



8th Conference of the Serbian Society for Ceramic Materials
June 18-20, 2025, Belgrade, Serbia
PROGRAMME of 8CSCS–2025

DAY 1 – Wednesday – June 18, 2025

08.00-09.00	Registration
09.00-09.15	Opening ceremony and welcome addresses
09.15-09.30	Cocktail

09.30-10.00 **Plenary lecture, PL-1**
Samo B. Hočević, *MODIFICATION MATERIALS FOR ELECTROCHEMICAL SENSORS AND BIOSENSORS*

Chairs: Branko Matović, Jelena Maletaškić

SESSION 1. MATERIALS FOR SENSING DEVICES

Chairs: Nikola Tasić, Samo B. Hočević

10.00-10.20 **Invited lecture, I-1**
Nikola Tasić, *NANOSTRUCTURED MATERIALS FOR ENHANCED ELECTROCHEMICAL BIOSENSING APPLICATIONS*

10.20-10.35 **Oral presentation, O-1**
Aleksandar Radojković, *THE WATER VAPOR SENSING ABILITY OF RARE-EARTH-DOPED BARIUM CERATE*

SESSION 2. MATERIALS FOR ENVIRONMENTAL TECHNOLOGY

Chairs: Zorica Branković, Kristijan Vidović

10.35-10.55 **Invited lecture, I-2**
Ioannis Pashalidis, *LANTHANIDE ADSORPTION BY OXIDIZED BIOCHAR FIBERS*

10.55-11.15 **Invited lecture, I-3**
Kristijan Vidović, *BISMUTH-BASED ELECTROCHEMICAL APPROACH FOR ENVIRONMENTALLY FRIENDLY DETERMINATION OF SURFACE-ACTIVE SUBSTANCES IN ATMOSPHERIC PARTICLES*

11.15-11.30 **Oral presentation, O-2**
Sanja Perać, *BIOPOLYMER-BASED ENCAPSULATION OF THUJA PLICATA ESSENTIAL OIL: A POTENTIAL BIOPESTICIDE AGAINST PHYTOPHTHORA PATHOGENS*

11.30-11.45 **Oral presentation, O-3**
Jovana Ćirković, *PREPARATION OF BIOPOLYMER BASED PESTICIDE AGAINST PHYTOPHTHORA PATHOGENS*

11.45-12.00	Oral presentation, O-4 Marija Botić, <i>ANTHOCYANIN/BIOPOLYMERS-BASED FILMS AS PH SENSORS FOR MONITORING FOOD FRESHNESS</i>
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12.00-12.15	Coffee break
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SESSION 3. ELECTRO AND MAGNETIC CERAMICS

Chairs: Slavko Bernik, Goran Branković

12.15-12.35	Invited lecture, I-4 Slavko Bernik, <i>EXAMINING POSSIBLE ALTERNATIVES IN DOPING THE ZNO-CR₂O₃-BASED VARISTOR CERAMICS</i>
12.35-12.55	Invited lecture, I-5 Tomislav Ivec, <i>COLOSSAL MAGNETORESISTANCE IN OVERDOPED LA_{1-X}CAXMNO₃ THIN FILMS</i>

SESSION 4. CATALYTIC MATERIALS

Chairs: Matejka Podlogar, Martina Kocijan

12.55-13.15	Invited lecture, I-6 Shotaro Tada, <i>FRUSTRATED LEWIS PAIR FUNCTIONALIZATION OF PRECURSOR-DERIVED CERAMICS AND ORGANIC-INORGANIC HYBRID MATERIALS FOR SMALL MOLECULE ACTIVATION</i>
13.15-13.35	Invited lecture, I-7 Matejka Podlogar, <i>ZNO NANOSTRUCTURES FOR EFFICIENT PHOTOCATALYTIC DEGRADATION OF ORGANIC CONTAMINANTS</i>
13.35-13.55	Invited lecture, I-8 Martina Kocijan, <i>STRUCTURAL, MORPHOLOGICAL, OPTICAL, AND PHOTOCATALYTIC PROPERTIES OF TiO₂ THIN FILMS DEPOSED BY PLASMA-ENHANCED ATOMIC LAYER DEPOSITION</i>

13.55-15.00	Lunch break
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13.55-15.00	POSTER SESSION 1
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DAY 2 – Thursday – June 19, 2025

10.00-10.30	Plenary lecture, PL-2 Pavol Šajgalík, <i>IS SILICON NITRIDE BASED CERAMICS SUITABLE FOR THE DRUG DELIVERY?</i> Chairs: Subramshu S. Bhattacharya, Ioannis Pashalidis
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SESSION 5. CERAMIC POWDERS, CHARACTERIZATION AND PROCESSING

