

6th Conference of the Serbian Society for Ceramic Materials
June 28-29, 2022, Belgrade, Serbia
PROGRAM of 6CSCS–2022

DAY 1 – Tuesday – June 28, 2022

08.00-09.00

Registration

09.00-09.15

Opening ceremony and welcome addresses

09.15-10.00

Cocktail

10.00-10.30

Plenary lecture, PL-1

Yuri Rostovtsev, *QUANTUM COHERENCE IN VARIOUS MATERIALS: TRANSPARENCY, HARMONIC GENERATION, QUANTUM CORRELATIONS, AND FREQUENCY DOWN CONVERSION*

Chair: Zorica Branković

SESSION 1. CERAMIC POWDERS, CHARACTERIZATION AND PROCESSING

Chairs: Zorica Branković, Claus Rebholz

10.30-10.50

Invited lecture, I-1

Claus Rebholz, *THERMAL AND CHEMICAL STABILITY OF BORON NITRIDE NANOSTRUCTURES*

10.50-11.10

Invited lecture, I-2

Sonja Jovanović, *THE STRUCTURAL AND MAGNETIC PROPERTIES OF COBALT FERRITE NANOPARTICLES: THE INFLUENCE OF HETEROATOMS*

11.10-11.30

Invited lecture, I-3

Matejka Podlogar, *SOLVOTHERMAL SYNTHESIS OF ZnO NANORODS FOR PHOTOCATALYTIC DEGRADATION OF ORGANIC POLLUTANTS*

11.30-12.00

Coffee break

12.00-12.15

Oral presentation, O-1

Nikola Ilić, *NATURE OF PHOTOCATALYSIS IN BiFeO₃ SUSPENSIONS – HETEROGENEOUS, HOMOGENEOUS OR DYE-SENSITIZED?*

12.15-12.30

Oral presentation, O-2

Tamara Matić, *THE INFLUENCE OF HYDROTHERMAL SYNTHESIS TEMPERATURE OF MAGNESIUM DOPED HYDROXYAPATITE ON ITS APPLICATION AS DENTIN SUBSTITUTE*

12.30-12.45

Oral presentation, O-3

Tijana Stamenković, *THE INFLUENCE OF Yb³⁺ CONCENTRATION ON STRUCTURAL AND LUMINESCENT PROPERTIES OF Tm³⁺ DOPED SrGd₂O₄*

SESSION 2. CERAMIC COMPOSITES, MEMBRANES AND MULTIMATERIALS

Chairs: Ravi Kumar, Vladimir Srdić

- 12.45-13.05** **Invited lecture, I-4**
Enikö Volceanov, *DEVELOPMENT OF ELECTROLESS Ni-P- NANOCOMPOSITE COATINGS ON LOW CARBON STEEL THIN STREEP*
- 13.05-13.20** **Oral presentation, O-4**
Irina Kandić, *CHARACTERIZATION OF ACTIVE CARBON MATERIALS OBTAINED FROM BIO WASTE FOR POTENTIAL USE IN WATER PURIFICATION*

