

## **FIRST PLENARY SESSION**

*Monday, September 8, 2008*

**Session I: 10<sup>00</sup>-13<sup>00</sup>**

Chairpersons: V. Radmilović, U. Dahmen and D. Raković

**10<sup>00</sup>-10<sup>30</sup> ELECTRON MICROSCOPY OF NANOSCALE MATERIALS AS A  
DRIVING FORCE FOR THE TEAM PROJECT**

U. Dahmen

*National Center for Electron Microscopy, Lawrence Berkeley National Laboratory,  
University of California, Berkeley, CA, USA*

**10<sup>30</sup>-11<sup>00</sup> MONODISPERSED Al<sub>3</sub>(LiScZr) CORE/SHELL NANOSTRUCTURES  
EMBEDDED IN Al-RICH MATRIX**

V. Radmilović

*National Center for Electron Microscopy, Lawrence Berkeley National Laboratory,  
University of California, Berkeley, CA, USA*

**11<sup>00</sup>-11<sup>30</sup> NEW METHODS IN MATERIALS RESEARCH USING FOCUSED ION  
BEAMS**

R. Hull

*Department of Materials Science and Engineering, Rensselaer Polytechnic Institute,  
Troy, USA*

**Break: 11<sup>30</sup>-12<sup>00</sup>**

**12<sup>00</sup>-12<sup>30</sup> SCANNING PROXIMITY PROBES FOR NANOSCIENCE**

I.W. Rangelow

*FG Mikro- und Nanoelektronische Systeme, Technische Universität Ilmenau,  
Fakultät für Elektrotechnik und Informationstechnik, Institut für Mikro- und  
Nanoelektronik, Ilmenau, Germany*

**12<sup>30</sup>-13<sup>00</sup> HIGH-RESOLUTION TEM OF LAYERED CRYSTALS AND  
INCOMMENSURATE MISFIT LAYER COMPOUNDS AND THEIR  
INTERFACES**

W. Jäger

*Microanalysis of Materials, Institute of Materials Science, Christian-Albrechts-  
University, Kiel, Germany*

**Break: 13<sup>00</sup>-15<sup>00</sup>**

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

**Session I:** 15<sup>00</sup>-19<sup>00</sup>

Chairpersons: A. Auroux, M. Drofenik and A. Montone

- 15<sup>00</sup>-15<sup>15</sup> **THE SYNTHESIS OF SUPERPARAMAGNETIC BARIUM HEXAFERRITE PARTICLES USING HYDROTHERMAL METHOD**  
M. Drofenik<sup>1,2</sup>, I. Ban<sup>1</sup>, D. Makovec<sup>2</sup>, D. Lisjak<sup>2</sup>  
<sup>1</sup>*Faculty of Chemistry and Chemical Engineering, University of Maribor, Slovenia,*  
<sup>2</sup>*Jožef Stefan Institute, Ljubljana, Slovenia*
- 15<sup>15</sup>-15<sup>30</sup> **INFLUENCE OF THE PREPARATION METHOD ON THE PROPERTIES OF V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>/SO<sub>4</sub><sup>2-</sup> CATALYSTS**  
H. Zhao<sup>1</sup>, S. Bennici<sup>1</sup>, J. Shen<sup>2</sup>, A. Auroux<sup>1</sup>  
<sup>1</sup>*IRCELYON, UMR5256 CNRS-Université Lyon 1, Villeurbanne, France,*  
<sup>2</sup>*Laboratory of Mesoscopic Chemistry, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, China*
- 15<sup>30</sup>-15<sup>45</sup> **INFLUENCE OF THE NATURE OF CHEMICAL REAGENTS ON SINTERING NANOSIZED PIEZOCERAMICS OF LEAD ZIRCONATE-TITANATE**  
A.A. Gusev, E.G. Avvakumov  
*Institute of Solid State Chemistry and Mechanochemistry of Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia*
- 15<sup>45</sup>-16<sup>00</sup> **APPLICATION OF ULTRASOUND IN THE SYNTHESIS OF CATHODE MATERIALS FOR LITHIUM ION BATTERIES**  
D. Jugović<sup>1</sup>, N. Cvjetičanin<sup>2</sup>, M. Mitrić<sup>3</sup>, S. Mentus<sup>2</sup>, D. Uskoković<sup>1</sup>  
<sup>1</sup>*Institute of Technical Sciences of SASA, Belgrade, Serbia,* <sup>2</sup>*Faculty of Physical Chemistry, University of Belgrade, Serbia,* <sup>3</sup>*The Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- 16<sup>00</sup>-16<sup>15</sup> **LENGTH CONTROL OF  $\alpha$ -MnO<sub>2</sub> NANORODS AND THEIR THERMOGRAVIMETRIC STUDY**  
P. Umek<sup>1</sup>, R. Cerc Korošec<sup>2</sup>, A. Gloter<sup>3</sup>, U. Pirnat<sup>4</sup>  
<sup>1</sup>*Jožef Stefan Institute, Ljubljana, Slovenia,* <sup>2</sup>*Faculty for Chemistry and Chemical Technology, University of Ljubljana, Ljubljana, Slovenia,* <sup>3</sup>*Laboratoire de Physique des Solides, CNRS UMR8502, Université Paris Sud, Orsay, France,* <sup>4</sup>*University of Nova Gorica, Rožna dolina, Nova Gorica, Slovenia*

- 16<sup>15</sup>-16<sup>30</sup> **SYNTHESIS OF MAGNETIC NANOOXIDES BY THE CRUCIBLE-FREE AEROSOL METHOD**  
Yu.G. Morozov, O.V. Belousova, M.V. Kuznetsov  
*Institute of Structural Macrokinetics and Materials Science Russian Academy of Sciences, Chernogolovka, Moscow Region, Russia*
- 16<sup>30</sup>-16<sup>45</sup> **DEVELOPMENT OF MICROWAVE METHODS OF SYNTHESIS OF COORDINATION COMPOUNDS FOR CVD PROCESSES AND FOR OBTAINING OF NANOMATERIALS**  
A.N. Mikheev  
*Nikolayev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia, Research and Educational Centre, Novosibirsk State University, Novosibirsk, Russia*
- 16<sup>45</sup>-17<sup>00</sup> **HOW CAN MECHANOCHEMISTRY BE USED TO PRODUCE PHARMACEUTICAL SUBSTANCES?**  
N. Pankrushina<sup>1,2</sup>, I. Nikitina<sup>1,2</sup>, E. Chernjak<sup>1</sup>, C. Myz<sup>2,3</sup>, T. Shakhtshneider<sup>2,3</sup>, V. Boldyrev<sup>2,3</sup>  
*<sup>1</sup>Novosibirsk Institute of Organic Chemistry, Novosibirsk, Russia, <sup>2</sup>Research and Education Centre "Molecular Design and Ecologically Safe Technologies" at Novosibirsk State University, Russia, <sup>3</sup>Institute of Solid State Chemistry and Mechanochemistry, Novosibirsk, Russia*
- Break: 17<sup>00</sup>-17<sup>30</sup>**
- 17<sup>30</sup>-17<sup>45</sup> **MECHANOCHEMICAL SYNTHESIS OF NANOCOMPOSITES OF DRUGS WITH INORGANIC OXIDES**  
T.P. Shakhtshneider<sup>1,2</sup>, S.A. Myz<sup>1,2</sup>, M.A. Mikhailenko<sup>1,2</sup>, T.N. Drebuschak<sup>1,2</sup>, V.A. Drebuschak<sup>2,3</sup>, A.P. Fedotov<sup>2</sup>, B.B. Bokhonov<sup>1</sup>, A.S. Medvedeva<sup>4</sup>, V.V. Boldyrev<sup>1,2</sup>  
*<sup>1</sup>Institute of Solid State Chemistry and Mechanochemistry, SB RAS, Novosibirsk, Russia, <sup>2</sup>Research and Education Centre "Molecular Design and Ecologically Safe Technologies" at the Novosibirsk State University, Novosibirsk, Russia, <sup>3</sup>Institute of Geology and Mineralogy SB RAS, Novosibirsk, Russia, <sup>4</sup>A.E. Favorsky Irkutsk Institute of Chemistry SB RAS, Irkutsk, Russia*
- 17<sup>45</sup>-18<sup>00</sup> **ACTIVATED ALUMINIUM AS A SOURCE OF PURE HYDRIGEN**  
A.I. Nizovskii<sup>1</sup>, M.V. Trenikhin<sup>2</sup>, M.R. Sharafutdinov<sup>3</sup>, I.P. Prosvirin<sup>1</sup>, V.I. Bukhtiyarov<sup>1</sup>  
*<sup>1</sup>Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia, <sup>2</sup>Institute of Hydrocarbon Processing Problems SB RAS, Omsk, Russia, <sup>3</sup>Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia*