Chairs: Pavol Šajgalík, Ondrej Hanel

10.30-10.50 Invited lecture, I-9

Subramshu S. Bhattacharya, *SYNTHESIS AND STRUCTURE-PROPERTY CORRELATIONS IN HIGH ENTROPY OXIDES*

10.50-11.10 Invited lecture, I-10

Ravi Kumar, *ESTIMATION OF SINGLE CRYSTAL ELASTIC CONSTANTS FROM POLYCRYSTALLINE CERAMIC MATERIALS – A CASE STUDY WITH AN ENTROPY STABILIZED TRANSITION METAL OXIDE*

11.10-11.25 Oral presentation, O-5

Mayank Mishra, *MULTI-MODAL MECHANICAL CHARACTERIZATION OF ADDITIVELY MANUFACTURED ALUMINA CERAMICS USING MINIATURE TESTING TECHNIQUES*

11.25-11.40

Coffee break

SESSION 6. HIGH TEMPERATURE PHENOMENA, SINTERING, MICROSTRUCTURE DESIGN AND MECHANICAL PROPERTIES

Chairs: Peter Tatarko, Ravi Kumar

11.40-12.00 Invited lecture, I-11

Ondrej Hanel, *EFFECT OF PHASE COMPOSITION AND LATTICE OXYGEN CONTENT ON THERMAL CONDUCTIVITY OF SILICON CARBIDE CERAMICS*

12.00-12.20 Invited lecture, I-12

Peter Tatarko, *NOVEL ULTRA-HIGH TEMPERATURE CERAMICS: PROCESSING AND INTEGRATION*

12.20-12.40 Invited lecture, I-13

Hakan Ünsal, *DEVELOPMENT AND ABLATION BEHAVIOR OF ULTRA-HIGH-TEMPERATURE CERAMIC MATRIX COMPOSITES*

12.40-12.55 Oral presentation, O-6

Miloš Dujović, *STABILITY AND PROPERTIES OF M_2ALC PHASES WITH COMPOSITIONALLY COMPLEX M-LAYERS*

12.55-13.10 Oral presentation, O-7

Asif Ali, *INFLUENCE OF SPARK PLASMA SINTERING ON THE STRUCTURE, MICROSTRUCTURE, AND PROPERTIES OF NB-DOPED $BaTiO_3$ PEROVSKITES*

13.10-14.10

Lunch break

13.10-14.10

POSTER SESSION 2

SESSION 7. ADVANCED MATERIALS FOR ENERGY-RELATED APPLICATIONS

Chairs: Zoltán Lénčéš, M. Balasubramanian

14.10-14.30 Invited lecture, I-14
Zoltán Lénčéš, *SILICON/GRAFITE ANODE PERFORMANCE IMPROVED BY ATOMIC LAYER DEPOSITED ZNO FILMS AND FLUOROETHYLENE CARBONATE ADDITIVE*

14.30-14.50 Invited lecture, I-15
M. Balasubramanian, *NITROGEN-DOPED FE_3O_4 - $FE_3C@RGO$ CATHODE FOR HIGH-PERFORMANCE LITHIUM-SULFUR BATTERIES*

14.50-15.10 Invited lecture, I-16
Jelena Vukmirović, *SOLUTION-PROCESSED PEROVSKITE THIN FILMS: FROM COMPLEX ARCHITECTURES TO EPITAXIAL LAYERS*

15.10-15.25 Oral presentation, O-8
Imrongnaro Longkumer, *HIGH-ENTROPY PEROVSKITE OXIDES WITH SUBSTITUTIONS ON BOTH A AND B SITES FOR THERMOELECTRIC APPLICATIONS*

15.25-15.40 Oral presentation, O-9
Emilija Nidžović, *COMPOSITIONALLY COMPLEX SPINEL-TYPE OXIDES FOR ADVANCED APPLICATIONS*

20.00-01.00

CONFERENCE DINNER at AMFORA

DAY 3 – Friday – June 20, 2025

10.00-10.30 Plenary lecture, PL-3
K. C. Hari Kumar, *THERMODYNAMIC MODELLING OF THE TA-N-O SYSTEM*
Chairs: Jelena Zagorac, Dejan Zagorac

SESSION 8. COMPUTING IN MATERIALS SCIENCE

Chairs K. C. Hari Kumar, Elena Raksha

10.30-10.50 Invited lecture, I-17
Dejan Zagorac, *KOVIN ALGORITHM: BRIDGING THE GAP BETWEEN THEORY AND EXPERIMENT*

