Cardiff University, Cardiff CF10 3AT, United Kingdom; ³UK Catalysis Hub, Research Complex at Harwell, R92 Harwell Oxford Oxfordshire OX11 0FA, United Kingdom

10⁰⁰-10³⁰ Crystal chemistry and properties of G-phases

Peter Franz Rogl and Andrij Grytsiv

Institute of Materials Chemistry, University of Vienna, A-1090 Wien, Austria

Break: 10³⁰-11⁰⁰

Session II: 11⁰⁰-13⁰⁰

Chairpersons: Hamish L. Fraser and Nobuo Tanaka

11⁰⁰-11³⁰ Goodbye hospitals and hello implantable nanosensors

Thomas J. Webster

Chemical Engineering, Northeastern University, Boston, MA, United States

11³⁰-12⁰⁰ Strain-engineering in advanced CMOS structures

Dae-Hong Ko

Department of Materials Science and Engineering, Yonsei University, Seoul, Republic of Korea

12⁰⁰-12³⁰ Environmental & dynamic electron microscopy of advanced materials in HV-(S)TEM

Nobuo Tanaka and Shigeo Arai

Institute of Materials and Systems for Sustainability (IMaSS), Nagoya University, Nagoya, 464-8603, Japan

12³⁰-13⁰⁰ Integrated Differential Phase Contrast (iDPC) STEM for low Z detection and for high contrast low dose imaging applications

Maarten Wirix

Thermo Fisher Scientific, Eindhoven, Netherlands

Break: 13⁰⁰-15⁰⁰

FIRST WRTCS ORAL SESSION

Main Conference Hall

Session I: 15⁰⁰-17⁰⁰

Chairpersons: Biljana Stojanović and Đorđe Janačković

15⁰⁰-15¹⁵ Thermal stress directions and stress mechanism in Ag sintered bonding layer under thermal cycling test for Si power device structures having sintering chip-attachment

Masaaki Aoki^{1,2}, Koki Chinone¹, Akihiro Mochizuki², Yoshio Murakami², Mutsuharu Tsunoda², Goro Yoshinari², Nobuhiko Nakano¹Department of Electronics and Electrical Engineering, Faculty of Science and Technology, Keio University, Yokohama, Kanagawa 223-8521, Japan; ²MacDermid Alpha Electronics Solutions / MacDermid Performance Solutions Japan, Hiratsuka, Kanagawa 254-0082, Japan

15¹⁵-15³⁰ Thermal stress profiles and stress directions in Si chip under thermal cycling test for power device structures having Ag sintering chip-attachment

Koki Chinone¹, Masaaki Aoki^{1,2}, Akihiro Mochizuki², Yoshio Murakami², Mutsuharu Tsunoda², Goro Yoshinari², and Nobuhiko Nakano¹
¹Department of Electronics and Electrical Engineering, Faculty of Science and Technology, Keio University, Yokohama, Kanagawa 223-8521, Japan; ²MacDermid Alpha Electronics Solutions / MacDermid Performance Solutions Japan, Hiratsuka, Kanagawa 254-0082, Japan

15³⁰-15⁴⁵ Influence of milling, annealing and sintering parameters on the formation of LLZO compound

Dariusz Oleszak¹, Tomasz Pikula², Mirosława Pawlyta³

¹Warsaw University of Technology, Warsaw, Poland, ²Lublin University of Technology, Lublin, Poland, ³Silesian University of Technology, Gliwice, Poland

15⁴⁵-16⁰⁰ Synthesis and densification of electrider Mayenite - Ca₁₂Al₁₄O₃₃

Branko Matović

Vinca Institute of Nuclear Sciences, University of Belgrade, Mike Petrovića Alasa 12-14, 11 351 Vinča, Belgrade, Serbia

16⁰⁰-16¹⁵ Ultra-rapid microwave sintering based on controlled thermal instability and resonant absorption

Sergei V. Egorov, Anatoly G. Ereemeev, Vladislav V. Kholoptsev, Ivan V. Plotnikov, Kirill I. Rybakov, Andrei A. Sorokin, Yury V. Bykov
Institute of Applied Physics, Russian Academy of Sciences 46 Ulyanov St., Nizhny Novgorod 603950 Russia

16¹⁵-16³⁰ Effect of scanning strategy on mechanical properties of selective laser melted Inconel 718

Guang-Ping Zhang¹, Hong-Yuan Wan¹, Guo-Feng Chen²
¹Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, 72 Wenhua Road, Shenyang 110016, P. R. China; ²Materials & Manufacturing Qualification Group, Corporate Technology, Siemens Ltd., China, Beijing, 100102, China

16³⁰-16⁴⁵ Laser-powder bed fusion of bronze: microstructural, mechanical and electrochemical properties

Mustafa Naci Top¹ and H. Ozkan Gulsoy²
¹Marmara University, Inst. Graduate Studies Pure and Applied Sci., 34722, Istanbul, Turkey;
²Marmara University, Technology Faculty, Metall. And Mater. Eng., 34722, Istanbul, Turkey

16⁴⁵-17⁰⁰ Scaffolding via surface-selective laser sintering of biocompatible polymer particles using water as heating sensitizer

Nikita V. Minaev¹, Svetlana A. Minaeva¹, Semyon N. Churbanov^{1,2}, Tatiana A. Akopova³, Tatiana S. Demina^{2,3}, Peter S. Timashev^{1,2}
¹Institute of Photon Technologies FSRC “Crystallography and Photonics” RAS, Moscow, Troitsk, Russia; ²Institute of Regenerative Medicine, I. M. Sechenov First Moscow State Medical University, 119991 Moscow, Russia; ³Enikolopov Institute of Synthetic Polymeric Materials, Russian Academy of Sciences, ul. Profsoyuznaya 70, Moscow, 117393 Russia

Break: 17⁰⁰-17³⁰

SECOND WRTCS AND FIRST YUCOMAT ORAL SESSION

Main Conference Hall

Session II: 17³⁰-19³⁰

Chairpersons: Gerda Rogl and Guang-Ping Zhang

17³⁰-17⁴⁵ Investigation of the effect of GDC (Gd-doped ceria) powder morphology on the properties of the ceramics sintered using SPS

Daniel Vladimirovich Maslennikov^{1,2}, Aleksandr Anatol'evich Matvienko^{1,2}, Dina Vladimirovna Dudina^{1,2,3,4}, Maxim Alexandrovich Esikov^{3,4}, Hidemi Kato⁵

¹Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia;

²Novosibirsk State University, Novosibirsk, Russia; ³Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia; ⁴Novosibirsk State Technical University, Novosibirsk, Russia;

⁵Institute for Materials Research, Tohoku University, Japan

17⁴⁵-18⁰⁰ The BaTiO₃ nano-scale coated morphology influence on electronic properties and ceramics fractal nature frontiers

Vojislav V. Mitić^{1,2}, Goran Lazović³, Chun-An Lu⁴, Vesna Paunović¹, Sandra Veljković¹, Hans Fecht⁵, Branislav Vlahović⁶

¹University of Nis, Faculty of Electronic Engineering, Nis, Serbia; ²Institute of Technical Sciences of SASA, Belgrade, Serbia; ³University of Belgrade, Faculty of Mechanical Engineering, Belgrade, Serbia; ⁴Industrial Technology Research Institute, Taiwan; ⁵Institute of Functional Nanosystems, University of Ulm, 89081 Ulm, Germany; ⁶North Carolina Central University, Durham, NC 27707 United States

18⁰⁰-18¹⁵ Sintering process optimization for Cu-Al₂O₃ powders synthesized by novel method

Marija Korać¹, Zoran Anđić², Željko Kamberović¹, Nataša Gajić³

¹Faculty of Technology and Metallurgy, University of Belgrade, Serbia; ²Innovation center of Faculty of Chemistry in Belgrade Ltd., University of Belgrade, Serbia; ³Innovation center of Faculty of Technology and Metallurgy in Belgrade Ltd., University of Belgrade, Serbia

18¹⁵-18³⁰ The effect of severe plastic deformation (SPD) via high pressure torsion (HPT) on physical and mechanical properties of thermoelectric materials

Gerda Rogl^{1,2,3}, Ernst Bauer^{2,3}, Michael J. Zehetbauer⁴, Peter Franz Rogl^{1,3}

