

The 14th conference of the Serbian ceramic society "Advanced ceramics and application"
21-23, September 2026. Hotel Zira, Ruzveltova str. 35, Belgrade, Serbia

ADVANCED CERAMICS AND APPLICATION XIV

Monday, September 21st, 2026.

08.00 – 09.00	<u>Registration and Poster/Exhibitions Installation</u>	<i>Hotel Zira, 2nd Floor Mikonos Hall Mikonos Hall</i>
09.00 – 09.30	<u>Opening Ceremony of the XIV Serbian Ceramic Society Conference</u>	
09.30 – 12.05	<u>Session: Nano, Opto and Bio-ceramics</u> Chairpersons: L. Mančić & S. Marković	
09.30 – 10.00	<u>PL1 3D-Printed Ceramic Catalytic Materials</u> <u>Jordi Llorca Pique</u> Universitat Politècnica de Catalunya – Barcelona Tech. Eduard Maristany 10-14, 08019 Barcelona, Spain	
10.00 – 10.30	<u>PL2 Fiber Optic Sensors for Extreme Environments</u> <u>Ronald O'Malley</u> F. Kenneth Iverson Chair Professor & Director PSMRC Mat. Sci. & Eng. Missouri S&T, 284 McNutt Hall 1400 N. Bishop Ave. Rolla, MO, USA	
10.30 – 10.50	<u>INV1 Nonlinear Laser Scanning Microscopy for Material Science and Biomedical Applications</u> <u>Aleksandar Krmpot</u> Institute of Physics Belgrade, University of Belgrade, Serbia	
10.50 – 11.10	<u>INV2 Lanthanide-Doped Bioactive Glass for Multimodal Imaging</u> <u>Jelena Lazović</u> CSF Medical Systems, Max Planck Institute for Intelligent Systems, Stuttgart, Germany	
11.10 – 11.30	<u>INV3 Photocatalysis as a Green Technology: Advancing Sustainable Environmental Remediation</u> <u>Maria Eugenia Rabanal</u> Materials Science and Engineering Department, Universidad Carlos III de Madrid, Leganés, Spain	
11.30 – 11.50	<u>INV4 Microwave-Assisted Green Synthesis of ZnO Nanoparticles: Influence of Surfactants on Physicochemical Properties and Antitumor Activity</u> <u>Ana Stanković</u> Institute of Technical Sciences of SASA, Kneza Mihaila 35/IV, Belgrade, Serbia	
11.50 – 12.05	<u>ORL1 Hydrothermal Aging of Dental Composites: Optical, Surface, and Overall Effects</u> <u>Nikola Živković</u> School of Dental Medicine, University of Belgrade, dr Subotica 8, Belgrade, Serbia	
12.15 – 12.45	Coffee Break	<i>Hallway</i>