13.20-14.45 **Lunch break**

14.45-15.30 **POSTER SESSION 1**

SESSION 3. ELECTRO AND MAGNETIC CERAMICS

Chairs: Goran Branković, Slavko Bernik

- 15.30-15.50** **Invited lecture, I-5**
Slavko Bernik, *DEVELOPMENT AND CHARACTERISTICS OF A NOVEL ZnO-Cr₂O₃-BASED VARISTOR CERAMIC*
- 15.50-16.10** **Invited lecture, I-6**
Tomislav Ivek, *PROMOTION OF FERROMAGNETISM AND COLLAPSE OF VARIABLE-RANGE HOPPING TRANSPORT IN CERAMIC La_{0.5}Ca_{0.5}MnO₃ CONTROLLED BY GRAIN SIZE*
- 16.10-16.30** **Invited lecture, I-7**
Maria Čebela, *SYNTHESIS AND PROPERTIES OF MULTIFERROIC MATERIALS*
- 16.30-16.50** **Invited lecture, I-8**
Bojan Stojadinović, *SPIN-PHONON COUPLING IN NANOSTRUCTURES REVEALED BY RAMAN SPECTROSCOPY*
- 16.50-17.05** **Oral presentation, O-5**
Danica Piper, *BILAYER (La,Sr)MnO₃ AND (Ba,Sr)TiO₃ THIN FILMS PREPARED BY CHEMICAL SOLUTION DEPOSITION TECHNIQUES*
- 17.05-17.20** **Oral presentation, O-6**
Jelena Vukmirović, *EPITAXIAL GROWTH OF LaMnO₃ THIN FILMS BY POLYMER ASSISTED DEPOSITION TECHNIQUE ON THE DIFFERENT MONOCRYSTALLINE*

DAY 2 – Wednesday – June 29, 2022

- 09.00-09.30** **Plenary lecture, PL-2**
Ionescu Emanuel, *ADVANCED CERAMICS FOR ENERGY-RELATED APPLICATIONS: PRECURSOR-BASED SYNTHESIS & DESIGN CONCEPTS AND THEIR PERSPECTIVES TOWARDS SUSTAINABILITY*

Chair: Dejan Zagorac

SESSION 4. COMPUTING IN MATERIALS SCIENCE

Chairs: Yuri Rostovtsev, Dejan Zagorac

- 09.30-09.50** **Invited lecture, I-9**
K.C. Hari Kumar, *THERMODYNAMIC MODELLING OF Ta-N SYSTEM*
- 09.50-10.10** **Invited lecture, I-10**
Jelena Zagorac, *EFFECT OF ALUMINUM ADDITION ON THE STRUCTURE AND ELECTRONIC PROPERTIES OF BORON NITRIDE*
- 10.10-10.30** **Invited lecture, I-11**
Adrian Volceanov, *CHEMICAL BONDING IN CERAMICS AND GLASSES*
- 10.30-10.50** **Invited lecture, I-12**
Dejan Zagorac, *BARIUM SULFIDE UNDER PRESSURE: STRUCTURAL CHANGES, BAND GAP ENGINEERING AND MECHANICAL PROPERTIES*
- 10.50-11.05** **Oral presentation, O-7**
Dušica Jovanović, *ENERGY LANDSCAPE OF A RELAXED AMINO ACID, GLUTAMINE (L), ON TiO₂ SURFACES*
- 11.05-11.20** **Oral presentation, O-8**
Milan Pejić, *FIRST-PRINCIPLES INVESTIGATION AND STRUCTURE PREDICTION IN HOLMIUM(III) FLUORO-SELENIDE SYSTEM*

11.20-11.50

Coffee break

SESSION 5. HIGH TEMPERATURE PHENOMENA, SINTERING, MICROSTRUCTURE DESIGN AND MECHANICAL PROPERTIES

Chairs: Peter Tatarko, Branko Matović

- 11.50-12.10** **Invited lecture, I-13**
Peter Tatarko, *DEVELOPMENT OF HIGHLY TEXTURED DIBORIDE CERAMICS USING MAGNETIC AND ELECTRIC FIELDS*
- 12.10-12.30** **Invited lecture, I-14**
Ravi Kumar, *UNDERSTANDING DEFORMATION IN PRECURSOR DERIVED CERAMICS AT DIFFERENT LENGTH SCALES*
- 12.30-12.45** **Oral presentation, O-9**
Branko Matović, *SYNTHESIS AND CHARACTERIZATION OF HAFNIUM CARBIDE BASED CERAMICS*
- 12.45-13.00** **Oral presentation, O-10**
Jelena Vukašinović, *EFFECT OF THE SINTERING TECHNIQUE ON THE PROPERTIES OF Sb-DOPED BaSnO₃ CERAMICS*