¹Inst. of Materials Chemistry, University of Vienna, A-1090 Wien, Austria; ²Inst. of Solid State Physics, TU Wien, A-1040 Wien, Austria; ³Christian Doppler Laboratory for Thermoelectricity, Wien, Austria; ⁴Faculty of Physics, University of Vienna, A-1090 Wien, Austria

18³⁰-18⁴⁵ G-quadruplex DNA oligomer for electrochemical sensing of insulin

Izumi Kubo

Graduate School of Engineering, Soka University, Tokyo, Japan

18⁴⁵-19⁰⁰ **Smart composites with combined caloric and magnetoelectric effects**

Abdulkarim A. Amirov^{1,2}, Vladimir V. Rodionov¹, Viacheslav S. Nikulin¹, Evgeny Klippert¹ and Akhmed M. Aliev²

¹Laboratory of Novel Magnetic Materials & Institute of Physics Mathematics and Informational Technologies, Immanuel Kant Baltic Federal University, 236029 Kaliningrad, Russia;

²Amirkhanov Institute of Physics, Daghestan Scientific Center, Russian Academy of Sciences, 367003 Makhachkala, Russia; ³Kotelnikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences, 125009 Moscow, Russia

19⁰⁰-19¹⁵ **Temperature dependence of graphene transport coefficients**

Stevo Jaćimovski¹, Dejan Raković²

¹ University of Criminalistic and Police Studies, Belgrade, Serbia; ² University of Belgrade, Faculty of Electrical Engineering, Belgrade, Serbia

19¹⁵-19³⁰ **Control of structure and thermo-reversible gelation of networks with reversible covalent Diels-Adler crosslinks**

Beata Strachota, Jiří Dybal, Libor Matějka

Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Heyrovsky Sq. 2, 162 06 Prague 6, Czech Republic

SECOND YUCOMAT ORAL SESSION

Thursday, September 5, 2019

Main Conference Hall

Session I: 09⁰⁰-10³⁰

Chairpersons: Dragana Jugović and Zoran Jovanović

09⁰⁰-09¹⁵ **The structure and electrochemical properties of fayalite Fe₂SiO₄**

Dragana Jugović¹, Miodrag Mitrić², Miloš Milović¹, Valentin N. Ivanovski², Srečo D. Škapin³,
Dragan P. Uskoković¹

¹Institute of Technical Sciences of SASA, Belgrade, Serbia; ²Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia; ³Jožef Štefan Institute, Jamova 39, SI-1000 Ljubljana, Slovenia

09¹⁵-09³⁰ **Fabrication of graphene/Cu flexible electrode with excellent mechanical reliability and electrical performance**

Bin Zhang, Yu-Jia Yang

Key Laboratory for Anisotropy and Texture of Materials, Ministry of Education, School of Materials Science and Engineering, Northeastern University, 3-11 Wenhua Road, Shenyang 110819, PR China

09³⁰-09⁴⁵ **PLD growth of STO/PZT thin films on graphene oxide-buffered Si (001) surface**

Zoran Jovanović^{1,2}, Urška Gabor¹, Elena Tchernychova³, Danilo Suvorov¹, Matjaž Spreitzer¹

¹Advanced Materials Department, Jožef Stefan Institute, Ljubljana, Slovenia; ²Laboratory of Physics, Vinča Institute of Nuclear Sciences, Belgrade, Serbia; ³National Institute of Chemistry, Ljubljana, Slovenia

09⁴⁵-10⁰⁰ **Deposition of nanocomposite organosilicon thin films under dusty plasma conditions**

Vilma Bursikova¹, Vojtěch Homola¹, Štěpánka Bittnerová¹, Roman Příbyl¹, Petr Tomšej¹,
Monika Stupavská¹, Anna Charvatova Campbell², Petr Klapetek², Romana Mikšová³, Vratislav Perina³

¹Institute of Physical Electronics, Faculty of Science, Masaryk University, Kotlarska 2, 611 37 Brno, Czech Republic; ²Czech Metrology Institute, Okružni 31, 63800 Brno, Czech Republic; ³Institute of Nuclear Physics, Academy of Sciences of the Czech Republic, 25068 Rez near Prague, Czech Republic

10⁰⁰-10¹⁵ **Photovoltaic perovskites for high sensitive X-ray detection**

Veljko Đokić, Anastasiia Glushkova, Pavao Andričević, Alla Arakcheeva, Márton Kollár, Endre Horváth, and László Forró

Laboratory of Physics of Complex Matter, Ecole Polytechnique Fédérale de Lausanne (EPFL), 1015 Lausanne, Switzerland

10¹⁵-10³⁰ **Effect of graphite reinforcements on the tribological properties of Al₂O₃ coatings deposited by plasma spraying**

Liutauras Marcinauskas¹, Mindaugas Milieška², Jacob Shiby Mathew¹, Romualdas Kėželis², Vilius Dovydaitis¹, Brigita Abakevičienė¹, Aleksandras Iljinis¹, Mitjan Kalin³

¹Kaunas University of Technology, Studentų 50 Kaunas, Lithuania; ²Lithuanian Energy Institute, Breslaujos 3 Kaunas, Lithuania; ³University of Ljubljana, Bogiščićeva 8, 1000 Ljubljana, Slovenia

Break: 10³⁰-11⁰⁰

Session II: 11⁰⁰-12⁴⁵

Chairpersons: Anatole N. Khodan and Jan Kusinski

11⁰⁰-11¹⁵ **Optical and structural properties of tin oxide thin films doped with fluorine obtained by USP technique**

Nora Castillo Tepox, José A. Luna López, Alvaro D. Hernández de la Luz

Centro de Investigación en Dispositivos Semiconductores, CIDS, ICUAP, Benemérita Universidad Autónoma de Puebla, 14 sur y Av. San Claudio, Cd. Universitaria, Edificios IC-5, IC-6, Puebla, Pue., 72570, México

11¹⁵-11³⁰ **Photoluminescence enhancement of Dy³⁺-doped tellurite glasses through nanoparticle doping for solid-state lighting applications**

Ali Erçin Ersundu, Orhan Kibrisli, Miray Çelikkilek Ersundu

Yildiz Technical University, Department of Metallurgical and Materials Engineering, Faculty of Chemical and Metallurgical Engineering, Istanbul, 34220, Turkey

11³⁰-11⁴⁵ **Point defect-enhanced optical and photoelectrochemical water splitting activity of nanostructured Zn_{1-x}Fe_yO_(1-x+1.5y)**

Smilja Marković¹, Vladimir Rajić², Ivana Stojković Simatović³, Ljiljana Veselinović¹, Jelena Belošević Čvor², Valentin N. Ivanovski², Mirjana Novaković², Srečo D. Škapin⁴, Stevan Stojadinović⁵, Vladislav Rac⁶, Dragan P. Uskoković¹

¹Institute of Technical Sciences of SASA, Belgrade, Serbia; ²The Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia; ³Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia; ⁴Jožef Stefan Institute, Ljubljana, Slovenia; ⁵Faculty of Physics, University of Belgrade, Belgrade, Serbia; ⁶Faculty of Agriculture, University of Belgrade, Zemun, Serbia

11⁴⁵-12⁰⁰ **Development of new functional materials and 3D nanocomposites for applications in THz optics**

Anatole N. Khodan¹, Kirill I. Zaytsev², Vladimir N. Kurlov³, Gennady P. Kopitsa⁴

¹Frumkin Institute of Physical Chemistry and Electrochemistry RAS, Moscow, Russia, ²Prokhorov General Physics Institute RAS, Moscow, Russia, ³Institute of Solid State Physics RAS, Chernogolovka, Russia, ⁴Konstantinov Petersburg Nuclear Physics Institute, NRC “Kurchatov Institute”, Gatchina, Russia

12⁰⁰-12¹⁵ **Electron holography examination of FeSiB ribbons crystallized by using interference pulsed laser heating**

Jan Kusinski¹, Olaf Czyz¹, Agnieszka Radziszewska¹, Roman Ostrowski², Krzysztof Morawiec³, Piotr Dłużewski³, Małgorzata Kac⁴

¹AGH University of Science and Technology, Al. Mickiewicza 30, 30-059 Krakow, Poland;

²Military University of Technology, Institute of Optoelectronics, Warsaw, 2 Gen. S. Kaliskiego,

00-908 Warsaw, Poland; ³Institute of Physics Polish Academy of Sciences, Al. Lotnikow 32/46,

02-668 Warsaw, Poland; ⁴Institute of Nuclear Physics Polish Academy of Sciences, ul.