		<i>Mikonos Hall</i>
12.45 – 14.35	<u>Session: Renewable Energy and Composites</u> Chairpersons: M. Marčeta Kaninski & S. Maslovara	
12.45 – 13.15	PL3 Nb-Doped TiO₂-Supported Ir Catalysts for PEM Water Electrolysis <u>Patrick Fortin</u> SINTEF, Norway	
13.15 – 13.45	PL4 Nickel Manganites: Engineering Multifunctional Materials for Sensing and Energy <u>Maria Vesna Nikolić</u> University of Belgrade – Institute for Multidisciplinary Research, National Institute of the Republic of Serbia, Kneza Višeslava 1, Belgrade, Serbia	
13.45 – 14.15	PL5 Joining of Ceramics and Ceramic Matrix Composites for energy applications <u>Monica Ferraris</u> Science and Technology of Materials at Politecnico di Torino, Italy	
14.15 – 14.35	INV5 Activation Methods to Increase Reuse Potential of The Waste Materials Originating from Thermal Power Plants in Construction Materials Industry <u>Zvezdana Baščarević</u> University of Belgrade – Institute for Multidisciplinary Research, National Institute of the Republic of Serbia, Kneza Višeslava 1, 11030 Belgrade, Serbia	
14.35 - 15.30	Buffet Lunch	<i>Restaurant Zira</i>
		<i>Mikonos Hall</i>
15.30 – 18.10	<u>Session: Electrochemistry and Catalysis</u> Chairpersons: M. Pagnacco & M. Vujković	
15.30- 16.00	PL6 Next-Generation Hybrid Energy Storage: Synergizing Li-S and Redox Flow Batteries through Advanced Ceramic Materials and Modelling <u>Andrea Strakova Fedorkova</u> Institute of Chemistry, Faculty of Science, P. J. Šafárik University, Moyzesova 11 Košice, Slovakia	
16.00 - 16.30	PL7 From Support to Active Interface: DFT Insights into TiO₂-Based Ceramic Catalysts for Electrocatalysis and Photocatalysis <u>Igor Pašti</u> University of Belgrade – Faculty of Physical Chemistry, Studentski trg 12-16, Belgrade, Serbia; Serbian Academy of Sciences and Arts, Kneza Mihaila, Belgrade, Serbia	
16.30 – 16.50	INV6 Influence of Metal Coordination on Hydrogen Bonding Properties of Ethylenediamine and Its Application in Organometallic Catalysis <u>Jelena Živković</u> Innovation Center of the Faculty of Chemistry, Studentski trg 12-16, Belgrade Serbia	
16.50 – 17.10	INV7 Raman Spectroscopy and Trainable Neural Models for Non-Invasive Quality Assessment of Serbian Slivovitz <u>Dejan Đokić</u> Institute of Physics in Belgrade, University of Belgrade, Belgrade, Serbia	

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17.10 – 17.30	INV8 Doping Hexagonal Boron Nitride into Better HER Catalytic Performance - in Theory <u>Ana Dobrota</u> University of Belgrade, Faculty of Physical Chemistry, Belgrade, Serbia	
17.30 – 17.50	INV9 Temperature Dependent Raman Spectra of TiO₂ Brookite Nanopowder: Is Brookite Phase Photocatalytic Active? <u>Marko Opačić</u> Center for Solid State Physics and New Materials, Institute of Physics, University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia	
17.50 – 18.10	INV10 Michael Pupin's Doctoral Dissertation: A Neglected Contribution to the Early Development of Physical Chemistry <u>Nebojša Potkonjak</u> VINČA Institute of Nuclear Sciences—National Institute of the Republic of Serbia, University of Belgrade, Belgrade, Serbia	
18.10 – 19.00	Exhibitions & Coffee	<i>Mikonos Hall</i>
19.00 – 23.00	Conference dinner	<i>Rhodes Hall, Hotel Zira</i>
Tuesday, September 22nd, 2026.		
08.30 – 09.00	Registration	<i>Hotel Zira, 2nd Floor</i>
09.00 – 11.40	Session: Basic ceramics and Sintering Chairpersons: S. Filipović & A. Peleš Tadić	<i>Mikonos Hall</i>
09.00 – 09.30	PL8 Design of High Entropy Borides as New Superhard Ceramics <u>William G. Fahrenholtz</u> Missouri University of Science and Technology, Rolla, MO, United States	
09.30 – 10.00	PL9 Additive-free α-SiC-TiB₂ ceramics: densification, microstructure and properties <u>Diletta Sciti</u> CNR-ISSMC, National Research Council of Italy (CNR) - Institute of Science, Technology and Sustainability for Ceramics (ISSMC), Faenza, Italy	
10.00 – 10.30	PL10 Thermodynamics of Transition Metal Diborides at Ultra-High Temperatures <u>Scott McCormack</u> University of California, Berkeley, USA	
10.30 – 11.00	PL11 Entropy-Stabilized Ultra-High Temperature Ceramics: From Design to Extreme-Environment Performance <u>Farid Akhtar</u> Department of Engineering Sciences and Mathematics, Luleå University of Technology, Luleå, Sweden	
11.00 – 11.20	INV11 Thermal and Electrical Properties of (Mo,Nb,Ti,V,Zr)C_x High-Entropy Carbides <u>Elizabeth Pritchett</u> Department of Materials Science and Engineering, Missouri University of Science and Technology, Rolla, MO, USA	