- 18<sup>00</sup>-18<sup>15</sup> **NEW ENERGETIC MATERIALS: METAL- OXIDIZER  
MECHANOACTIVATED NANO COMPOSITES**  
A.N. Streletskii, A.Yu. Dolgoborodov, I.V. Kolbanev, M.N. Makhov  
*N.N.Semenov Institute of Chemical Physics RAS, Moscow, Russia*
- 18<sup>15</sup>-18<sup>30</sup> **NEW APPROACH TO COMBUSTION SYNTHESIS OF FERRITES  
MATERIALS FOR ELECTROMAGNETIC APPLICATIONS**  
S.M. Busurin, M.L. Busurina  
*Institute of Structural Macrokinetics and Materials Science RAS, Chernogolovka,  
Moscow region, Russia*
- 18<sup>30</sup>-18<sup>45</sup> **THERMO-MECHANICAL PROCESSING BY LASER IN MULTIPHASE  
STEELS**  
H. Palkowski, A. Brück  
*Institute of Metallurgy - Metal Forming and Processing - Clausthal University of  
Technology, Clausthal-Zellerfeld, Germany*
- 18<sup>45</sup>-19<sup>00</sup> **ALTERNATIVE STAINLESS STEEL GRADES – A EUROPEAN RESPONSE  
TO HIGHER RAW MATERIAL PRICES**  
A. Kosmač  
*Euro Inox, Brussels, Belgium*

## **SECOND PLENARY SESSION**

*Tuesday, September 9, 2008*

**Session II:** 09<sup>00</sup>-13<sup>00</sup>

Chairpersons: D. Perović, D. Suvorov and D. Petranović

09<sup>00</sup>-09<sup>30</sup> **INTRINSIC AND EXTRINSIC DEFECTS IN COLLOIDAL PHOTONIC CRYSTAL FILMS**

E.W. Vekris, D.D. Perovic, G.A. Ozin, S. Aitchison

*Department of Materials Science and Engineering, University of Toronto, Toronto, Canada*

09<sup>30</sup>-10<sup>00</sup> **CORDIERITE GLASS CERAMICS STUDIED BY X-RAY SCATTERING AND ELECTRON MICROSCOPY**

W. Bras

*Dutch-Belgian beam lines, Netherlands Organization for Scientific Research (NWO), DUBBLE CRG @ ESRF (European Synchrotron Radiation) Facility, Grenoble, France*

10<sup>00</sup>-10<sup>30</sup> **RECENT ADVANCES IN TUNABLE MATERIALS DEVELOPMENT**

D. Suvorov, M. Spreitzer

*Advanced Materials Department, »Jozef Stefan« Institute, Ljubljana, Slovenia*

**Break:** 10<sup>30</sup>-11<sup>00</sup>

11<sup>00</sup>-11<sup>30</sup> **INTERFACIAL SOLID-STATE PROCESS CONTROL FOR MICRO- AND NANOCOMPOSITES**

M. Senna

*Faculty of Science and Technology, Keio University, Yokohama, Japan*

11<sup>30</sup>-12<sup>00</sup> **PROCESSING OF POLYMER MATRIX NANOCOMPOSITES**

J.M. Kenny, L. Valentini

*European Centre for Nanostructured Polymers, University of Perugia, UdR INSTM, Terni, Italy*

12<sup>00</sup>-12<sup>30</sup> **SYNTHESIS AND IONIC CONDUCTIVITY OF NANOCRYSTALLINE Y-DOPED Bi<sub>2</sub>O<sub>3</sub> THIN FILMS**

J. Kusinski<sup>1</sup>, S. Kac<sup>1</sup>, S. Surblé<sup>2</sup>, G. Baldinozzi<sup>2</sup>, G. Petot-Ervas<sup>2</sup>  
<sup>1</sup>*University of Mining and Metallurgy, Laboratory Surface Engineering,  
Krakow, Poland,* <sup>2</sup>*Research group CNRS/SPMS- Ecole Centrale Paris, 92295  
Châtenay Malabry / SRMA-CEA Saclay, Gif sur Yvette, France*

**12<sup>30</sup>-13<sup>00</sup> NANO-STRUCTURED MATERIALS DEVELOPED BY CONTROLLED  
PHASE TRANSFORMATIONS AND SYNTHESIS PROCESSES**

G. Solórzano

*Department of Materials Science and Metallurgy, PUC-Rio de Janeiro, Brazil*

**Break: 13<sup>00</sup>-15<sup>00</sup>**

**SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATION**

**Session I: 15<sup>00</sup>-19<sup>00</sup>**

Chairmen: V. Dondur, M. Davidović and S. Bošković

**15<sup>00</sup>-15<sup>15</sup> SELF-PROPAGATING HIGH-TEMPERATURE SYNTHESIS OF HIGH-  
TEMPERATURE SUPERCONDUCTORS (SHS HTSC)**

M. Kuznetsov

*Institute of Structural Macrokineics and Materials Science RAS (ISMAN),  
Chernogolovka, Moscow region, Russia*

**15<sup>15</sup>-15<sup>30</sup> ELECTRODE MATERIALS DISPERSION-STRENGTHENED WITH  
NANOPARTICLES FOR PULSE ELECTROSPARK DEPOSITION (PED) OF  
MULTIFUNCTIONAL COATINGS**

E.A. Levashov, Yu.S. Pogozhev, V.V. Kurbatkina, A.E. Kudryashov, E.I. Zamulaeva  
*State Technological University "Moscow Institute of Steel and Alloys", Scientific-  
Educational Center of SHS, Moscow, Russia*