Radzikowskiego 152, 31-342 Krakow, Poland

12¹⁵-12³⁰ **Acoustically tuned quantum light emission from atom-like defects in hexagonal boron nitride**

Snežana Lazić¹, Sergio Pinilla Yanguas¹, Carlos Gibaja², Félix Zamora² and Herko P. Van der Meulen¹

¹Departamento de Física de Materiales, Instituto “Nicolás Cabrera” and Instituto de Física de Materia Condensada (IFIMAC), Universidad Autónoma de Madrid (UAM), 28049 Madrid, Spain;

²Departamento de Química Inorgánica, UAM, 28049 Madrid, Spain

12³⁰-12⁴⁵ **Mechanical properties of 1T-TaS₂**

Luka Ćirić, Raphael Foschia, Anastasia Glushkova, Narjes Noma, Ayat Karimi, Iva Tkalcic, Samy Adjam, Daniele Marie, Helmut Berger and Laszlo Forró

Ecole Polytechnique Federal de Lausanne, Laboratory of Physics of Complex Matter, Lausanne, Vaud, Switzerland

THIRD YUCOMAT ORAL SESSION

Small Conference Hall

Session I: 09⁰⁰-10³⁰

Chairpersons: Đorđe Veljović and Sonja Jovanović

09⁰⁰-09¹⁵ **Effects of annealing on the physical properties of various metallic oxides**

Sorina Iftimie¹, Claudiu Locovei^{1,2}, Adrian Radu¹, Vlad-Andrei Antohe^{1,3}, Marcela Socol², Anca Dumitru¹, Ana-Maria Raduta¹, Lucian Ion¹, Stefan Antohe^{1,4}

¹University of Bucharest, Faculty of Physics, Magurele, 077125, Romania; ²National Institute of

Materials Physics, Magurele, 077125, Romania; ³Université Catholique de Louvain (UC

Louvain), Institute of Condensed Matter and Nanosciences (IMCN), Louvain-la-Neuve, B-1348,

Belgium; ⁴Academy of Romanian Scientists, 030167, Bucharest, Romania

09¹⁵-09³⁰ **Cryo-deformation by upsetting-extrusion: effect on microstructure and mechanical properties of CoCrFeMnNi high-entropy alloy**

Anastasia Levenets, Alexander S. Kalchenko, Mikhail A. Tikhonovsky, Pavel A. Khaimovich

National Science Center “Kharkiv Institute of Physics and Technology”, Kharkiv, Ukraine

09³⁰-09⁴⁵ Microstructure and mechanical property of solid-phase joints formed by EP975 superalloy and VKNA-25 type intermetallic alloys

Elvina Galieva¹, Andrey Drozdov², Vener Valitov¹, Elvira Arginbaeva³, Ramil Lutfullin¹

¹Institute for Metals Superplasticity Problems of Russian Academy of Sciences, 450001, Ufa, Russia; ²Baikov Institute of Metallurgy and Materials Science, Russian Academy of Sciences, 119334, Moscow, Russia; ³All-Russia Research Institute of Aviation Materials (VIAM), 105005, Moscow, Russia

09⁴⁵-10⁰⁰ Synthesis and catalytic properties of Co-Pt, Cu-Pd, Ni-Pt nanoalloys

Anton Popov¹, Yury Shubin¹, Pavel Plusnin¹, Danila Kal'nyi¹, Ilya Mishakov², Yury Bauman²

¹Nikolaev Institute of Inorganic Chemistry of SB RAS, Novosibirsk, Russia; ²Boreskov Institute of Catalysis of SB RAS, Novosibirsk, Russia

10⁰⁰-10¹⁵ Peculiarities of impurity effect on the oxygen adsorption on the Ti₃Al(0001) and TiAl(100) surfaces

Svetlana E. Kulkova^{1,2}, Alexander V. Bakulin^{1,2}, Sergey S. Kulkov^{1,2}

¹Institute of Strength Physics and Materials Science SB RAS, Tomsk, Russia; ²Tomsk State University, Tomsk, Russia

10¹⁵-10³⁰ Screen-printed thin smooth nanostructured BaTiO₃ films for printed electronics

Saïde Umerova, Serhii Ivanchenko, Dmitro Baranovskiy, Olha Kovalenko, Andrey Ragulya
Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

Break: 10³⁰-11⁰⁰

Session II: 11⁰⁰-12³⁰

Chairpersons: Branko Matović and Vuk Radmilović

11⁰⁰-11¹⁵ Mechanism of topochemical conversion of Bi₄Ti₃O₁₂ in SrTiO₃ nanoplates under hydrothermal conditions

Alja Čontala^{1,2}, Nina Daneu¹, Matjaž Spreitzer¹ and Marjeta Maček Kržmanc¹

¹Jožef Stefan Institute, Advanced Materials Department, Jamova cesta 39, Ljubljana, Slovenia; ²Jožef Stefan International Postgraduate School, Jamova cesta 39, 1000 Ljubljana, Slovenia

11¹⁵-11³⁰ Synthesis of anodic alumina membrane with defined pore diameters

Iwona Dobosz, Wanda Gumowska

AGH, University of Science and Technology, Faculty of Non - Ferrous Metals, al. Mickiewicza 30, 30-059 Krakow, Poland

11³⁰-11⁴⁵ Mechanical behavior of nanocrystalline Ni-Mo layers processed by electrodeposition

Garima Kapoor¹, László Péter², Éva Fekete², Dávid Ugi¹, György Radnóczy³, Jenő Gubicza¹

¹Department of Materials Physics, Eötvös Loránd University, Budapest, Hungary; ²Wigner Research Centre for Physics, Hungarian Academy of Sciences, Budapest, Hungary; ³Institute for Technical Physics and Mater. Sci., Centre for Energy Research HAS, Budapest, Hungary

- 11⁴⁵-12⁰⁰ **Prediction of the temper of hardening in the free and bounded bending of long-length, low-alloyed copper billets under high-cycle processing conditions**
Georgy I. Raab, Rashid N. Asfandiyarov, Arseniy G. Raab, Denis A. Aksenov
Research Institute of Physics of Advanced Materials at USATU, Ufa, Russia
- 12⁰⁰-12¹⁵ **Development and characterization of carbon nanotube reinforced natural rubber composite for prosthetic foot application**
Rasaq O. Medupin^{1,2}, Oladiran K. Abubakre^{1,2}, Ambali S. AbdulKareem^{1,3}, Rasheed A. Muriana^{1,2} and James A. Adeniran⁴
¹Nanotechnology Research Group, Federal University of Technology, Minna, Nigeria; ²Mechanical Engineering Department, Federal University of Technology, Minna, Nigeria; ³Chemical Engineering Department, Federal University of Technology, Minna, Nigeria; ⁴Federal Medical Centre, Bida, Nigeria
- 12¹⁵-12³⁰ **Effects of cooling rate during casting on the corrosion resistance of 6xxx aluminium alloy**
Joseph B. Agboola¹, Anyoku S. Emmanuel² and Atinuke M. Oladoye²
¹Department of Materials and Metallurgical Engineering, Federal University of Technology, Minna, Nigeria; ²Department of Metallurgical and Materials Engineering, University of Lagos, Lagos, Nigeria

FOURTH YUCOMAT ORAL SESSION

Friday, September 6, 2019

Main Conference Hall

Session I: 09⁰⁰-11¹⁵

Chairpersons: Natalia Kamanina and Bojana Obradović

09⁰⁰-09¹⁵ Hemodialysis composite membranes with functionalized graphene

Iulian Antoniac¹, Aurora Antoniac¹, Andrada Serafim², Andreea Iordache^{2, 3}, Andreea Madalina Pandelescu^{2,3}, Stefan Ioan Voicu^{2,3}