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11.20 – 11.40	INV12 MAX Phases: Making Them, Breaking Them, Understanding Why <u>Miloš Dujović</u> Department of Materials Technology, Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia	
11.40 – 12.15	Coffee Break	<i>Hallway</i>
12.15 – 14.15	Session: Basic ceramics and Sintering Chairpersons: D. Kosanović & N. Labus	<i>Mikonos Hall</i>
12.15 – 12.45	PL12 High Temperature Dilatometry as a Tool for Sintering Studies <u>Karel Maca</u> Faculty of Mechanical Engineering, Brno University of Technology, Technická 2, Brno, Czech Republic; CEITEC BUT, Brno University of Technology, Purkynova 123, Brno, Czech Republic	
12.45 – 13.15	PL13 Cold Sintering of Glass <u>Dušan Galusek</u> Centre for functional and surface functionalized glass, Alexander Dubček # University of Trenčín, Trenčín, Slovakia	
13.15 – 13.35	INV13 Multi-Component Oxide Ceramics: Effects of Chemical Composition, Disorder and Microstructure on Optical Properties <u>Daniel Drdlik</u> CEITEC BUT, Brno University of Technology, Purkyňova 123, 612 00 Brno, Czech Republic Institute of Materials Science and Engineering, Brno University of Technology, Technická 2, Brno, Czech Republic	
13.35 – 13.55	INV14 Abnormal Grain Growth and Functional Properties of Batio₃ Prepared by Rapid Sintering Methods <u>Vojtech Marak</u> Central European Institute of Technology, Brno University of Technology, Purkynova 123, Brno, Czech Republic	
13.55 – 14.15	INV15 Ultrafast High-Temperature Sintering of High-Entropy (Vnbtamow)C_{0.8} <u>Vladimir Prajzler</u> CEITEC, Brno University of Technology, Purkyňova 123, Brno, Czech Republic	
14.15 – 15.15	Buffet Lunch	<i>Restaurant Zira</i>
15.15 – 16.50	Session: Basic ceramics and Sintering Chairpersons: S. Filipović & A. Peleš Tadić	<i>Mikonos Hall</i>
15.15 – 15.35	INV16 Dependence of Hardness on WB Content in (Hf,Ti,W,Zr)B₂/(Hf,Ti,W,Zr)C-Based Ceramics <u>Suzana Filipović</u> Materials Science and Engineering, Missouri University of Science and Technology, 65049 Rolla, Missouri, United States; Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Belgrade, Serbia	

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15.35 – 15.55	INV17 Comparison of the Spark Plasma Sintering and Conventional sintering on ZnO, ZnTiO₃ and (Y,Gd)O₃ oxide powders <u>Nebojša Labus</u> Institute of Technical Sciences of Serbian Academy of Sciences and Arts, Kneza Mihaila 35/IV, 11000 Belgrade, Serbia
15.55 – 16.15	INV18 Enhanced Fracture Toughness in Novel Vnbtaxwc₅ (X=Cr, Mo) High-Entropy Carbides <u>Tamas Csanadi</u> Institute of Materials Research, Slovak Academy of Sciences, Watsonova 47, Košice, Slovak Republic; Donát Bánki Faculty of Mechanical and Safety Engineering, Óbuda University, Népszínház utca 8, 1081 Budapest, Hungary
16.15 – 16.35	INV19 Development and Integration of Novel Ultra-High Temperature Ceramics <u>Peter Tatarko</u> Institute of Inorganic Chemistry, Slovak Academy of Sciences, Dúbravská cesta 9, 845 36 Bratislava, Slovakia
16.35 – 16.50	ORL2 Mechanical Activation Enables Low-Temperature Synthesis and Enhanced Dielectric Performance of Gd₂Zr₂O₇ Ceramics <u>Jelena Živojinović</u> Institute of Technical Sciences SASA, Kneza Mihaila 35/IV, Belgrade, Serbia
17.00 – 18.00	Poster Session and Coffee <i>Mikonos Hall</i>
18.00 – 18.30	Poster removal

Wednesday, September 23rd, 2026.