**15<sup>30</sup>-15<sup>45</sup> METALLIC GLASS-TUNGSTEN COMPOSITES**

S. Nowak, P. Ochin, A. Pasko, Y. Champion

*ICMPE-CNRS Université Paris 12, Thiais, France*

- 15<sup>45</sup>-16<sup>00</sup> **STRUCTURAL AND LUMINESCENT PROPERTIES OF Y<sub>4</sub>Al<sub>2</sub>O<sub>9</sub> (YAM) NANOCRYSTALS OBTAINED VIA SOL-GEL METHOD**  
L. Lipińska<sup>1</sup>, A. Rzepka<sup>1</sup>, W. Ryba-Romanowski<sup>2</sup>, R. Diduszko<sup>1</sup>, A. Pajączkowska<sup>1</sup>  
<sup>1</sup>*Institute of Electronic Materials Technology, Warsaw, Poland*, <sup>2</sup>*Institute of Low Temperature and Structural Research, Polish Academy of Science, Wroclaw, Poland*
- 16<sup>00</sup>-16<sup>15</sup> **THE EFFECT OF CHLORIDE AND WATER ON THE CORROSION OF COPPER IN 1-BUTYL-3-METHYLIMIDAZOLIUM TETRAFLUOROBORATE**  
K. Marczewska-Boczkowska, M. Kosmulski  
*Department of Electrochemistry, Lublin University of Technology, Lublin, Poland*
- 16<sup>15</sup>-16<sup>30</sup> **ELECTROCHEMICAL BEHAVIOR OF Li<sub>3-x</sub>M1<sub>x</sub>V<sub>2-y</sub>M2<sub>y</sub>(PO<sub>4</sub>)<sub>3</sub> (M1=K, M2=Sc) /C COMPOSITE CATHODE MATERIAL FOR LITHIUM-ION BATTERIES**  
Yu.G. Mateyshina<sup>1,2</sup>, N.F. Uvarov<sup>1,2</sup>  
<sup>1</sup>*Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia*, <sup>2</sup>*Novosibirsk State University, Novosibirsk, Russia*
- 16<sup>30</sup>-16<sup>45</sup> **ELECTROCHEMICAL PROPERTIES OF COMPOSITE SOLID ELECTROLYTES LiClO<sub>4</sub>-MgO**  
A.S. Ulihin<sup>1,2</sup>, N.F. Uvarov<sup>1,2</sup>  
<sup>1</sup>*Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia*, <sup>2</sup>*Novosibirsk State University, Novosibirsk, Russia*
- 16<sup>45</sup>-17<sup>00</sup> **STRUCTURAL, PHYSICAL AND ELECTRICAL PROPERTIES OF IRON DOPED VANADIUM BORATE GLASSES**  
V. Singh Kundu<sup>1,2</sup>, R.L. Dhiman<sup>3</sup>, D.R. Goyal<sup>1</sup>, A.S. Maan<sup>1</sup>  
<sup>1</sup>*Department of Physics, Maharshi Dayanand University, Rohtak, India*  
<sup>2</sup>*Department of Electronic Science, Kurukshetra University, Kurukshetra, India*  
<sup>3</sup>*Department of Physics, S.D. College (Lahore), Ambala Cantt., India*
- Break: 17<sup>00</sup>-17<sup>30</sup>**
- 17<sup>30</sup>-17<sup>45</sup> **THERMODYNAMIC PROPERTIES OF LIQUID TRANSITION METALS AND ALLOYS FROM INTERATOMIC PAIR INTERACTIONS**  
N.E. Dubinin  
*Institute of Metallurgy of the Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russia*
- 17<sup>45</sup>-18<sup>00</sup> **FLUORINE INFLUENCE ON ANODIC FILM COMPOSITION AND SURFACE MORFOLOGY OF InAs (III)A**  
N. Valisheva<sup>1</sup>, T. Levtsova<sup>1</sup>, G. Kurishev<sup>2</sup>, I. Prosvirin<sup>2</sup>, I. Petrenko<sup>1</sup>, E. Rodjakina<sup>1</sup>

*<sup>1</sup>Novosibirsk Institute of Semiconductor Physics, Novosibirsk, Russia, <sup>2</sup>Boreskov  
Institute of Catalysis, Novosibirsk, Russia*

**18<sup>00</sup>-18<sup>15</sup> SELF-SIMILAR SOLIDIFICATION OF BINARY ALLOYS**

A.P. Malygin, D.V. Alexandrov, A. Malashkevich  
*Ural State University, Ekaterinburg, Russia*

**18<sup>15</sup>-18<sup>30</sup> THE CHARACTERIZATION OF DEFECTS IN MULTI-LAYERED  
COMPOSITE MATERIALS BY THERMAL TOMOGRAPHY METHODS**

W. Swiderski  
*Military Institute of Armament Technology, Zielonka, Poland*

**18<sup>30</sup>-18<sup>45</sup> USE OF THE POWDER LIQUID METHOD FOR ALUMINIDE DIFFUSION  
COATINGS FORMATION ON INCONEL 713lc Ni-BASED SUPERALLOY**

L. Čelko, L. Klakurková, J. Švejcár  
*Institute of Materials Science and Engineering, Faculty of Mechanical Engineering,  
Brno University of Technology, Brno, Czech Republic*

**18<sup>45</sup>-19<sup>00</sup> AN EXPERIMENTAL STUDY OF RESIDUAL STRESSES INDUCED IN  
COMPOSITE PRESSURE VESSELS (CPV)**

R.A. Al-Madani, M.E. Jarnaze  
*Academy of Graduate Study, Tripoli, Libya*

**WORKSHOP: INCOMAT PROJECT "Creating international cooperation  
teams of excellence in the field of emerging biomaterial surface research"**

Press-Hall

**Session I: 15<sup>00</sup>-19<sup>00</sup>**

## **THIRD PLENARY SESSION**

*Wednesday, September 10, 2008*

**Session III: 09<sup>00</sup>-13<sup>30</sup>**

Chairpersons: R. Sinclair, S. Best and S. Milonjić

09<sup>00</sup>-09<sup>30</sup> **THE MEETING OF MEMS AND NANOTECHNOLOGY**  
G.W. Auner<sup>1,6</sup>, P. Siy<sup>1</sup>, R. Naik<sup>2</sup>, S. Ng<sup>3</sup>, G. Newaz<sup>4</sup>, P. McAllister<sup>5</sup>, J. Smolinski<sup>1</sup>,  
M. Brusatori<sup>1</sup>  
*Smart Sensors and Integrated Microsystems Program, <sup>1</sup>Electrical and Computer,  
Biomedical Engineering, <sup>2</sup>Dept. of Physics, <sup>3</sup>Dept. of Chemical Engineering, <sup>4</sup>Dept.  
of Mechanical Engineering, <sup>5</sup>Dept. of Neurosurgery, <sup>6</sup>Biomedical Engineering,  
Wayne State University, Detroit, MI, USA*

09<sup>30</sup>-10<sup>00</sup> **STRUCTURAL AND FUNCTIONAL (SUPERFICIAL) BIOCOMPATIBILITY  
OF NEW AMORPHOUS / QUASICRYSTALLINE Ti-BASED COMPOSITES**  
H. Lefaix<sup>2</sup>, P. Vermaut<sup>2</sup>, S. Zanna<sup>1</sup>, A. Galtayries<sup>1</sup>, F. Prima<sup>2</sup>, R. Portier<sup>2</sup>  
*<sup>1</sup>LPCS, UMR-CNRS 7045, ENSCP, Paris, France, <sup>2</sup>Groupe de Métallurgie  
Structurale, LPCS, UMR-CNRS 7045*

10<sup>00</sup>-10<sup>30</sup> **MAGNETIC AND OTHER METALLIC NANOPARTICLES FOR POSSIBLE  
MEDICAL APPLICATIONS**  
R. Sinclair, H. Li, A.L. Koh  
*Department of Materials Science and Engineering, Stanford University, Stanford,  
California, USA*

10<sup>30</sup>-11<sup>00</sup> **MAGNETIC AND ELECTRONIC PROPERTIES OF IRON OXIDE  
NANOPARTICLES OF CONTROLLED SIZE AND SHAPE**  
P. Guardia, N. Pérez, A. Labarta, X. Batlle  
*Departament de Física Fonamental and Institut de Nanociència i Nanotecnologia  
(IN2UB), Universitat de Barcelona, Barcelona, Catalonia, Spain*

**Break: 11<sup>00</sup>-11<sup>30</sup>**

11<sup>30</sup>-12<sup>00</sup> **NANOSTRUCTURED APATITES: THE NEXT GENERATION OF  
BIOACTIVE MATERIALS?**  
S. Best  
*Department of Materials Science and Metallurgy, University of Cambridge,  
Cambridge, UK*

- 12<sup>00</sup>-12<sup>30</sup> **SIZE-DEPENDENT AND INTERFACE EFFECTS IN PROPERTIES OF NANOSTRUCTURED MATERIALS**  
R.A. Andrievskiy  
*Institute for Problems of Chemical Physics, Russian Academy of Sciences, Chernogolovka, Moscow Region, Russia*
- 12<sup>30</sup>-13<sup>00</sup> **CAN CARBON NANOTUBES BE COMPETITIVE IN CHIP INTERCONNECT APPLICATIONS**  
D. Petranovic  
*Design to Silicon Division, Mentor Graphics Corp., San Jose, California, USA*
- 13<sup>00</sup>-13<sup>30</sup> **NANOANALYSIS OF MATERIALS BY MEANS OF EELS SPECTRUM IMAGING IN A TRANSMISSION ELECTRON MICROSCOPE**  
W. Grogger, F. Hofer, G. Kothleitner, B. Schaffer  
*Institute for Electron Microscopy and Fine Structure Research, Graz University of Technology, Graz, Austria*