¹University Politehnica of Bucharest, Faculty of Materials Science and Engineering, Bucharest, Romania; ² University Politehnica of Bucharest, Advanced Polymer Materials Group, Gheorghe Polizu 1-7, 011061 Bucharest, Romania; ³University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Analytical Chemistry and Environmental Engineering, Str. Gheorghe Polizu 1-7, Bucharest, Romania

09¹⁵-09³⁰ Supercritical CO₂ utilization in preparation of poorly soluble drugs solid dispersions

Jelena Đuriš¹, Stoja Milovanović², Đorđe Medarević¹, Vladimir Dobričić¹, Svetlana Ibrić¹

¹University of Belgrade, Faculty of Pharmacy, Vojvode Stepe 450, 11221, Belgrade, Serbia; ²University of Belgrade, Faculty of Technology and Metallurgy, Karnegijeva 4, 11120, Belgrade, Serbia

09³⁰-09⁴⁵ New agents for nitric oxide (NO) chemotherapy of bacterial infections

Nataliya A. Sanina

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

09⁴⁵-10⁰⁰ Controllable release of oxaprozin from hydroxyapatite nano-particles

Vukašin Ugrinović¹, Bojan Božić², Đorđe Janačković³, Đorđe Veljović³

¹Innovation Center of Faculty of Technology and Metallurgy, Belgrade, Serbia; ²Institute of Physiology and Biochemistry, Faculty of Biology, Belgrade, Serbia; ³Faculty of Technology and Metallurgy, Belgrade, Serbia

10⁰⁰-10¹⁵ Polysaccharide-coated polylactide microparticles with controlled surface structure

Tatiana S. Demina^{1,2}, Liubov A. Kilyashova³, Tatiana N. Popyrina^{1,3}, Christian Grandfils⁴, Peter S. Timashev², Tatiana A. Akopova¹

¹Enikolopov Institute of Synthetic Polymer Materials RAS, Moscow, Russia; ²Institute for Regenerative Medicine, Sechenov University, Moscow, Russia; ³Moscow Aviation Institute, Moscow, Russia; ⁴CEIB, University of Liège, Liège, Belgium

10¹⁵-10³⁰ **Hydroxyapatite/ β -tricalcium phosphate granules enriched with strontium induce improved bone regeneration in osteoporotic bone: comparison between 11 different bone conditions**

Janis Zarins^{1,2}, Mara Pilmane², Elga Sidhoma², Ilze Salma³, Janis Loes⁴

¹Department of Hand and Plastic Surgery, Microsurgery Centre of Latvia, Brivibas Street 410, LV-1024, Riga, Latvia; ²Institute of Anatomy and Anthropology, Riga Stradins University, Kronvalda boulevard 9, LV-1010, Riga, Latvia; ³Department of Oral and Maxillofacial Surgery, Riga Stradins University, Dzirciema Street 20, LV-1007, Riga, Latvia; ⁴Rudolfs Cimdins Riga Biomaterials Innovations and Development Centre of Riga Technical University, Pulka Street 3, LV-1007, Riga, Latvia

10³⁰-10⁴⁵ **Hydroxyapatite nano particles doped with Gd³⁺, Yb³⁺/Tm³⁺ and Eu³⁺ as lumino-magnetic multimodal contrast agents**

Nenad L. Ignjatović¹, Lidija Mančić¹, Marina Vuković², Zoran Stojanović¹, Marko G. Nikolić³, Srečo D. Škapin⁴, Sonja Jovanović^{4,5}, Ljiljana Veselinović¹, Snežana Lazić⁶, 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; ² University of Belgrade, Innovation center, Department of General and Inorganic Chemistry, Studentski trg 12-16, Beograd, Serbia; ³University of Belgrade, Institute of Physics, Photonic Center, Zemun, Serbia; ⁴Jožef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia; ⁵University of Belgrade, Vinča Institute of Nuclear Sciences, PO Box 522, 11001 Belgrade, Serbia; ⁶ Universidad Autónoma de Madrid (UAM), Instituto Universitario de Ciencia de Materiales “Nicolás Cabrera” (INC) and Condensed Matter Physics Center (IFIMAC), Departamento de Física de Materiales, 28049 Madrid, Spain

10⁴⁵-11⁰⁰ **The effect of Ga-substitution on magneto-structural properties of cobalt ferrite nanoparticles**

Sonja Jovanović^{1,2}, Davide Peddis^{3,4}, Nader Yaacoub⁵, Matjaž Spreitzer¹, Marija Vukomanović¹

¹Advanced Materials Department, Jožef Stefan Institute, Jamova cesta 39, Ljubljana, Slovenia; ²Laboratory of Physics, Vinča Institute of Nuclear Sciences, University of Belgrade, Mike Petrovića Alasa 12-14, Belgrade, Serbia; ³nM2-Lab, Istituto di Struttura della Materia, CNR, Monterotondo Scalo (Roma) 00015, Italy; ⁴Department of Chemistry and Industrial Chemistry, University of Genova, Genova, Italy; ⁵LUNAM, Université du Maine, Institut des Molécules et Matériaux du Mans CNRS UMR-6283, F-72085 Le Mans, France

11⁰⁰-11¹⁵ **Materials properties modification *via* nanotechnology approach**

Natalia Kamanina

Vavilov State Optical Institute, St.- Petersburg, Russia; St.-Petersburg Electrotechnical University (“LETI”), St.- Petersburg, Russia

FIFTH YUCOMAT ORAL SESSION

Small Conference Hall

Session I: 09⁰⁰-11³⁰

Chairpersons: Smilja Marković and Veljko Đokić

09⁰⁰-09¹⁵ **Solvent-free mechanochemical reactions of chitosan: a green chemistry approach**

Tatiana A. Akopova

Enikolopov Institute of Synthetic Polymeric Materials RAS, Profsoyuznaya 70, Moscow, Russia

09¹⁵-09³⁰ **Characterization and application of molybdenum-oxides in liquid-phase hydrodeoxygenation of furfural**

Aleksa Kojčinović, Miha Grilc, Blaž Likozar

Department of Catalysis and Chemical Reaction Engineering, National Institute of Chemistry, Hajdrihova 19, 1000 Ljubljana, Slovenia

09³⁰-09⁴⁵ **Zero waste recovery of mining and industrial waste**

Mateja Košir, Ana Mladenović, Alenka Mauko Pranjić, Petra Vrhovnik, Kim Mezga

Slovenian National Building and Civil Engineering Institute, Ljubljana, Slovenia

09⁴⁵-10⁰⁰ **Influence of the sintering temperature on the microstructure of belite-sulfoaluminate cement clinkers**

Martina Cvetković¹, Lea Žibret¹, Andrej Ipavec², Sabina Kramar¹

¹Slovenian National Building and Civil Engineering Institute, Dimičeva ulica 12, SI-1000 Ljubljana, Slovenia; ²Salonit Anhovo d.d., Anhovo 1, SI-5210 Deskle, Slovenia

10⁰⁰-10¹⁵ **Dielectric loss factor of jute woven fabrics: effect of alkali treatment conditions**

Aleksandra Ivanovska¹, Dragana Cerović², Koviljka Asanović¹, Mirjana Kostić¹

¹Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, Belgrade 11000, Serbia; ²Faculty of Physics, University of Belgrade, Studentski Trg 12, Belgrade 11000, Serbia

10¹⁵-10³⁰ **A novel type of building material derived from the by-products of steel making industry**

Irena Nikolić^{1,2}, Ivana Milašević², Nevena Cupara², Ljubica Ivanović², Dijana Đurović², Smilja Marković³, Ljiljana Veselinović³, Vuk Radmilović⁴, Velimir Radmilović⁵

¹University of Montenegro, Faculty of Metallurgy and Technology, Podgorica, Montenegro;

²Institut of Public Health of Montenegro, Podgorica, Montenegro; ³Institute of Technical Sciences of SASA, Belgrade, Serbia; ⁴Faculty of Technology and Metallurgy, Belgrade, Serbia;

⁵Serbian Academy of Sciences and Arts, Belgrade, Serbia

10³⁰-10⁴⁵ **Comparative studies on electrodeposition of metals from gluconate solutions**

Ewa Rudnik

AGH University of Science and Technology, Faculty of Non-Ferrous Metals, al. Mickiewicza 30, 30-059 Cracow, Poland