08.30 – 09.00	Registration <i>Hallway</i>
09.00 – 11.40	<u>Session: Modelling and Simulations</u> Chairpersons: I. Trajković & G. Mladenović <i>Mikonos Hall</i>
09.00 – 09.30	PL14 Hardness of the Cubic Transition Metal Carbides and Nitrides <u>Chris Weinberger</u> Department of Mechanical Engineering, Colorado State University, USA School of Materials Science and Engineering, Colorado State University, USA
09.30 – 10.00	PL15 Designing ultra-high temperature ceramics using atomistic simulations <u>Theresa Davey</u> Nuclear Futures Institute, Bangor University, UK
10.00 – 10.30	PL16 Simulation and Optimization of Small Manufacturing Systems <u>Goran Mladenović</u> Faculty of Mechanical Engineering University of Belgrade, Kraljice Marije 16, Belgrade, 11000, Serbia
10.30 – 11.00	PL17 Computational Chemistry in Forensic Science: From Spectroscopic Identification to Biological Activity of Psychoactive Substances <u>Dušan Dimić</u> University of Belgrade-Faculty of Physical Chemistry, Studentski trg 12-16, Belgrade, Serbia

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10.00 – 11.20	INV20 Tailoring Functional Properties of Multiferroic Oxides: An Integrated Experimental and Theoretical Perspective <u>Maria Čebela</u> Vinča Institute of Nuclear Sciences, National Institute of the Republic of Serbia, P.O. Box 522, Belgrade, University of Belgrade, Serbia	
10.20 – 11.40	INV21 Sintering in Additive Manufacturing: Engineering Challenges, Process Optimization and Mechanical Properties <u>Isaak Trajković</u> Innovation Center of the Faculty of Mechanical Engineering in Belgrade, Kraljice Marije 16, Belgrade, Serbia	
11.40 – 12.00	Coffee Break	<i>Hallway</i>
12.00 – 13.35	<u>Session: Modelling /Heritage</u> Chairpersons: I. Trajković & O. Klisurić	<i>Mikonos Hall</i>
12.00– 12.15	ORL3 Review of Materials and Additive Manufacturing Technologies for Air Spargers in Bubble Column Bioreactors: A Comparison of Ceramic and Polymeric Solutions <u>Katarina Telebak</u> Innovation Center of the Faculty of Mechanical Engineering, Belgrade, Serbia	
12.15 – 12.30	ORL4 Reproducible Data Extraction from Ceramics and Materials Science Literature Using Retrieval-Augmented Large Language Models <u>Zoran Stojanović</u> Group for Biomedical Engineering and Nanobiotechnology, Institute of Technical Sciences of SASA, Kneza Mihaila 35/IV, 11000 Belgrade, Serbia	
12.30 – 12.50	INV22 Dual-Energy Computed Tomography in Cultural Heritage: From Ceramic Fabrics to Pigment Identification <u>Olivera Klisurić</u> University of Novi Sad, Faculty of Sciences, Department of Physics, Trg Dositeja Obradovića 4, 21000 Novi Sad, Serbia	
12.50 – 13.10	INV23 Application of Machine Learning in Archaeology and Study of Archaeological Ceramics <u>Maja Gajić Kvašček</u> VINARH Center, Vinča Institute of Nuclear Sciences, National Institute of the Republic of Serbia, University of Belgrade, 11000 Belgrade, Serbia	
13.10 – 13.35	Movie "Labyrinth of Tesla's mind" <u>Vladimir Pavlović</u> The University of Belgrade – Faculty of Agriculture, Belgrade, Serbia	
13.35 – 14.30	Buffet lunch	<i>Zira Restaurant</i>
14.30 – 15.00	Awards & Closing Ceremony	<i>Mikonos Hall</i>

16.00 – 18.00 Excursion: Kalemegdan fortress/Belgrade city

THANK YOU VERY MUCH FOR PARTICIPATION AND
SEE YOU NEXT YEAR IN BELGRADE ☺