SESSION 6. TRADITIONAL CERAMICS

Chairs: Tatjana Volkov-Husović, Eniko Volceanov

- 13.00-13.20** **Invited lecture, I-15**
Jelena Maletaškić, *GLASS-CERAMICS OBTAINED FROM CAO-TiO₂-SiO₂ (SPHENE)*
- 13.20-13.40** **Invited lecture, I-16**
Tatjana Volkov Husović, *BLAST FURNACE REFRACTORIES: PAST, PRESENT AND FUTURE*

13.40-15.00 **Lunch break**

15.00-15.45 **POSTER SESSION 2**

15.45-16.00 Marija Egerić, *YOUNG CERAMISTS NETWORK*

16.00-16.15 **Closing ceremony**

20.00

CONFERENCE DINNER

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| Poster session 1 | 1. CERAMIC POWDERS, CHARACTERIZATION AND PROCESSING |
| Poster session 2 | 2. CERAMIC COMPOSITES, MEMBRANES AND MULTIMATERIALS
3. ELECTRO AND MAGNETIC CERAMICS
4. COMPUTING IN MATERIALS SCIENCE
5. HIGH TEMPERATURE PHENOMENA, SINTERING, MICROSTRUCTURE DESIGN AND MECHANICAL PROPERTIES
6. TRADITIONAL CERAMICS |

Poster session 1 CERAMIC POWDERS, CHARACTERIZATION AND PROCESSING

P1. Tsvetan Dimitrov, *SYNTHESIS AND STUDY OF CHROMIUM-DOPED DIOPSIDE CERAMIC PIGMENTS*

P2. Miluvka Stancheva, *STUDY OF CERAMIC PIGMENTS IN THE SYSTEM CaO.x(REE).(1-x)MgO.2SiO₂*

P3. Katarina Nikolić, *STRUCTURAL AND CHEMICAL PROPERTIES OF WASTE VITREOUS ENAMELS GENERATED DURING THE PRODUCTION PROCESS OF HEATING DEVICES*

P4. Neda Nišić, *CHARACTERIZATION OF HIGH TEMPERATURE CERAMIC COMPOSITE SEALANTS (CCS) WITH ADDITION OF ALUMOSILICATE BASED WASTE MATERIAL FOR THE POTENTIAL USE IN IT-SOFC*