10⁴⁵-11⁰⁰ **Conditions of non-cryogenic brittle fracture of different starch grains under their mechanical treatment**

Anatoly Politov^{1,2}, Valeria Vasikhovskaya², Margarita Pravdina³, Chengmin Wang⁴

¹Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia,

²Novosibirsk State University, Novosibirsk, Russia, ³Kutateladze Institute of Thermophysics SB RAS, Novosibirsk, Russia, ⁴Dongguan Vladimir Biotechnology Co. Ltd, Dongguan, Guangdong, China

11⁰⁰-11¹⁵ **Heterogeneous enzymatic hydrolysis of non-cryogenic brittle fractured starch**

Valeria Vasikhovskaya¹, Anatoly Politov^{1,2}

¹Novosibirsk State University, Novosibirsk, Russia, ²Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia

11¹⁵-11³⁰ **Making a curved part with LATP technology using two synchronized robots, without using a physical mandrel**

Samoil Samak¹, Vele Samak¹, Dimitar Bogdanoski¹, Zlatko Sokoloski¹, Blagoja Samakoski², Svetlana Risteska²

¹Mikrosam D.O.O, Prilep, North Macedonia; ²Institute for Advanced Composites and Robotics (IACR), Prilep, North Macedonia

POSTER SESSION I

Tuesday, September 3, 2019, 20⁰⁰-22⁰⁰

Chairpersons: Vuk V. Radmilović, Željko Radovanović

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

P.S.A.1. Physicochemical properties of cobalt ferrite nanoparticles synthesized by using linear surfactants and non-planar stereogenic-at-metal complexes

Ivan Kozenkov¹, Sonja Jovanović^{2,3}, Rafiali Rafializade¹, Alexander Bulychev¹, Valeria Rodionova¹

¹Laboratory of novel magnetic materials, Immanuel Kant Baltic Federal University, Kaliningrad, Russia; ²Advanced materials department, Jožef Stefan Institute, Ljubljana, Slovenia; ³Laboratory of Physics, Vinca Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia

P.S.A.2. Hall-Petch relation in harmonic structure designed Ni compacts

Hiroki Hino¹, Bhupndra Sharma², Mie Kawabata², Kei Ameyama²

¹Graduate School of Science and Engineering, Ritsumeikan University; ²Faculty of Science and Engineering, Ritsumeikan University, Shiga, Japan

P.S.A.3. Preferential recrystallization by thermo-mechanical processing in pure titanium with harmonic structure

Kyohei Hayashi¹, Akito Shimamura¹, Bhupendra Sharma², Mie Kawabata², Kei Ameyama²

¹Graduate School of Science and Engineering Ritsumeikan University, Kusatsu/Shiga, Japan; ²Department of Mechanical Engineering Ritsumeikan University, Kusatsu/Shiga, Japan

P.S.A.4. Microstructure and mechanical properties of harmonic structure designed Cu-9 at% Ge alloy

Kenta Hori¹, Bhupndra Sharma², Mie Kawabata², Kei Ameyama²

¹Graduate School of Science and Engineering, Ritsumeikan University, Kusatsu/Shiga, Japan; ²Faculty of Science and Engineering, Ritsumeikan University, Shiga, Japan

P.S.A.5. Effect of UFG structure on mechanical properties in harmonic structure designed pure-Ni

Taiki Kambara¹, Masaya Nagata², Bhupendra Sharma³, Mie Kawabata³, Kei Ameyama³

¹Graduate School of Science and Engineering Ritsumeikan University, Kusatsu/Shiga, Japan; ²Japan Patent Office, Tokyo, Japan; ³Department of Mechanical Engineering Ritsumeikan University, Kusatsu/Shiga, Japan

P.S.A.6. Harmonic structure design of Co-Cr-Mo alloy and its mechanical properties

Sho Matsumura, Bhupendra Sharma, Mie Kawabata, Kei Ameyama

Department of Mechanical Engineering, Ritsumeikan University, Kusatsu/Shiga, Japan

P.S.A.7. Improvement of mechanical properties of harmonic structure SUS304L by thermo-mechanical process

Taishu Tsujino¹, Masashi Nakatani¹, Bhupendra Sharma², Mie Kawabata², Kei Ameyama²

¹Graduate School of Science and Engineering Ritsumeikan University, Kusatsu/Shiga, Japan;

²Department of Mechanical Engineering Ritsumeikan University, Kusatsu/Shiga, Japan

P.S.A.8. Plasma electrolysis oxidation using a pulsed unipolar power supply to improve electrochemical behavior of 316L austenitic steel

Victor Aurel Andrei¹, Viorel Malinovski², Cristiana Rădulescu¹, Elisabeta Coaca³, Ioana Daniela Dulama¹

¹Valahia University of Targoviste, Institute of Multidisciplinary Research for Science and Technology, 130004 Targoviste, Romania; ²University of Pitesti, 110040 Pitesti, Romania;

³Institute for Nuclear Research, str. Campului, 1, Mioveni, Arges, Romania

P.S.A.9. Synthesis of titanium nitride via hybrid polymeric composites

Anca Dumitru¹, Sorina Iftimie¹, Anita Radu², Andreea Miron², Andrei Sarbu², Cristian Panaiotu¹, Claudiu Locovei^{1,3}, Carmen Lazau⁴

¹Faculty of Physics, University of Bucharest, Bucharest-Magurele, 077125, Romania; ²National Research and Development Institute for Chemistry and Petrochemistry INCDCP-ICECHIM, Advanced Polymer Materials and Polymer Recycling, 060021 Bucharest, Romania; ³National Institute of Materials Physics, Bucharest-Magurele, 077125, Romania; ⁴National Institute for Research and Development in Electrochemistry and Condensed Matter, 300224 Timisoara, Romania

P.S.A.10. Synthesis, structural modelling and functional properties of amorphous transition metal polysulfides

Ekaterina D. Grayfer¹, Sofya B. Artemkina¹, Andrey N. Enyashin², Anastassiia A. Poltarak¹, Anastasiia D. Fedorenko¹, Pavel A. Poltarak¹, Mariia N. Ivanova¹, Sung-Jin Kim³, Vladimir E. Fedorov^{1,4}

¹Nikolaev Institute of Inorganic Chemistry, Siberian Branch of Russian Academy of Sciences, 3, Acad. Lavrentiev Ave., Novosibirsk, 630090, Russia; ²Institute of Solid State Chemistry, Ural Branch of Russian Academy of Sciences, 91, Pervomayskaya st., Ekaterinburg, 620990, Russia; ³Ewha Womans University, Division of Nano Sciences/Department of Chemistry, Daehyun-dong, Seodaemun-gu, 11-1, Seoul 120-750, Republic of Korea; ⁴Novosibirsk State University, 2, Pirogova street, Novosibirsk, 630090, Russia

P.S.A.11. Application of high intensity ultrasound for obtaining magnesium hydroxide from seawater

Jelena Jakić, Miroslav Labor, Vanja Martinac, Ana Marija Šunjić

Faculty of Chemistry and Technology, Ruđera Boškovića 35, 21000 Split, Croatia

P.S.A.12. Thin films for multilayer devices by tape casting method

Serhii Ivanchenko, Saide Umerova, Dmytro Baranovskyi, Andrey V. Ragulya

Frantsevich Institute for Problems of Materials Science of National Academy of Sciences of Ukraine, Kiev, Ukraine; Nanotechcenter LLC, Kiev, Ukraine

P.S.A.13. Investigation of ZrN-ZrB₂ composition synthesis by spark plasma sintering method

Olexander Petukhov, Hanna Borodianska, Andrey V. Ragulya

Frantsevich Institute for Problems of Materials Science of National Academy of Sciences of Ukraine, Kiev, Ukraine

P.S.A.14. Synthesis, crystal structures and magnetic properties of mono and dinuclear Cu(II) complexes with the condensation product of 2-acetylpyridine and Girard's T reagent

Nevena Stevanović¹, Dušanka Radanović², Milica R. Milenković¹, Božidar Čobeljić¹ and Katarina Anđelković¹

¹Faculty of Chemistry, University of Belgrade, Studentski trg 12-16, 11000 Belgrade, Serbia;

²Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Njegoševa 12, P.O. Box 815, 11000 Belgrade, Serbia