**ROUND TABLE: HOW TO WRITE A SUCCESSFUL PROPOSAL**

Press-Hall

**Session I: 11<sup>00</sup>-13<sup>00</sup>**

- 11<sup>00</sup>-13<sup>00</sup> **CALLS AND TENDERS DEALING WITH NEW MATERIALS FOR INCO COUNTRIES AND HOW TO WRITE A SUCCESSFUL PROPOSAL: PARTICIPATION RULES AND CALLS FOR FP7 – FOCUSED ON BIOMATERIALS AND INCO COUNTRIES**  
H.-J. Schmidt  
*Stiftung für Technologie, Innovation und Forschung Thüringen (STIFT), Erfurt, Germany*

## SYMPOSIUM C: NANOSTRUCTURED MATERIALS

*Thursday, September 11, 2008*

**Session I:** 09<sup>00</sup>-12<sup>00</sup>

Chairmen: M. Zlatanović, J. Nedeljković and J. Šetrajić

09<sup>00</sup>-09<sup>15</sup> **USING DIELECTRIC RELAXATION SPECTROSCOPY (DRS) AND DYNAMIC MECHANICAL SPECTROSCOPY (DMS) TO STUDY MOLECULAR DYNAMICS OF DENDRIMERS IN HYDROPHOBIC/HYDROPHILIC MEDIA**

S. Ristić, J. Mijović

*Othmer-Jacobs Department of Chemical and Biological Engineering, Polytechnic University, Brooklyn, NY, USA*

09<sup>15</sup>-09<sup>30</sup> **ON THE PENTAHEPTITE NANOTUBES**

M. Damjanović, Z. Popović, I. Milošević

*NanoLab, Faculty of Physics, University of Belgrade, Belgrade, Serbia*

09<sup>30</sup>-09<sup>45</sup> **SYNTHESIS AND APPLICATIONS OF NOVEL VANADIUM OXIDE NANOTUBES**

A. Kumar<sup>1</sup>, N. Dhawan<sup>2</sup>

*<sup>1</sup>Materials Science and Engineering Department, Stanford University, CA, USA*

*<sup>2</sup>Metallurgical Engineering Department, Punjab Engineering College, Chandigarh, India*

09<sup>45</sup>-10<sup>00</sup> **ULTRASONIC AEROSOL ROUTE FOR THE SYNTHESIS OF RARE EARTH OXIDE NANOPARTICLES**

O. Milošević<sup>1</sup>, L. Mančić<sup>1</sup>, K. Marinković<sup>1</sup>, L. Gomez<sup>2</sup>, I. Martin<sup>2</sup>, M.E. Rabanal<sup>2</sup>, P.D.Townsend<sup>3</sup>

*<sup>1</sup>Institute of Technical Sciences of Serbian Academy of Sciences and Arts, Belgrade, Serbia, <sup>2</sup>Universidad Carlos III de Madrid, Spain, <sup>3</sup>Science and Technology, University of Sussex, Brighton, UK*

10<sup>00</sup>-10<sup>15</sup> **LUMINESCENCE OF GALLIUM OXIDE NANOSTRUCTURES**

E. Nogales, J. Á. García, B. Méndez, J. Piqueras

*Dpt.Física de Materiales, Facultad de Ciencias Físicas, Universidad Complutense de Madrid, Madrid, Spain*

10<sup>15</sup>-10<sup>30</sup> **RADIATION STIMULATED PROCESSES IN DOPED OXIDES: BULK AND NANO-CRYSTALS**

N.A. Kulagin

*Kharkiv National University for Radioelectronics, Kharkiv, Ukraine*

**Break: 10<sup>30</sup>-11<sup>00</sup>**

- 11<sup>00</sup>-11<sup>15</sup> **THE INFLUENCE OF THE CHARACTER OF LAYERED NANOADDITIVES ON PROPERTIES OF ORGANIC-INORGANIC NANOCOMPOSITES**  
M. Špírková, A. Strachota, J. Brus, M. Šlouf, M. Urbanová, J. Kotek, B. Strachotová  
*Institute of Macromolecular Chemistry ASCR, v.v.i., Prague, Czech Republic*
- 11<sup>15</sup>-11<sup>30</sup> **STIMULATING EFFECT OF BORON ADMIXTURE ON HYDROGEN SORPTION-DESORPTION PROPERTIES OF MECHANICALLY ACTIVATED TITANIUM POWDER**  
O.S. Morozova<sup>1</sup>, T.I. Khomenko<sup>1</sup>, A.V. Leonov<sup>2</sup>, E.Z. Kurmaev<sup>3</sup>, Ch. Borchers<sup>4</sup>, A. Moewes<sup>5</sup>  
*<sup>1</sup>Institute of Chemical Physics RAS, Moscow, Russia, <sup>2</sup>Moscow State University, Department of Chemistry, Moscow, Russia, <sup>3</sup>Institute of Metal Physics, RAS-Ural Division, Ekaterinburg, Russia, <sup>4</sup>Institute of Material Physics, University of Goettingen, Goettingen, Germany, <sup>5</sup>University of Saskatchewan Department of Physics and Engineering Physics, Saskatoon, Canada*
- 11<sup>30</sup>-11<sup>45</sup> **NMR, MÖSSBAUER AND XPS STUDIES OF THE LOCAL STRUCTURE OF NANOCRYSTALLINE COMPLEX OXIDES**  
V. Šepelák<sup>1,2</sup>, I. Bergmann<sup>3</sup>, S. Indris<sup>4</sup>, A. Feldhoff<sup>5</sup>, P. Heitjans<sup>5</sup>, K.D. Becker<sup>2</sup>  
*<sup>1</sup>Institute of Geotechnics, Slovak Academy of Sciences, Košice, Slovakia, <sup>2</sup>Institute of Physical and Theoretical Chemistry, Braunschweig University of Technology, Braunschweig, Germany, <sup>3</sup>Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan, <sup>4</sup>Institute of Nanotechnology, Karlsruhe Institute of Technology, Karlsruhe, Germany, <sup>5</sup>Institute of Physical Chemistry and Electrochemistry, Leibniz University Hannover, Hannover, Germany*
- 11<sup>45</sup>-12<sup>00</sup> **EFFECTS OF MIXING CONDITIONS AND AGING ON THE MORPHOLOGICAL BEHAVIOR AND ON MECHANICAL PROPERTIES OF EPDM/LAYERED CLAY NANOCOMPOSITES**  
Ç. Karşal<sup>1</sup>, M. Tanoğlu<sup>2</sup>  
*<sup>1</sup>İzmir Institute of Technology, <sup>1</sup>Material Science and Engineering Programme, <sup>2</sup>Mechanical Engineering Department, Gülbahçe Campus, Urla, İzmir, Turkey*
- 12<sup>00</sup>-12<sup>30</sup> **POLYMER AND NANOPARTICLE CHARACTERISATION USING LIGHT SCATTERING TECHNIQUES**  
S. Macaulay  
*Malvern Instruments Ltd., Malvern, UK*