10.50-11.10 Invited lecture, I-18
Elena Raksha, *MODEL COMPOUNDS FOR CARBON-BASED SORBENT MATERIALS INVESTIGATION BY EXPERIMENTAL AND COMPUTATIONAL METHODS*

11.10-11.25 Oral presentation, O-10
Inga Zhukova, *COMPUTATIONAL AND EXPERIMENTAL INVESTIGATION OF NON-EQUIMOLAR HIGH-ENTROPY DIBORIDES: STRUCTURAL, MECHANICAL, AND THERMODYNAMIC INSIGHTS*

11.25-11.40 **Oral presentation, O-11**
DUŠICA JOVANOVIĆ, ENERGY LANDSCAPE OF NEW HYBRID ORGANIC-INORGANIC PEROVSKITES: GUANIDINIUM-BX 3 SUBSTITUTED BY B = (BE²⁺, BA²⁺, ZN²⁺, GE²⁺, SN²⁺) AND X = (I⁻, F⁻)

11.40-12.00

Coffee break

SESSION 9. CERAMIC COMPOSITES, MEMBRANES AND MULTIMATERIALS

Chairs: Claus Rebholz, Žaklina Burghard

12.00-12.20 **Invited presentation, I-19**
Žaklina Burghard, CERAMIC MICRO-SCROLLS FOR SOFT ROBOTICS: BIOINSPIRED MAGNETIC ACTUATORS

12.20-12.35 **Oral presentation, O-12**
Aleksandr Maletskii, INFLUENCE OF NEUTRON IRRADIATION ON THE AGGREGATE- AND DISPERSION-STRENGTHENED STRUCTURE OF ZTA COMPOSITE CERAMICS

12.35-12.50 **Oral presentation, O-13**
Svetlana Butulija, PROTON-IRRADIATED DOX-LOADED MULTI-WALLED CARBON NANOTUBES: TOWARD SAFER CHEMOTHERAPEUTIC DELIVERY

12.50-13.05 **Oral presentation, O-14**
Gianmarco Taveri, ALKALI-ACTIVATION OF SILICON-BASED BINARY HARD CERAMICS

SESSION 10. TRADITIONAL CERAMICS AND ENGINEERING MATERIALS

Chairs: Tatjana Volkov-Husović, Zvezdana Baščarević

13.05-13.25 **Invited lecture, I-20**
Claus Rebholz, TURNING WASTE INTO VALUE: ECO-FRIENDLY THERMAL INSULATING MORTARS FROM RECYCLED RIGID FOAMS

13.25-13.45 **Invited lecture, I-21**
Tatjana Volkov-Husović, RECYCLING OF REFRactory BRICKS USED IN IRON AND STEEL INDUSTRY

13.45-14.05 **Invited lecture, I-22**
Zvezdana Baščarević, DURABILITY OF ALTERNATIVE CEMENTITIOUS BINDER

14.05-14.20 **Oral presentation, O-15**
Antonis Kyriacou, ENGINEERING NI-AL REACTIVE POWDERS: EFFECT OF BALL MILLING TIME AND PARTICLE SIZE ON MATERIAL PROPERTIES

14.20-15.20

Lunch break

15.20-16.00

Closing ceremony

POSTER SESSION

DAY 1 – Wednesday – June 18, 2025

Poster session 1 CERAMIC POWDERS, CHARACTERIZATION AND PROCESSING

P1. Bojana Simović, *TEXTILE DYES REMOVAL USING HYDROTHERMALLY SYNTHESIZED LiTiO₂*

P2. Milena Rosić, *SYNTHESIS AND CHARACTERIZATION OF Co_{0.9}Ge_{0.1}MnO₄ NANOPOWDERS*

P3. Tijana B. Vlašković, *FACILE SYNTHESIS AND CHARACTERIZATION OF PEROVSKITE-TYPE OXIDE Ca_{0.9}Er_{0.1}MnO₃*

P4. Natalija Milojković, *DESIGN OF Bi₂O₃ PROPERTIES BY BIOPOLYMER*

P5. Neda Nišić, *NOVEL MULTIDOPED SOLID IONIC CONDUCTOR BASED ON CeO₂ FOR APPLICATION AS ELECTROLYTE IN IT-SOFC DEVICES*

P6. Tamara Matic, *ION-DOPED MESOPOROUS BIOACTIVE GLASS PARTICLES AS CIPROFLOXACIN DRUG DELIVERY VEHICLES*

P7. Marija Prekajski Đorđević, *NOVEL Ca-Sr-Ba HYDROXYAPATITE: FROM NANOEMULSION TO DENSE BIOCERAMIC*