P.S.A.15. Development of sugarcane bagasse reinforced onibode clay composite for high voltage insulation

Joseph .B. Agboola¹, Suleiman B. Hassan², Afeez A. Lukman³

¹Department of Materials and Metallurgical Engineering, Federal University of Technology, Minna, Nigeria; ²National Institute of Mining and Geosciences, Jos, Nigeria; ³Department of Metallurgical and Materials Engineering, University of Lagos, Lagos, Nigeria

P.S.A.16. Vacuum UV spectroscopy for improvement of Calibration Free LIBS analysis of Si, Ge and Sn containing alloys

Pavel Veis¹, Alicia Marín Roldán¹, Jaroslav Krištof^{1,2}

¹DEP, FMPI, Comenius University, Mlynská dol. F2, Bratislava 842 48 Slovakia;

²Graduate School of Science and Technology, Shizuoka Univ., Hamamatsu, 432-8561 Japan

YUCOMAT SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATION

P.S.B.1. Cost effective alloys based catalysts for alkaline fuel cells application

Ljiljana Gajić-Krstajić¹, Borka Jović², Vladimir Jović², Piotr Zabinski³, Nevenka Elezović²

¹Institute of Technical Sciences of Serbian Academy of Science and Arts, Knez Mihajlova 45, 11000 Belgrade, Serbia; ²Institute for Multidisciplinary Research University of Belgrade, P.O. Box 33, 11030 Belgrade, Serbia; ³AGH University of Science and Technology, Faculty of Non-Ferrous Metals, Al. Mickiewicza 30, Krakow, Poland

P.S.B.2. Polyanionic cathode material $\text{Na}_4\text{Fe}_3(\text{PO}_4)_2\text{P}_2\text{O}_7/\text{C}$ for aqueous sodium-ion batteries

Aleksandra Gezović¹, Veselinka Grudić¹, Miloš Milović², Danica Bajuk-Bogdanović³, Milica Vujković³

¹University of Montenegro, Faculty of Metallurgy and Technology, Podgorica, Montenegro; ²Institute for Nuclear Sciences Vinča, Belgrade, Serbia; ³University of Belgrade, Faculty of Physical Chemistry, Belgrade, Serbia

P.S.B.3. Thermolysis prepared Co_3O_4 carbon paste electrode decorated with single wall nanotubes as voltammetric sensor for determination of antioxidant α -lipoic acid

Branka B. Petković¹, Dalibor M. Stanković², Miloš Ognjanović², Vyacheslav Viktorovich Avdin³, Magdalena Radović², Dragan D. Manojlović⁴, Sanja Vranješ Đurić²

¹University of Priština-Kosovska Mitrovica, Faculty of Sciences, Lole Ribara 29, 38220 Kosovska Mitrovica, Serbia; ²The Vinča Institute of Nuclear Sciences, Mike Petrovića Alasa 12-14, 11000, Belgrade, Serbia; ³South Ural State University, 76, Lenin prospekt, Chelyabinsk, Russia, 454080; ⁴University of Beograd, Faculty of Chemistry, Studentski trg 12-16, Beograd, Serbia

P.S.B.4. Special application possibilities of metakaolin based geopolymer foams

Adrienn Boros, Tamás Korim

Institute of Materials Engineering, University of Pannonia, Veszprém, Hungary

P.S.B.5. Ultra-fast volume-responsive temperature- and pH-sensitive poly(N-isopropylacrylamide) hydrogels

Sabina Horodecka, Khrystyna Hishchak, Beata Strachota, Adam Strachota, Miroslav Šlouf

Institute of Macromolecular Chemistry, Czech Academy of Sciences, Heyrovského nám. 2, CZ-162 06 Praha 6, Czech Republic

P.S.B.6. X-ray spectra, electron structure and physical properties of the Ce_2ScSi_2 and CeScSi compounds

Ivan Shcherba¹, Victor Antonov², Henryk Noga³, Dragan Uskoković⁴, Zinovija M. Shpyrka¹, Bohdan M. Yatcyk⁵

¹Ivan Franko National University, Kyryla & Mefodiya Str. 8, 79-005 Lviv, Ukraine; ²Institute of Metal Physics, NASU, Vernadskyj Str. 36, 03-142 Kiev, Ukraine; ³Institute of Technology, Pedagogical University, Podchoranzych Str. 2, Cracow, Poland; ⁴Institute of Technical Sciences of SASA Knez Mihailova 35/IV, Belgrade, Serbia; ⁵Lviv National University of Veterinary Medicine and Biotechnologies, Lviv, Ukraine

P.S.B.7. Theory and experiment - Slowing probe and conjugate pulses in potassium vapor using Four Wave Mixing

Željka Nikitović, Marija Ćurčić, Bojan Zlatković, Ivan Radojičić, Dušan Arsenović and Branislav Jelenković

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

P.S.B.8. Cup anemometer friction torque and classification according IEC standard

Miodrag Zlatanović^{1,2}, Ivan Popović²

¹Wind Electricity doo, Belgrade, Serbia; ²School of Electrical Engineering, Belgrade, Serbia

POSTER SESSION II

Wednesday, September 4, 2019, 20⁰⁰-22⁰⁰

Chairpersons: Zoran Jovanović, Đorđe Veljović

YUCOMAT SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATIONS

P.S.B.9. Laser welding of similar materials

Agnieszka Radziszewska¹, Sławomir Kać¹, Włodzimierz Zowczak², Olaf Czyż¹, Damian Kocłęga¹, Bogdan Antoszewski²

¹Faculty of Metals Engineering and Industrial Computer Science, AGH University of Science and Technology in Krakow, al. Mickiewicza 30, 30-059 Krakow, Poland; ²Kielce University of Technology, Faculty of Mechatronics and Machine Desing, 1000-lecia Panstwa Polskiego 7, 25-314 Kielce, Poland

P.S.B.10. Corrosion resistance of high Al and MgSi Zinc alloys for batch hot dip galvanizing

Mariola Saternus, Henryk Kania

Silesian University of Technology, Gliwice, Poland

P.S.B.11. The properties of ZnAlMgSi alloys for batch hot dip galvanizing

Henryk Kania, Mariola Saternus

Silesian University of Technology, Gliwice, Poland

P.S.B.12. The effect of a single shock processing on mechanical properties Al-Li 2099 (T-83) alloy

Oleksandr Filatov¹, Sergii Bogdanov¹, Vladimir Mazanko¹, Sergii Vorona¹, Ievgen Bogdanov¹, Sergii Kotrechko¹, Oleksandra Zatsarna¹, Łukasz Kaczmarek², Marek Klich²

¹G. V. Kurdyumov Institute for Metal Physics of the N.A.S. of Ukraine, Kiev, Ukraine; ²Lodz University of Technology, Faculty of Mechanical Engineering, Lodz, Poland

P.S.B.13. Influence of the impurity segregation on the adhesion properties of Al₂O₃/Ti₃Al interface

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P.S.B.14. Localized plastic deformation autowaves under tension of nitinol specimens

Lidiya V. Danilova, Vadim V. Gorbatenko, Vladimir I. Danilov

Institute of Strength Physics and Materials Science SB RAS, Tomsk, Russia

P.S.B.15. DMA and TMA study of glass transition in Cu-Zr based bulk metallic glasses

Viktor Soprunyuk¹, Florian Spieckermann², Baran Sarac¹, Amir Rezvan¹, Wilfried Schranz³ and Jürgen Eckert^{1,2};

¹Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Leoben 8700, Austria; ²Chair of Materials Physics, University of Leoben, Leoben 8700, Austria; ³University of Vienna, Faculty of Physics, Physics of Functional Materials, Boltzmannngasse 5, A-1090 Wien, Austria

P.S.B.16. High-temperature phase relations in the $\text{Bi}_2\text{O}_3\text{-Mn}_2\text{O}_3\text{-M}_2\text{O}_3$ (M=Fe, Ga, Al) pseudo-ternary systems

Srečo Davor Škapin¹, Amalija Golobič², Danilo Suvorov¹, Matjaž Spreitzer¹

¹Advanced Materials department, Jožef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia;

²Faculty of Chemistry and Chemical Technology, Večna pot 113, 1000 Ljubljana, Slovenia