- P5.** Marija Prekajski Đorđević, *SURFACE MODIFICATION OF CeO₂ NANO-POWDER*
- P6.** Vladimir Dodevski, *SYNTHESIS OF OBTAINING SiO₂ FROM BIOMASS, CHARACTERIZATION OF STRUCTURAL AND CHEMICAL PROPERTIES AND THE POSSIBILITY OF POTENTIAL APPLICATION*
- P7.** Katarina Vojisavljević, *HIERARCHICAL ZnO/SnO₂ HETEROSTRUCTURES VIA HYDROTHERMALLY ASSISTED ELECTROSPINNING TECHNIQUE: SYNTHESIS AND PHOTOCATALYTIC PERFORMANCES*
- P8.** Andrijana Nedeljkovic, *XANTHATE ABSORPTION KINETICS AS A FUNCTION OF THE STARTING CONCENTRATION WITH THE USE OF THE WASTE SLAG AS ADSORBENT*
- P9.** Božana Petrović, *BEHAVIOUR OF Mg AND Si SUBSTITUTED HYDROXYAPATITES IN MODEL MEDIA*
- P10.** Bojana Simović, *IMPROVED PHOTOCATALYTIC DEGRADATION OF RO16 DYE USING HYDROTHERMALLY SYNTHESIZED CeO₂@ZnO NANOCOMPOSITE*
- P11.** Jelena Jovanović, *VISIBLE-LIGHT PHOTOCATALYTIC DEGRADATION OF MORDANT BLUE 9 BY BiVO₄ NANOPOWDER*
- P12.** Milena Rosić, *INVESTIGATING SORPTIVE ASPECTS OF CoMoO₄ NANOPOWDERS SYNTHESIZED BY SPR METHOD*
- P13.** Ivan Stijepović, *ION MIGRATION IN SPINEL STRUCTURE IN NICKEL AND ZINC FERRITE NANOPOWDERS SYNTHESISED BY CO-PRECIPIATION AND HYDROTHERMAL METHODS*
- P14.** Aleksandar Malešević, *STABILITY AND FUNCTIONALITY OF BaCe_{1-x}In_xO_{3-δ} AS A HIGH TEMPERATURE PROTON CONDUCTING ELECTROLYTE FOR SOLID OXIDE FUEL CELLS*
- P15.** Marija Egerić, *ENHANCED PHOTOCATALYTIC REMOVAL OF CONGO RED BY MOF-ACTIVATED CARBON COMPOSITE*
- P16.** Marija Egerić, *COMPETITIVE REMOVAL OF DIVALENT HEAVY METAL IONS FROM SYNTHETIC AND REAL WASTEWATER BY ARAGONITE SEASHELL WASTE*
- P17.** Lidija Radovanović, *THE USE OF MANGANESE(II)–PYROMELLITATE COMPLEX PRECURSOR FOR THE SYNTHESIS OF NANOSIZED MANGANESE OXIDES*
- P18.** Tijana Stamenković, *SURFACE CHARACTERIZATION AND PHOTOCATALYTIC ACTIVITY OF NEWLY SYNTHESIZED DY DOPED SrGd₂O₄ PHOSPHORUS*
- P19.** Zuzana Melichová, *THE EFFECT OF TEMPERATURE ON THE SORPTION OF LEAD ON NATURAL BENTONITES*
- P20.** Milica Počuča-Nešić, *THE CATALYTIC DEGRADATION OF RO16 DYE UNDER DARK AMBIENT CONDITIONS USING La-Ni-Nb-O-BASED POWDERS*
- P21.** Stefan T. Jelić, *ULTRASONIC SYNTHESIS AND CHARACTERIZATION OF MESOPOROUS MONOCLINIC BiVO₄ NANOPOWDER*

P22. Uroš Čakar, *BLUEBERRY WINE BIOLOGICALLY ACTIVE COMPOUNDS PROTECT AGAINST OXIDATIVE STRESS*

P23. Sanja Krstić, *HYDROTHERMAL SYNTHESIS, CHARACTERIZATION AND APPLICATION OF ACTIVATED CARBON MATERIALS OBTAINED FROM SACCHARIDES*

P24. Maja Pagnacco, *WHAT COULD BE THE REASON FOR DIFFERENT BEHAVIOR OF PHOSPHATE TUNGSTEN AND PHOSPHATE MOLYBDENUM BRONZES IN BRIGGS-RAUSCHER REACTION: NEW INSIGHT*

P25. Milena Rosić, *DILATOMETRIC STUDY OF NANOSTRUCTURED $Ca_{1-x}Gd_xMnO_3$ ($X=0.05; 0.1; 0.15; 0.2$)*

Poster session 2 CERAMIC COMPOSITES, MEMBRANES AND MULTIMATERIALS

P26. Marjan Randelović, *PALLADIUM DISPERSED IN AMORPHOUS CARBON MATRIX AS THE ELECTROCATALYST FOR HYDROGEN PEROXIDE REDUCTION IN AN ALKALINE MEDIUM*

P27. Jelena Bobić, *LEAD BASED (PZT) AND LEAD FREE (BZT) COMPOSITES FLEXIBLE FILMS AS LOW-ENERGY PIEZOELECTRIC HARVESTERS*

Poster session 2 ELECTRO AND MAGNETIC CERAMICS

P28. Ivana Stajcic, *MORPHOLOGICAL AND DIELECTRIC PROPERTIES OF MODIFIED BARIUM TITANATE*

P29. Maria Čebela, *EFFECT OF AG DOPING ON THE MORPHOLOGICAL AND MAGNETIC PROPERTIES OF CuO NANOSTRUCTURES*

P30. Maria Čebela, *MAGNETIC PROPERTIES OF Fe_2TiO_5*

P31. Olivera Zemljak, *THE INFLUENCE OF Ti-DOPING ON STRUCTURAL AND MULTIFERROIC PROPERTIES OF YTTRIUM MANGANITE CERAMICS*