**SYMPOSIUM E: BIOMATERIALS**

*Friday, September 12, 2008*

**Session I:** 09<sup>00</sup>-12<sup>00</sup>

Chairpersons: Dj. Koruga, M. Plavšić and N. Ignjatović

- 09<sup>00</sup>-09<sup>15</sup> **BIOMIMETICS OF THE GROWTH OF DENTAL ENAMEL USING A CONTINUOUS CRYSTALLIZATION APPROACH**  
V. Uskoković<sup>1</sup>, J. Kim<sup>2</sup>, W. Li<sup>3</sup>, S. Habelitz<sup>1</sup>  
<sup>1</sup>*Department of Preventive and Restorative Dental Sciences, Division of Biomaterials and Bioengineering, University of California, San Francisco,* <sup>2</sup>*Department of Molecular and Cell Biology, University of California, Berkeley,* <sup>3</sup>*Department of Oral and Craniofacial Sciences, University of California, San Francisco, USA*
- 09<sup>15</sup>-09<sup>30</sup> **NANO PARTICLES (NPs) OF HYDROXYAPATITE COATED WITH POLY-DL-LACTIDE-CO-GLYCOLIDE AS SYSTEMS FOR LOCAL CONTROLLED DRUG DELIVERY OF TIGECYCLINE**  
N. Ignjatović<sup>1</sup>, D. Vasiljević-Radović<sup>2</sup>, A. Radulović<sup>3</sup>, P. Ninkov<sup>4</sup>, D. Uskoković<sup>1</sup>  
<sup>1</sup>*Institute of Technical Sciences of SASA, Belgrade, Serbia,* <sup>2</sup>*IChTM- Department of Microelectronic Technologies and Monocrystals, Belgrade, Serbia,* <sup>3</sup>*Institute of General and Physical Chemistry, Belgrade, Serbia,* <sup>4</sup>*Faculty of Dentistry, Department of Biomaterials, University of Oslo, Norway*
- 09<sup>30</sup>-09<sup>45</sup> **BONE TISSUE REMODELING AT FILLING LARGE BONE DEFECTS WITH DIFFERENT KINDS OF BIOACTIVE CERAMICS**  
V. Dubok<sup>1</sup>, V. Procenko<sup>2</sup>, V. Kindrat<sup>3</sup>, A. Shinkaruk<sup>1</sup>  
<sup>1</sup>*I.M. Frantsevich Institute for Problems of Materials Science NASU, Kiev, Ukraine,* <sup>2</sup>*Institute of oncology of Ukrainian AMS, Kiev, Ukraine,* <sup>3</sup>*N.I. Pirogov Medical University, Vinnitsa, Ukraine*
- 09<sup>45</sup>-10<sup>00</sup> **SUPERCRITICAL FLUIDS: NEW APPROACH TO ADVANCED BIOMATERIAL PROCESSING AND MODIFICATION**  
V.K. Popov  
*Institute of Laser and Information Technologies, Russian Academy of Sciences, Troitsk, Moscow Region, Russia*
- 10<sup>00</sup>-10<sup>15</sup> **THE PREPARATION AND CHARACTERISATION OF A CALCIUM PHOSPHATE-POLYCAPROLOCTANE BIOCOMPOSITE**  
I. Dunkley, R.W. Smith  
*Department of Mechanical and Materials Engineering, Queen's University, Kingston, Ontario, Canada*
- 10<sup>15</sup>-10<sup>30</sup> **THE INFLUENCE OF DIMERIC SURFACTANT ON THE TRANSFORMATION OF AMORPHOUS CALCIUM PHOSPHATE**

A. Selmani, D. Jurašin, B. Matasović, N. Filipović-Vinceković, M. Dutour Sikirić  
*"Ruđer Bošković" Institute, Zagreb, Croatia*

**Break: 10<sup>30</sup>-11<sup>00</sup>**

11<sup>00</sup>-11<sup>15</sup> **HOLOGRAPHIC MEASUREMENT OF DENTAL COMPOSITE  
CONTRACTION**

D. Pantelić, S. Savić-Šević, D. Vasiljević, B. Murić, L. Blažić, M. Nikolić, B. Panić  
*Institute of Physics, Belgrade, Serbia*

11<sup>15</sup>-11<sup>30</sup> **IN VITRO ANALYSIS OF A ZINC BASED GLASS POLYALKENOATE**

O.M. Clarkin, M.R. Towler, D.A. Tanner  
*Material and Surface Science Institute, University of Limerick, Ireland*

11<sup>30</sup>-11<sup>45</sup> **OPTO-MAGNETIC FINGERPRINT OF AMNIOTIC FLUID AND WATER**

Dj. Koruga<sup>1</sup>, A. Tomić<sup>1</sup>, D. Kojić<sup>1</sup>, S. Janković-Ražnatović<sup>1,2</sup>  
<sup>1</sup>*NanoLab, Faculty of Mechanical Engineering, Belgrade, Serbia*, <sup>2</sup>*Clinic of  
Gynecology and Obstetrics "Narodni front", Belgrade, Serbia*

11<sup>45</sup>-12<sup>00</sup> **DRUG RISK ASSESSMENT AS LEADING FACTOR IN DEVELOPMENT  
AND EVALUATION OF NEW DRUGS AND DEVICE IN MEDICINE**

M. Kriška, J. Rajec, J. Čársky  
*Department of Pharmacology and Clinical Pharmacology, Comenius University,  
Bratislava, Slovak Republik*

## POSTER SESSION I

*Tuesday, September 9, 2008, 20<sup>30</sup>-22<sup>00</sup>*

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

- P.S.A.1.* **SYNTHESIS, NMR, DFT AND ANTIMICROBIAL STUDIES OF THE Zn(II) COMPLEXES WITH N-BENZYLOXYCARBONYL-S-ALANINE**  
K.K. Andjelković<sup>1</sup>, D.M. Mitić<sup>1</sup>, Dj.U. Miodragović<sup>1</sup>, D.M. Sladić<sup>1</sup>, Ž.J. Vitnik<sup>1</sup>, Z.M. Miodragović<sup>1</sup>, M.Dj. Radulović<sup>2</sup>, N.O. Juranić<sup>3</sup>  
<sup>1</sup>Faculty of Chemistry, University of Belgrade, Belgrade, Serbia, <sup>2</sup>Department of Chemistry, Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Belgrade, Serbia, <sup>3</sup>Mayo Clinic and Foundation, Rochester, Minnesota, USA
- P.S.A.2.* **CRYSTAL STRUCTURE OF 2-{1-[(1-(2-PYRIDINIO)ETHYLIDENE)HYDRAZONO]ETHYL}PYRIDINIUM DIPERCHLORATE, THE PRODUCT OF TEMPLATE CONDENSATION IN PRESENCE OF Cr(III)**  
D. Radanović<sup>1</sup>, G.N. Kaludjerović<sup>1</sup>, S. Gómez-Ruiz<sup>2</sup>, D.M. Sladić<sup>3</sup>, M. Šumar-Ristović<sup>3</sup>, I. Brčeski<sup>3</sup>, K.K. Andjelković<sup>3</sup>  
<sup>1</sup>Center for Chemistry, Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Belgrade, Serbia, <sup>2</sup>Departamento de Química Inorgánica y Analítica, E.S.C.E.T., Universidad Rey Juan Carlos, Móstoles, Madrid, Spain, <sup>3</sup>Faculty of Chemistry, University of Belgrade, Belgrade, Serbia
- P.S.A.3.* **SYNTHESIS AND CHARACTERISATION OF THE Cu(II) AND Ni(II) COMPLEXES WITH THE *IN SITU* PREPARED FORMAMIDINE LIGAND**  
B. Holló, V.M. Leovac, K. Mészáros Szécsényi, Lj.S. Jovanović  
University of Novi Sad, Faculty of Sciences, Department of Chemistry, Novi Sad, Serbia
- P.S.A.4.* **PREPARATION AND IN VITRO EVALUATION OF HYBRID BIORESORBABLE COMPOSITES BASED ON TRICALCIUM PHOSPHATE**  
Ch. Tardei<sup>1</sup>, S. Hodorogea<sup>1</sup>, L. Moldovan<sup>2</sup>, O. Craciunescu<sup>2</sup>  
<sup>1</sup>National Institute for Research and Development in Electrical Engineering, INCDIE ICPE-CA, Bucharest, Romania, <sup>2</sup>National Institute for Research and Development for Biological Sciences, Bucharest, Romania