P8. Tina Radošević, *APPLICATION OF FIB-SEM CHARACTERIZATION IN THE DEVELOPMENT OF PHOTOCATALYTIC MATERIALS FOR ENVIRONMENTAL REMEDIATION*

Poster session 1 HIGH TEMPERATURE PHENOMENA, SINTERING, MICROSTRUCTURE DESIGN AND MECHANICAL PROPERTIES

P9. Jelena Mitrović, *THE COLD SINTERED BASN_{1-X}Ni_XO₃ (X = 0.00, 0.05, 0.10, 0.15 AND 0.20) SAMPLES AND THEIR FUNCTIONAL PROPERTIES*

P10. Olivera Zemljak, *OPTIMIZING COLD SINTERING CONDITIONS FOR DENSE YTTRIUM MANGANITE CERAMICS*

P11. Vladimir Pavkov, *EFFECT OF SINTERING TEMPERATURE ON THE COLOUR VARIATION OF ANDESITE BASALT CERAMICS*

Poster session 1 ADVANCED MATERIALS FOR ENERGY-RELATED APPLICATIONS

P12. Jovana Ackovic, *A CHRONOPOTENTIOMETRIC EXAMINATION OF CO-DOPED HETEROPOLY ACID AND ITS BRONZE*

P13. Jelena Bobić, *POLYCRYSTALLINE AND EPITAXIAL THIN FILMS OF La_{1-X}NaxMnO₃*

Poster session 1 COMPUTING IN MATERIALS SCIENCE

P14. Tamara Škundrić, *UNVEILING THE ENERGY LANDSCAPE OF Cr₃Si₃N₈ THROUGH A MULTI-METHODOLOGICAL APPROACH*

P15. Milan Pejić, *MODELING OF MULTICOMPONENT RARE EARTH COMPOUNDS: ENERGY LANDSCAPE EXPLORATION, STRUCTURE PREDICTION, AND ELECTRONIC PROPERTIES CALCULATION*

P16. Tamara Škundrić, *EXPLORING THE STRUCTURAL DIVERSITY AND ENERGY LANDSCAPE OF CRSI₂N₄*

P17. Jelena Zagorac, *THEORETICAL INSIGHT INTO STRUCTURAL AND MECHANICAL FEATURES OF HF0.5TA0.5C*

P18. Maria Čebela, *SILVER-DOPED BISMUTH FERRITE: ENHANCED MAGNETIZATION AND THEORETICAL PREDICTIONS OF NOVEL PEROVSKITE PHASES*

P19. Dušica Jovanović, *ENERGY LANDSCAPE OF GLUTAMINE (L) ON Au/Ag/Cu DOPED TiO₂ SURFACES AND POTENTIAL BIOMEDICAL APPLICATIONS*

Poster session 1 MATERIALS FOR ENVIRONMENTAL TECHNOLOGY

P20. Tamara Minović Arsić, *SYNTHESIS AND CHARACTERIZATION OF CARBON CRYOGEL/MULTI-WALLED CARBON NANO TUBES COMPOSITE*

P21. Sanja Petrović, *ADSORPTION OF AS³⁺ CATION IN A BATCH SYSTEM BY BENTONITE AT PH 3.5 IN SHORT TIME INTERVALS*

P22. Jelena Jovanović, *DEVELOPMENT OF A BIOPOLYMER-BASED BIOPESTICIDE WITH AILANTHUS ALTISSIMA EXTRACT FOR SUSTAINABLE CONTROL OF LYMANTRIA DISPAR IN FOREST ECOSYSTEMS*

P23. Kyriacos Ioannou, *FUNCTIONALIZED ACTIVATED CARBON SPHERES FOR ENHANCED WATER DECONTAMINATION*

P24. Andrijana Vasić, *WASTE SLAG FROM LIGNITE COMBUSTION AS AN ADSORBENT FOR THE REMOVAL OF ETHYL XANTHATE FROM WASTEWATER OF THE FLOTATION PLANT FOR COPPER ORE AND PRECIOUS METALS PROCESSING IN BOR*

P25. Radmila Lišanin, *SHUNGITE AS AN ENVIRONMENTALLY RELEVANT MATERIAL AND ITS STABILITY UNDER PH VARIATIONS*

P26. Miodrag Ristović, *INDUSTRIAL WASTE AS A RESOURCE IN ASPHALT PRODUCTION AND ROAD ENGINEERING*

P27. Katarina Stefanović, *UNDERSTANDING THE IMPACT OF TECTONICS ON THE FORMATION OF ZLATOKOP ZEOLITE AS AN ECOLOGICAL RAW MATERIAL*