P.S.B.17. Low-temperature superplasticity of Ek61 and Ep975 superalloys with ultrafine-grained structure

Vener Valitov, Elvina Galieva, Aerika Bikmukhametova

Institute for Metals Superplasticity Problems of Russian Academy of Sciences, Ufa, Russia

P.S.B.18. Mechanical and microstructural properties of TRIP-matrix composites studied by neutron scattering methods

Gizo Bokuchava¹, Yulia Gorshkova¹, Igor Papushkin¹, Sergey Guk²

¹Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, Dubna, Russia;

²Institute for Metal Forming, TU Bergakademie Freiberg, Freiberg, Germany

P.S.B.19. Modeling of the processes of deformation of targets from single-crystal alloy VZHM8 under shock loading

Elena V.Tuch, Ekaterina A. Strebkova

Institute of Strength Physics and Materials Science of Siberian Branch Russian Academy of Sciences, 2/4, pr. Akademicheskii, Tomsk, 634055, Russia

P.S.B.20. Investigations on magnetic properties of the $\text{Fe}_{5-x}\text{Co}_x\text{SiB}_2$ alloys

Razvan Hirian¹, Olivier Isnard², Viorel Pop¹ and Diana Benea¹

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YUCOMAT SYMPOSIUM C: NANOSTRUCTURED MATERIALS

P.S.C.1. **Microstructure of Half-Heusler thermoelectric alloys after severe plastic deformation**

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P.S.C.2. **Multiple twinning and stacking faults in silver dendrites**

Vuk V. Radmilović¹, Josh Kacher², Evica R. Ivanović³, Andrew M. Minor⁴ and Velimir R. Radmilović^{1,5}

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P.S.C.3. **HPHT synthesis of nano-sized diamonds doped with Si or ¹³C for biological and medical applications**

Viatcheslav Agafonov¹, Valery Davydov², Ludmila Kulikova², Rustem Uzbekov³, Taras Plakhotnik⁴

¹GREMAN, University of Tours, Tours, France; ²L.F. Vereshchagin Institute for High Pressure Physics, RAN, Troitsk, Moscow, Russia; ³Laboratory of Cell biology and Electron microscopy, University of Tours, Tours, France; ⁴School of Mathematics and Physics, the University of Queensland, Queensland, Australia

P.S.C.4. **Oxygen storage capacity versus catalytic activity of ceria–zirconia solid solutions in CO and HCl oxidation**

Igor Đerd¹, Yu Sun^{2,3}, Chenwei Li^{2,3}, Omeir Khalid², Pascal Cop², Joachim Sann², Tim Weber², Sebastian Werner², Kevin Turke², Yanglong Guo³, Bernd M. Smarsly² and Herbert Over²

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P.S.C.5. **Structure, morphology and photocatalytic properties of Co_xMg_{1-x}Fe₂O₄ (0<x<1) spinel ferrites obtained by sol-gel synthesis**

Zorka Z. Vasiljević¹, Milena P. Dojčinović², Vera P. Pavlović³, Jelena Vujančević¹, Nenad B. Tadić³, Maria Vesna Nikolić²

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P.S.C.6. High-performance supercapacitors based on core-shell structured carbon fibers@spinel oxide composites

Daniel M. Mijailović¹, Vuk V. Radmilović², Uroš Č. Lačnjevac³, Dušica B. Stojanović², Vladimir D. Jović¹, Velimir R. Radmilović^{2,3}, Petar S. Uskoković²

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P.S.C.7. Citrate assisted solvothermal synthesis of β -NaYF₄: Yb, Er up-converting nanoparticles

Ivana Dinić¹, Marina Vuković¹, Predrag Vulić², Marko Nikolić³, Olivera Milošević⁴ and Lidija Mančić⁴

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P.S.C.8. Effect of rare earth elements (Eu³⁺, Sm³⁺, Yb³⁺/Er³⁺) doping on luminescence properties of Y₂MoO₆

Nadežda Stanković¹, Nina Daneu², Marko Nikolić³, Branko Matović¹

¹Vinča Institute of Nuclear Science, Belgrade, Serbia; ²Jožef Stefan Institute, Ljubljana, Slovenia; ³Institute of Physics Belgrade, Belgrade, Serbia

P.S.C.9. The effect of pH on visible-light photocatalytic properties of pseudobrookite nanoparticles

Zorka Z. Vasiljević¹, Milena P. Dojčinović², Jelena Vujančević¹, Nenad B. Tadić³, Maria Vesna Nikolić²

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P.S.C.10. Ion-irradiation of ZrNb nanoscale multilayers

Miroslav Karlík^{1,2}, Nabil Daghbouj³, Jan Lörinčík⁴, Tomáš Polcar³, Mauro Callisti⁵, Vladimír Havránek⁶

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P.S.C.11. Orientation dependence of microstructure formation in Cu-8% at. Al single crystals

Dorota Moszczyńska¹, Bogusława Adamczyk-Cieślak¹, Milena Koralniak¹, Tomasz Tokarski², Jarosław Mizera¹

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P.S.C.12. Utilizing ion beam irradiation for structural modification of 12-tungstophosphoric acid

Željko Mravik^{1,2}, Danica Bajuk-Bogdanović³, Ana Mraković⁴, Ivan Trajčić¹, Ljubiša Vukosavljević¹, Davor Peruško⁵, Zoran Jovanović^{1,2}

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P.S.C.13. Rapid reaction of Mo₂N nanowires with Pb²⁺ ions in water and its use for production of PbMoO₄ nanoparticles

Aleš Mrzel¹, Damjan Vengust¹, Matejka Podlogar^{1,2}, Mojca Vilfan¹

¹J. Stefan Institute, Jamova 39, 1000, Ljubljana, Slovenia; ²National Institute of Chemistry, Hajdrihova 19, 1000, Ljubljana, Slovenia

P.S.C.14. Consequences of confinement conditions on absorption in molecular nanofilms

Ana J. Šetrajčić–Tomić¹, Matilda Vojnović¹, Igor J. Šetrajčić², Siniša M. Vučenović³, Jovan P. Šetrajčić^{4,5}

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POSTER SESSION III

Thursday, September 5, 2019, 20⁰⁰-22⁰⁰

Chairpersons: Ivana Dinić and Veljko Đokić

YUCOMAT SYMPOSIUM C: NANOSTRUCTURED MATERIALS

P.S.C.15. Structural investigations of alloyed Al with TiCN nanopowder under load and tensile

Stefan Valkov¹, Rumiana Lazarova², Julia Goschkova³, Gizo Bokuchava³, Peter Petrov¹

¹E. Djakov Institute of electronics, Bulgarian Academy of Sciences, 72 Tzarigradsko chaussee, 1784 Sofia, Bulgaria; ²Institute of Metal Science, Equipment and Technologies with Hydro and Aerodynamics center, Bulgarian Academy of Sciences, 67 Shipchenski Prohod blvd., 1574 Sofia, Bulgaria; ³Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, 6 Joliot-Curie Str., 141980 Dubna, Russia

P.S.C.16. Cubic silver nanoparticles fixed on TiO₂ nanotubes as a simple and efficient substrates for surface enhanced Raman scattering

Robert Ambroziak¹, Marcin Hołdyński², Tomasz Płociński³, Marcin Pisarek², Andrzej Kudelski¹

¹Faculty of Chemistry, University of Warsaw, Pasteur Str. 1, 02-093 Warsaw, Poland; ²Institute of Physical Chemistry Polish Academy of Sciences, Kasprzaka Str. 44/52, 01-224 Warsaw, Poland; ³Faculty of Materials Science and Engineering, Warsaw University of Technology, Woloska 141, 02-507, Warsaw, Poland

P.S.C.17. Formation of borides, silicides and boride-silicide powder composite materials by mechanical alloying

Marina Vasylykivska, Izabella Timofeeva

Frantsevich Institute for Problems of Materials Science of National Academy of Sciences of Ukraine, Kiev, Ukraine

P.S.C.18. Preparation of polylactide-kaolinite nanocomposite

András Kovács¹, Éva Makó¹, Norbert Miskolczi²

¹Institute of Materials Engineering, University of Pannonia, Veszprém, Hungary; ²Institute of Chemical and Process Engineering, University of Pannonia, Veszprém, Hungary