- P.S.A.5. **COMBUSTION SYNTHESIS OF CERAMIC COMPOSITES BASED ON Ti-Cr-B-C SYSTEM**  
V.A. Shcherbakov, A.V. Chobko, O.N. Sosikova, N.V. Sachkova  
*Institute of Structural Macrokinetics and Materials Science, Russian Academy of Science, Chernogolovka, Russia*
- P.S.A.6. **GLYCINE-NITRATE COMBUSTION SYNTHESIS OF OXYAPATITE  $\text{La}_{9.33}(\text{SiO}_4)_6\text{O}_2$**   
S. Zec<sup>1</sup>, J. Dukić<sup>1</sup>, S. Bošković<sup>1</sup>, B. Matović<sup>1</sup>, R. Petrović<sup>2</sup>  
<sup>1</sup>*Institute of Nuclear Sciences Vinča, Materials Science Laboratory, Belgrade, Serbia*, <sup>2</sup>*Faculty of Technology and Metallurgy, Belgrade, Serbia*
- P.S.A.7. **DETERMINATION OF SURFACE PROPERTIES OF VARIOUS OXIDES AND SULFIDES BY INVERSE GAS CHROMATOGRAPHY**  
S.K. Milonjić  
*The Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.A.8. **SYNTHESIS AND CHARACTERIZATION OF STABLE AQUEOUS CERIA SOLS**  
J.J. Gulicovski, S.K. Milonjić  
*The Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.A.9. **DEPOSITION OF HEMATITE FROM FLOWING SUSPENSION ONTO ALUMINUM WALL**  
Lj. Čerović<sup>1,2</sup>, G. Lefèvre<sup>1</sup>, A. Jaubertie<sup>3</sup>  
<sup>1</sup>*ENSCP-LECA-CNRS UMR 7575 Paris, France*, <sup>2</sup>*The Vinča Institute of Nuclear Sciences, Belgrade, Serbia*, <sup>3</sup>*EDF R&D/MFTT, Chatou, France*
- P.S.A.10. **MECHANOCHEMICALLY ENHANCED LOW-TEMPERATURE SYNTHESIS OF Y-DOPED BaTiO<sub>3</sub> PTCR CERAMIC**  
Lj. Vulićević<sup>1</sup>, N. Ivanović<sup>2</sup>, M. Mitrić<sup>2</sup>, Ž. Andrić<sup>2</sup>, B. Andjelić<sup>1</sup>, M. Plazinić<sup>1</sup>, N. Oklobdžija<sup>2</sup>, D. Marjanović<sup>2</sup>, A. Savić<sup>2</sup>  
<sup>1</sup>*Technical Faculty- Čačak, Čačak, Serbia*, <sup>2</sup>*Institute for Nuclear Sciences "VINČA", Belgrade, Serbia*
- P.S.A.11. **INFLUENCE OF MECHANICAL ACTIVATION ON BaO-ZnO-TiO<sub>2</sub> SYSTEM**  
N. Obradović<sup>1</sup>, S. Stevanović<sup>1</sup>, V. Pavlović<sup>2</sup>, M.M. Ristić<sup>3</sup>  
<sup>1</sup>*Institute of Technical Sciences SASA, Belgrade, Serbia*, <sup>2</sup>*Faculty of Agriculture, University of Belgrade, Serbia*, <sup>3</sup>*Serbian Academy of Sciences and Arts, Belgrade, Serbia*
- P.S.A.12. **INFLUENCE OF MECHANICAL ACTIVATION ON MgO-TiO<sub>2</sub> SYSTEM**

S. Stevanović<sup>1</sup>, N. Obradović, V. Pavlović<sup>2</sup>, M.M. Ristić<sup>3</sup>  
<sup>1</sup>*Institute of Technical Sciences SASA, Belgrade, Serbia,* <sup>2</sup>*Faculty of Agriculture, University of Belgrade, Serbia,* <sup>3</sup>*Serbian Academy of Sciences and Arts, Belgrade, Serbia*

**P.S.A.13. SYNTHESIS OF MICROCRYSTALLINE SILICON THIN FILMS BY GAS-JET ELECTRON-BEAM PLASMA METHOD**

O.I. Semenova<sup>1</sup>, R.G. Sharafutdinov<sup>2</sup>, V.G. Schukin<sup>2</sup>  
<sup>1</sup>*Institute of Semiconductor Physics SB RAN, Novosibirsk, Russia,* <sup>2</sup>*Institute of Thermophysics SB RAN, Novosibirsk, Russia*

**P.S.A.14 SYNTHESIS AND STRUCTURAL CHARACTERIZATION OF MESOPOROUS SILICA THIN FILMS**

K.P. Mogilnikov<sup>1</sup>, O.I. Semenova<sup>1</sup>, M.K. Kovalev<sup>2</sup>, V.N. Kruchinin<sup>2</sup>, M.S. Mel'gunov<sup>2</sup>  
<sup>1</sup>*Institute of Semiconductor Physics SB RAN, Novosibirsk, Russia,* <sup>2</sup>*Institute of Catalysis SB RAN, Novosibirsk, Russia*

**P.S.A.15. MUSHY LAYER FORMATION DURING SOLIDIFICATION OF BINARY ALLOYS FROM A COOLED WALL: THE ROLE OF BONDARY CONDITIONS**

I.V. Alexandrova, D.V. Alexandrov, A.P. Malygin, S.A. Shubinov, A.A. Ivanov  
*Urals State University, Ekaterinburg, Russia*

**P.S.A.16. DIRECTIONAL SOLIDIFICATION OF TERNARY ALLOYS**

D.V. Alexandrov, D.L. Aseev, S.V. Bulitcheva, I.G. Nizovtseva  
*Urals State University, Ekaterinburg, Russia*

**P.S.A.17. ION BEAM MODIFICATION OF Al/Ti MULTILAYERS**

D. Peruško, V. Milinović, M. Mitrić, S. Petrović, M. Milosavljević  
*Institute of Nuclear Sciences "Vinča", Belgrade, Serbia*

**P.S.A.18. ELECTROCRYSTALLIZATION OF DENSE NANOSTRUCTURED SILVER LAYERS USING PULSE CURRENTS**

R. Batijewski, L. Lipińska, K. Kościewicz, R. Diduszko  
*Institute of Electronic Materials Technology, Warsaw, Poland*

**P.S.A.19. PREPARATION OF POROUS SILICA CERAMICS USING THE WOOD TEMPLATE**

B. Matović<sup>1</sup>, B. Babić<sup>1</sup>, A. Egelja<sup>1</sup>, J. Dukić<sup>1</sup>, V. Logar<sup>2</sup>, A. Vučković<sup>1</sup>, S. Bošković<sup>1</sup>  
<sup>1</sup>*Institute for Nuclear Sciences "Vinča," Laboratory for Materials Science, Belgrade, Serbia,* <sup>2</sup>*Faculty for Mining and Geology, Belgrade, Serbia*

**P.S.A.20. ELECTROCHEMICAL BEHAVIOR OF V<sub>2</sub>O<sub>5</sub> TREATED WITH H<sub>2</sub>O<sub>2</sub>**

I. Stojković<sup>1</sup>, I. Pašti<sup>1</sup>, M. Mitrić<sup>2</sup>, N. Cvjetičanin<sup>1</sup>, S. Mentus<sup>1</sup>

<sup>1</sup>*Faculty of Physical Chemistry, Belgrade, Serbia,* <sup>2</sup>*The Vinca Institute of Nuclear Sciences, Laboratory for Theoretical and Condensed Matter Physics, Belgrade, Serbia*