P28. Irina Kandić, *ACTIVATED CARBON FROM BLACK ALDER CONE-LIKE FLOWERS FOR MICROCYSTIN-LR REMOVAL*

DAY 2 – Thursday – June 19, 2025

Poster session 2 CATALYTIC MATERIALS

P29. Miroslav Hnatko, *ELECTROCHEMICAL SYNTHESIS OF NANOTUBULAR TiO₂ ON Ti-6Al-4V IN DEEP EUTECTIC SOLVENT: FLUORIDE-FREE AND FLUORIDE-ASSISTED APPROACHES*

P30. Stefan T. Jelić, *PHOTOCATALYTIC PERFORMANCE OF RARE EARTH-DOPED BiVO₄*

Poster session 2 MATERIALS FOR SENSING DEVICES

P31. Jelena Milićević, *ELECTROCATALYTIC PERFORMANCE AND STRUCTURAL FEATURES OF A PD-DECORATED MULTIPHASE COMPOSITE ELECTRODE*

P32. Slavica Savić Ružić, *ELECTROSPUN SNO₂ NANOFIBERS FOR ADVANCED GAS SENSING: FROM MORPHOLOGICAL DESIGN TO FUNCTIONAL PERFORMANCE*

P33. Katarina Vojisavljević, *FLEXIBLE AND BIODEGRADABLE PRESSURE SENSORS BASED ON CHITOSAN-GLYCINE REINFORCED WITH MXENE*

P34. Milica Počuča-Nešić, *PIEZOELECTRIC NANO-BIOMATERIALS BASED ON CHITOSAN, GLYCINE, AND ZINC OXIDE NANOPARTICLES*

P35. Zorica Marinković Stanojević, *SYNTHESIS OF SNO₂ NANOFIBERS BY ELECTROSPINNING METHOD AND STUDY OF ITS ETHANOL AND ACETONE SENSING PROPERTIES*

Poster session 2 **CERAMIC COMPOSITES, MEMBRANES AND MULTIMATERIALS**

P36. Polina Kobchikova, *STUDY OF MASS TRANSFER MECHANISMS AT THE INITIAL STAGE OF SINTERING AND THEIR INFLUENCE ON THE STRUCTURE OF ALUMINA-ZIRCONIA COMPOSITE CERAMICS*

P37. Michal Hičák, *HIGHLY POROUS SILICON NITRIDE-BASED COMPOSITE AS DRUG DELIVERY CARRIER?*

Poster session 2 **ELECTRO AND MAGNETIC CERAMICS**

P38. Danijela Luković Golić, *INDUCED MODIFICATIONS IN STRUCTURAL, MICROSTRUCTURAL, AND FERROELECTRIC PROPERTIES OF BISMUTH FERRITE CERAMICS DOPED WITH LANTHANUM AND EUROPIUM*

Poster session 2 **TRADITIONAL CERAMICS AND ENGINEERING MATERIALS**

P39. Gordana Stanojević, *ASSESSMENT OF ALKALI ACTIVATED BINDERS BASED ON FLY ASH FOR IMMOBILIZATION OF CESIUM*

P40. Bratislav Todorović, *COMPARISON OF FTIR SPECTRA OF BENTONITE CLAY WITH SPECTRA OF ITS BASIC ACTIVATION BY ULTRASOUND*

P41. Svetlana Ilić, *INFLUENCE OF THE PRISMATIC GRAINS ON NANOINDENTATION BEHAVIOUR OF IRON-DOPED MULLITE*

P42. Aleksandra Šaponjić, *MULLITE BASED CERAMICS OBTAINED FROM WASTE CLAY-DIATOMITE*

P43. Zvezdana Baščarević, *POSSIBILITY TO USE LOCAL PONDED ASH AS SUPPLEMENTARY CEMENTITIOUS MATERIAL*

P44. Branko Matovic, *COMPOSITION UNIVERSE OF CERAMIC MATERIALS: THE POTENTIAL FOR DISCOVERING NEW FUNCTIONAL CERAMICS THROUGH HIGH-THROUGHPUT ANALYSIS*

P45. Aleksa Lukovć, *EFFECTS OF CHEMICAL CORROSION ON BASALT BASED GLASS-CERAMIC COMPOSITES*

P46. Katarina Nikolić, *CARBONIZED ALMOND SHELLS AS A SUSTAINABLE MATERIAL FOR ELECTROCHEMICAL APPLICATIONS*