YUCOMAT SYMPOSIUM D: ECO-MATERIALS AND ECO-TECHNOLOGIES

P.S.D.1. Identification and evaluation of changes and migration mechanisms of petroleum pollutant in the environment using the alkane fraction biological markers (river Vrbas, Bosnia and Herzegovina)

Ivan Samelak¹, Milica Balaban¹, Mališa Antić², Tatjana Šolević-Knudsen³ and Branimir Jovančičević⁴

¹Faculty of Natural Sciences and Mathematics, University of Banja Luka, Mladena Stojanovića 2, 78000 Banja Luka, Bosnia and Herzegovina; ²University in Belgrade, Faculty of Agriculture, Nemanjina 6, 11080, Belgrade, Serbia; ³Center of Chemistry, Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Njegoševa 12, 11001 Belgrade, Serbia; ⁴University of Belgrade, Faculty of Chemistry, Studentski trg 12-16. 11001 Belgrade, Serbia

P.S.D.2. Potential application of activated carbonaceous materials for removing residual contaminants from complex biochemical and pharmacological mixtures

Branka Kaluđerović, Đuro Čokeša, Jelena Hranisavljević, Vesna Mandušić

INN Vinča, University of Belgrade, INN Vinča, P.O.Box 522, 11001 Belgrade, Serbia

P.S.D.3. The influence of modification and the particle size of the montmorillonite on the hydrolytic stability of urea-formaldehyde composite

Suzana Samaržija-Jovanović¹, Branka Petković¹, Tijana Jovanović², Vojislav Jovanović¹, Gordana Marković³, Milena Marinović-Cincović⁴, Jaroslava Budinski-Simendić⁵

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P.S.D.4. Group chase and escape in the presence of obstacles

Julija R. Šćepanović, Aleksandar Karač, Zorica M. Jakšić, Ljuba Budinski-Petković, Slobodan B. Vrhovac

Scientific Computing Laboratory, Center for the Study of Complex Systems, Institute of Physics Belgrade, University of Belgrade, Belgrade, Serbia

P.S.D.5. Regulation of lipid production of *Torulaspora globosa* yeast, cultivated in the medium with ethanol as a carbon source

Nadezda N. Stepanova¹, Grigorii I. Morgunov², and Svetlana V. Kamzolova¹

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YUCOMAT SYMPOSIUM E: BIOMATERIALS

P.S.E.1. Development of a 3D system for cancer cell studies

Jasmina Stojkovska^{1,2}, Milena Milivojević³, Milena Stevanović^{3,4,5}, Bojana Obradović¹

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P.S.E.2. From wood to bone: how to convert wood structures into biomimetic hydroxyapatite scaffolds

Miklós Jakab, Margit Enisz-Bódogh

University of Pannonia, Institute of Materials Engineering, Veszprém, Hungary

P.S.E.3. Functionalization and biomimetics of insect photonic structures

Danica Pavlović¹, Dejan Pantelić¹, Branislav Salatić¹, Dušan Grujić¹, Svetlana Savić Šević¹, Ljubiša Tomić², Goran Dikić³, Branislav Jelenković¹

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P.S.E.4. Evaluation of colour modifications and surface morphology of dental composites

Marioara Moldovan¹, Doina Prodan¹, Codruta Sarosi¹, George Popescu², Amalia-Ionela Mazilu (Moldovan)^{2*}, Violeta Popescu²

¹Babes Bolyai University, “Raluca Ripan“ Chemistry Research Institute, Department of Polymer Composites, Cluj-Napoca, Romania; ²Physics and Chemistry Department, Technical University of Cluj-Napoca, Cluj-Napoca, Romania

P.S.E.5. The morphology studies of different nanohybrid dental composites

Codruta Sarosi¹, Ioan Petean², Doina Prodan¹, Cristina Prejmorean¹, Marioara Moldovan¹

¹Babes Bolyai University, Institute of Chemistry Raluca Ripan, Cluj-Napoca, Romania; ²Babes Bolyai University, Faculty of Chemistry and Chemical Engineering, Cluj-Napoca, Romania

P.S.E.6. The identification of branched-chain amino acids and the testing of the antibacterial effect of whey and soy protein powders

Violeta Popescu¹, Marioara Moldovan², Codruța Sarosi², Mihaela Vlassa², George Liviu Popescu¹, Diana Elena David¹, Ileana Cojocar³, Doina Prodan²

¹Physics and Chemistry Department, Technical University of Cluj-Napoca, Cluj-Napoca, Romania; ²Babeș Bolyai University, “Raluca Ripan“ Chemistry Research Institute, Department of Polymer Composites, Cluj-Napoca, Romania; ³University of Craiova, Craiova, Romania

P.S.E.7. Comparison of the carbon content in various biomasses based on calorimetric tests

Hadi Waisi^{1,2}, Vladimir Dodevski³, Bojan Janković¹, Marija Janković⁴, Nikola Živković⁵, Blažo Lalević⁶, Miloš Marinković⁷

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P.S.E.8. Hybrid bio-nanoentities with potential applications in biomedical field

Yulia Gorshkova¹, Marcela Elisabeta Barbinta-Patrascu², Gizo Bokuchava¹, Nicoleta Badea³, Camelia Ungureanu³, Andrada Lazea-Stoyanova⁴, Angela Vlad⁴, Vitaly Turchenko¹, Alexander Zhigunov⁵, Ewa Juszynska-Galazka⁶

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SYMPOSIUM F: WRTCS

P.S.F.1. Sintering heating and cooling rates as a method of modifying electrical properties of BiFeO₃ ceramics

Nikola Ilić¹, Jelena Bobić¹, Mirjana Vijatović Petrović¹, Adis Džunuzović¹, Biljana Stojanović²
¹Institute for Multidisciplinary Research, University of Belgrade, Belgrade, Serbia; ²Academy of Engineering Sciences of Serbia, Belgrade, Serbia

P.S.F.2. Nickel ferrite/zinc ferrite nanopowder with core/shell structure: magnetic properties and sinterability

Ivan Stijepović, Marija Milanović, Andrea Nesterović, Jelena Vukmirović, Vladimir Srdić
University of Novi Sad, Faculty of Technology, Department of Materials Engineering, Novi Sad, Serbia

P.S.F.3. Sintering of scaffolds based on doped hydroxyapatite powders

Željko Radovanović¹, Đorđe Veljović², Rada Petrović², Đorđe Janačković²
¹University of Belgrade, Innovation Center of the Faculty of Technology and Metallurgy, Belgrade, Serbia; ²University of Belgrade, Faculty of Technology and Metallurgy, Belgrade, Serbia

P.S.F.4. Two-step sintered monophasic HAp dental inserts as materials for dentin replacement

Giuma Ayoub¹, Maja Ležaja Zebić², Vesna Miletić², Rada Petrović¹, Đorđe Veljović¹, Đorđe Janačković¹
¹University of Belgrade, Faculty of Technology and Metallurgy, Department of Inorganic Chemical Technology, Karnegijeva 4, 11120 Belgrade, Serbia; ²University of Belgrade, School of Dental Medicine, DentalNet Research Group, Rankeova 4, Belgrade, Serbia

P.S.F.5. Surface-selective laser sintering of ultrafine polymer powders. A new approach to high resolution three-dimensional printing

Svetlana A. Minaeva¹, Maria A. Syachina¹, Anton V. Mironov¹, Nikita V. Minaev¹, Eduards Krumins², Steven M. Howdle², Vladimir K. Popov¹
¹FSRC “Crystallography and Photonics“ RAS, Troitsk, Moscow, Russia; ²School of Chemistry, University of Nottingham University Park, Nottingham, United Kingdom

P.S.F.6. Influence of 3D-printing additive to freeze casting structure

Yueh-Ying Chou¹, Po-Yu Chen¹, Vojislav V. Mitić^{2,3}, Goran Lazović⁴, Sandra Veljković³
¹National Tsing Hua University, Taiwan; ²Institute of Technical Sciences of SASA, Belgrade, Serbia; ³Faculty of Electronic Engineering, University of Nis, Serbia; ⁴Faculty of Mechanical Engineering University of Belgrade, Serbia

P.S.F.7. Resintering effect on high gamma phase content cemented carbide

Marco Mendez, Luis Garcia
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