- P.S.A.21. NANOCRYSTALLINE NICKEL: ELECTROSYNTHESIS, MICROSTRUCTURE AND PROPERTIES**  
L. Lipińska, A. Rzepka, K. Kościewicz, R. Diduszko  
*Institute of Electronic Materials Technology, Warsaw, Poland*
- P.S.A.22. THE THICKNESS, MORPHOLOGY AND STRUCTURE OF SOL-GEL Bi<sub>12</sub>SiO<sub>20</sub> THIN FILMS**  
A. Veber, D. Suvorov  
*Advanced Materials Department, Jožef Stefan Institute, Ljubljana, Slovenia*
- P.S.A.23. INFLUENCE OF UNIPOLAR PULSE BIASING PARAMETERS ON PLASMA NITRIDING PROCESS EFFICIENCY**  
I. Popović, M. Zlatanović  
*Faculty of Electrical Engineering, Belgrade, Serbia*
- P.S.A.24. STUDIES OF ATMOSPHERIC DISCHARGE OF SMALL DIMENSIONS USED FOR TREATMENT OF BIOLOGICAL SAMPLES**  
N. Puač<sup>1</sup>, S. Lazović<sup>1</sup>, G. Malović<sup>1</sup>, A. Djordjević<sup>2</sup>, Z.Lj. Petrović<sup>1</sup>  
<sup>1</sup>*Institute of Physics, Belgrade, Serbia,* <sup>2</sup>*Faculty of Electrical Engineering, Belgrade, Serbia*
- P.S.A.25. CALCULATION OF PULSED PHOTOTHERMAL FIELDS USING K-SPACE METHOD: BIOMEDICAL APPLICATIONS**  
S. Galović, D. Čevizović, Z. Stojanović  
*The "Vinča" Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.A.26. SURFACE CHARACTERISATION OF ALLOYS BY OPTO-MAGNETIC FINGERPRINT**  
A. Tomić<sup>1,2</sup>, L. Matija<sup>1</sup>, D. Kojić<sup>1,2</sup>, Dj. Koruga<sup>1</sup>  
<sup>1</sup>*NanoLab, Faculty of Mechanical Engineering, Belgrade, Serbia,* <sup>2</sup>*MySkin Inc., New Jersey, USA*
- P.S.A.27. SURFACE CHARACTERISATION BY ATOMIC FORCE MICROSCOPY AND MAGNETIC FORCE MICROSCOPY**  
D. Kojić<sup>1,2</sup>, L. Matija<sup>1</sup>, Lj. Petrov<sup>1,2</sup>, Dj. Koruga<sup>1</sup>  
<sup>1</sup>*NanoLab, Faculty of Mechanical Engineering, Belgrade, Serbia,* <sup>2</sup>*TeleSkin d.o.o., Belgrade, Serbia*

- P.S.A.28. ELECTRONIC SPECTROSCOPY STUDY OF THE INTERACTION OF BIOLOGICALLY ACTIVE HYDROQUINONE AVAROL AND RELATED COMPOUNDS WITH DNA**  
M. Vujčić<sup>1</sup>, S. Tufegdžić<sup>1</sup>, I. Novaković<sup>1</sup>, D. Sladić<sup>2</sup>  
<sup>1</sup>*Institute of Chemistry, Technology and Metallurgy, Department of Chemistry, Belgrade, Serbia,* <sup>2</sup>*Faculty of Chemistry, University of Belgrade, Belgrade, Serbia*
- P.S.A.29. FORMATION AND SPECTRA OF PLASMON-COUPLED GOLD NANOPARTICLE DIMERS WITH DNA STRANDS**  
S. Zlatanović  
*University of California San Diego, San Diego, USA*
- P.S.A.30. THEORETICAL CALCULATION OF THE GROUND STATE STRUCTURE OF BC<sub>2</sub> GAS PHASE MOLECULE**  
J. Radić-Perić, S. Jerosimić  
*Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia*
- P.S.A.31. RUBY LASER INTERACTION WITH AUSTENITE STRUCTURAL MATERIALS**  
A. Milosavljević<sup>1</sup>, S. Petronić<sup>1</sup>, M. Srećković<sup>2</sup>, S. Ristić<sup>3</sup>, I. Nešić<sup>1</sup>, R. Pljakić<sup>4</sup>, V. Negovanović<sup>5</sup>  
<sup>1</sup>*Faculty of Mechanical Engineering, University of Belgrade, Serbia,* <sup>2</sup>*Faculty of Electronical Engineering, University of Belgrade, Serbia,* <sup>3</sup>*Goša Institute, Belgrade, Serbia,* <sup>4</sup>*"Prva Petoletka", Trstenik, Serbia,* <sup>5</sup>*Megatrend University, Belgrade, Serbia*
- P.S.A.32. NONISOTHERMAL SINTERING PROCESS OF POROUS BODY AT ULTRA HIGH TEMPERATURE RATE**  
A.G. Lanin  
*The Research Institute of the SIA 'Luch', Podolsk, Moscow Region, Russia*
- P.S.A.33. SYNTHESIS AND CHARACTERIZATION OF SEMICONDUCTING MACROMOLECULAR COMPLEX POLYANILINE-STARCH**  
G. Ćirić Marjanović<sup>1</sup>, Dj. Trpkov<sup>1</sup>, B. Marjanović<sup>2</sup>  
<sup>1</sup>*Faculty of Physical Chemistry, Belgrade, Serbia,* <sup>2</sup>*Centrohem, Stara Pazova, Serbia*
- P.S.A.34. OXIDATIVE STABILITY OF COLD-PRESSED HIGHOLEIC SUNFLOWER OILS**  
M. Pavlović<sup>1</sup>, S. Ostojčić<sup>1</sup>, M. Kićanović<sup>1</sup>, S. Zlatanović<sup>1</sup>, M. Živić<sup>1</sup>, Z. Sakač<sup>2</sup>  
<sup>1</sup>*Institute for General and Physical Chemistry, Belgrade,* <sup>2</sup>*Institute for Field Vegetables and Crops, Novi Sad, Serbia*

- P.S.A.35. EFFECTS OF THE POSTPOLYMERIZATION TREATMENTS ON AMOUNT OF RESIDUAL MONOMER IN DENTURES**  
N. Krunic<sup>1</sup>, M. Kostic<sup>2</sup>, B. Krunic<sup>2</sup>, Lj. Nikolic<sup>3</sup>, V. Nikolic<sup>3</sup>  
<sup>1</sup>University of Niš, Medical Faculty, Department of Prosthetic Dentistry, Serbia,  
<sup>2</sup>Clinic of Stomatology, Niš, Serbia, <sup>3</sup>University of Niš, Faculty of Technology, Leskovac, Serbia
- P.S.A.36. IDENTIFICATION AND DETERMINATION OF POLY(VINYLPYRROLIDONE) BY OFF-LINE PYROLYSIS-GAS CHROMATOGRAPHY/MASS SPECTROMETRY**  
V.V. Antić<sup>1</sup>, M.P. Antić<sup>2</sup>, A. Kronimus<sup>3</sup>, B. Jovančičević<sup>4</sup>, J. Schwarzbauer<sup>3</sup>  
<sup>1</sup>Polymer Department, Center of Chemistry, Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia, <sup>2</sup>Faculty of Agriculture, Zemun, Serbia, <sup>3</sup>Institute of Geology and Geochemistry of Petroleum and Coal, RWTH Aachen University, Aachen, Germany, <sup>4</sup>Faculty of Chemistry, Belgrade, Serbia
- P.S.A.37. THERMAL BEHAVIOUR AND POROSITY OF CHELATING MACROPOROUS POLY(GMA-co-EGDMA)**  
V. Rakić<sup>1</sup>, A. Nastasović<sup>2</sup>, Z. Vuković<sup>3</sup>, T. Novaković<sup>3</sup>  
<sup>1</sup>University of Belgrade, Faculty of Agriculture, Zemun, Serbia, <sup>2</sup>ICTM-Center for Chemistry, Belgrade, Serbia, <sup>3</sup>ICTM-Center for Catalysis and Chemical Engineering, Belgrade, Serbia
- P.S.A.38. IMPROVEMENT OF IMPACT TOUGHNESS OF 7179-T651 ALUMINUM ALLOY BY RETROGRESSION AND RE-AGING PROCESS**  
H.R. Zaid<sup>2</sup>, A.M. Hatab<sup>1</sup>, A. M.A. Ibrahim<sup>1</sup>  
<sup>1</sup>Department of Mechanical and Industrial Engineering, Al-Fateh University, Tripoli, Libya, <sup>2</sup>Department of Material Science, Faculty of Engineering Al-Jabal El-ghrbi University, Gahryan, Libya
- P.S.A.39. STRUCTURE AND PROPERTIES OF COATINGS OF FE-CR-B-SI SYSTEM OBTAINED BY THE LASER CLADDING**  
O.G. Devoino, M.A. Kardapolova, U.A. Kalinichenko, O.V. Diyachenko  
*The Belarusian National Technical University, Minsk, Belarus*
- P.S.A.40. THEORETICAL ASSESSMENT OF STABILITY OF DUAL-METAL (Cd + Pb) SUBSTITUTED HYDROXYAPATITE MATERIAL**  
S. Raičević  
*Vinča Institute of Nuclear Sciences, Radiation and Environmental Protection Laboratory, Belgrade, Serbia*
- P.S.A.41. TAILORED SANDWICH STRUCTURES IN THE FOCUS OF RESEARCH**  
H. Palkowski, G. Lange