P32. Jelena Vukašinović, *THE DEFECT STRUCTURE AND ELECTRICAL PROPERTIES OF THE SPARK PLASMA SINTERED ANTIMONY-DOPED BARIUM STANNATE*

P33. Nenad Nikolić, *THE COMPARISON OF ELECTROCHEMICAL PROPERTIES OF $ZnMn_2O_4$ AND $ZnCr_{0.15}Mn_{1.85}O_4$ IN AN AQUEOUS SOLUTION OF $ZnCl_2$*

P34. Danijela Luković Golić, *THE IMPROVEMENT OF FERROELECTRIC PROPERTIES OF $BiFeO_3$ CERAMICS BY DOPING WITH La^{3+} AND Eu^{3+}*

Poster session 2 COMPUTING IN MATERIALS SCIENCE

P35. Tamara Škundrić, *ENERGY LANDSCAPE OF THE NOVEL Cr_2SiN_4 COMPOUND DERIVED USING COMBINATION OF THEORETICAL METHODS*

P36. Dragana Jordanov, *TEORETICAL INVESTIGATION OF Y₂O₂S*

P37. Dejan Zagorac, *STRUCTURAL AND MECHANICAL PROPERTIES OF HIGH-ENTROPY ALLOYS (HEAS) - ULTRA-HIGH TEMPERATURE CERAMICS (UHTC) ON DFT LEVEL*

P38. Tamara Škundrić, *PREDICTION OF STRUCTURE CANDIDATES FOR SiB₆ COMPOUND USING A COMBINATION OF DATA MINING AND THE PCAE METHOD*

P39. Dušica Jovanović, *THEORETICAL STUDY ON ANION SUBSTITUTION OF TiO_{1-x}S_x (x = 0, 0.25, 0.5, 0.75 and 1) COMPOUNDS AND THE INFLUENCE OF SULFUR ON CRYSTAL STRUCTURES, PHASE TRANSITIONS AND ELECTRONIC PROPERTIES*

P40. Milan Pejić, *ENERGY LANDSCAPE EXPLORATION OF NOVEL TERNARY RARE-EARTH COMPOUND LAIO*

Poster session 2

HIGH TEMPERATURE PHENOMENA, SINTERING, MICROSTRUCTURE DESIGN AND MECHANICAL PROPERTIES

P41. Jelena Erčić, *SINTERING OF TUNGSTEN BASED REFRACTORY COMPOSITE*

P42. Ivana Cvijović-Alagić, *PHASE TRANSFORMATIONS DURING CYCLIC ANNEALING OF Ti₃Al-BASED INTERMETALLIC*

P43. Sanja Perać, *EFFECT OF Cu DOPING ON MICROSTRUCTURAL, THERMOELECTRIC AND MECHANICAL PROPERTIES OF NaCo₂O₄ CERAMICS*

P44. Robert Vigi, *THERMAL PROPERTIES OF Ag DOPPED GLASS-CERAMIC MATERIAL FROM As-Te-Se SYSTEM*

Poster session 2

TRADITIONAL CERAMICS

P45. Jelena Rakić, *EFFECT OF TWO ACTIVATION METHODS ON MECHANICAL PROPERTIES OF HIGH VOLUME FLY ASH BINDERS*

P46. Zvezdana Baščarević, *SYNTHESIS OF GEOPOLYMERS BASED ON SPENT CATALYST FROM PETROL REFINERIES*

P47. Aleksa Luković, *DETERMINING THE ABSOLUTE AGE AND TYPE OF MAGMA OF TRIASSIC ANDESITES OF ČADINJE USING U/PB DATING AND BACKSCATTER METHODS ON ZIRCON SAMPLES*