*Institute of Metallurgy - Metal Forming and Processing - Clausthal University of  
Technology, Clausthal-Zellerfeld, Germany*

**P.S.A.42. PROTECTIVE COATINGS BASED ON EPOXY AND ALKYD RESINS AS  
BINDERS**

M.C. Jovičić, R.Ž. Radičević, J.K. Budinski-Simendić  
*University of Novi Sad, Faculty of Technology, Novi Sad, Serbia*

**P.S.A.43. MATHEMATICAL MODEL OF APPLE DRYING KINETICS**

B. Tomić-Tucaković<sup>1</sup>, D. Majstorović<sup>1</sup>, L. Pezo<sup>1</sup>, A. Petrović<sup>2</sup>, D. Debeljković<sup>2</sup>  
<sup>1</sup>*Eng. Dept. Holding Institute of General and Physical Chemistry, Belgrade, Serbia,*  
<sup>2</sup>*Faculty of Mechanical Engineering, Belgrade, Serbia*

**P.S.A.44. MATHEMATICAL MODEL OF AIRFLOW THROUGH A WOOD-DRYING  
KILN**

L. Pezo<sup>1</sup>, S. Stanojlović<sup>1</sup>, A. Jovanović<sup>1</sup>, S. Zlatanović<sup>1</sup>, D. Debeljković<sup>2</sup>  
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<sup>2</sup>*Faculty of Mechanical Engineering, Belgrade, Serbia*

**P.S.A.45. MATHEMATICAL MODEL OF HEAT AND MASS TRANSFER DURING  
HEAT TREATMENT OF WOOD**

D. Majstorović<sup>1</sup>, L. Pezo<sup>1</sup>, B. Tomić-Tucaković<sup>1</sup>, A. Petrović<sup>2</sup>, D. Debeljković<sup>2</sup>  
<sup>1</sup>*Eng. Dept. Holding Institute of General and Physical Chemistry, Belgrade, Serbia,*  
<sup>2</sup>*Faculty of Mechanical Engineering, Belgrade, Serbia*

**P.S.A.46. MATHEMATICAL MODEL OF A SOLAR DRYER WITH NATURAL  
CONVECTIVE HEAT FLOW**

S. Stanojlović, L. Pezo, A. Jovanović, S. Zlatanović<sup>1</sup>, A. Petrović<sup>2</sup>  
<sup>1</sup>*Eng. Dept. Holding Institute of General and Physical Chemistry, Belgrade, Serbia,*  
<sup>2</sup>*Faculty of Mechanical Engineering, Belgrade, Serbia*

**P.S.A.47. MECHANISMS OF DEFORMATION-INDUCED FRAGMENTATION OF  
NANOSTRUCTURES OF METALS AND ALLOYS**

I.L. Lomayev  
*Physical-Technical Institute, Ural Division, Russian Academy of Sciences, Izhevsk,  
Russia*

**P.S.A.48. MECHANISMS OF STRAIN-INDUCED PHASE DISSOLUTION IN  
NANOSTRUCTURED METALS AND ALLOYS**

I.L. Lomayev  
*Physical-Technical Institute, Ural Division, Russian Academy of Sciences, Izhevsk,  
Russia*

**P.S.A.49. FABRICATION AND CHARACTERIZATION OF Al<sub>2</sub>O<sub>3</sub>/MO  
NANOCOMPOSITE**

M.H. Enayati, F. Karimzadeh, A. Heidarpour  
*Department of Materials Engineering, Isfahan University of Technology, Isfahan, Iran*

**P.S.A.50. MECHANOCHEMICAL SYNTHESIS OF Fe<sub>3</sub>Al-Al<sub>2</sub>O<sub>3</sub> NANOCOMPOSITE**

M.H. Enayati, F. Karimzadeh, M. Khodaei  
*Department of Materials Engineering, Isfahan University of Technology, Isfahan, Iran*

**P.S.A.51. BALL MILLING ASSISTED SYNTHESIS OF NANOCRYSTALLINE SIALON**

M.H. Enayati, M. Salehi, M. Babashahi  
*Department of Materials Engineering, Isfahan University of Technology, Isfahan, Iran*

**P.S.A.52. NANOSTRUCTURED WC-CO CERMET POWDER PRODUCED BY BALL MILLING**

M.H. Enayati, G.R. Aryanpour, A. Ebnonnasir  
*Department of Materials Engineering, Isfahan University of Technology, Isfahan, Iran*

**P.S.A.53. LASER INDUCED REFRACTIVITY, HIGH-SPEED SWITCHING AND LASER STRENGTH IMPROVEMENT OF MATERIALS WITH NANOOBJECTS**

N.V. Kamanina, P.Ya. Vasilyev, V.I. Studenov  
*Vavilov State Optical Institute, St.-Petersburg, Russia*

**P.S.A.54. IRON GROUP NANOPOWDERS ELECTRODEPOSITON**

L. Rafailović<sup>1</sup>, H.P. Karnthaler<sup>1</sup>, T. Trišović<sup>3</sup>, P.F. Rogl<sup>2</sup>  
<sup>1</sup>*Physics of Nanostructured Materials, Faculty of Physics, University of Vienna, Vienna, Austria,* <sup>2</sup>*Institute of Physical Chemistry, Faculty of Chemistry, University of Vienna, Vienna, Austria,* <sup>3</sup>*Institute of Technical Science of SASA, Belgrade, Serbia*

## POSTER SESSION II

*Wednesday, September 10, 2008, 20<sup>30</sup>-22<sup>00</sup>*

### SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATIONS

- P.S.B.1.* **As3d CORE LEVEL PHOTOEMISSION STUDIES OF (GaMn)As**  
I. Ulfat<sup>1,2</sup>, J. Adell<sup>1,2</sup>, J. Sdaowski<sup>2,3</sup>, L. Ilver<sup>1</sup>, J. Kanski<sup>1</sup>  
<sup>1</sup>*Department of Applied Physics, Chalmers University of Technology, Göteborg, Sweden,* <sup>2</sup>*MAX-lab, Lund University, Lund, Sweden,* <sup>3</sup>*Institute of Physics, Polish Academy of Sciences, Warsaw, Poland*
- P.S.B.2.* **KINETICS OF CATION EXCHANGE IN SPINEL NiGa<sub>2</sub>O<sub>4</sub>**  
J. Shi, K.D. Becker  
*Institute of Physical and Theoretical Chemistry, Technische Universität Braunschweig, Braunschweig, Germany*
- P.S.B.3.* **OPTICAL DESIGN OF METAMATERIAL STRUCTURES BASED ON COORDINATE TRANSFORMATIONS METHOD**  
B. Vasić<sup>1</sup>, G. Isić<sup>1,2</sup>, R. Gajić<sup>1</sup>, K. Hingerl<sup>3</sup>  
<sup>1</sup>*Institute of Physics, Belgrade, Serbia,* <sup>2</sup>*School of Electronic and Electrical Engineering, University of Leeds, Leeds, United Kingdom,* <sup>3</sup>*Christian Doppler Lab, Institute for Semiconductor and Solid State Physics, University of Linz, Linz, Austria*
- P.S.B.4.* **KINETICS OF NON-RADIATIVE ROTATIONAL ISOMER BUTANE TRANSITIONS**  
G. Keković<sup>1</sup>, D. Raković<sup>1</sup>, D.M. Davidović<sup>2,3</sup>  
<sup>1</sup>*Faculty of Electrical Engineering, Belgrade, Serbia,* <sup>2</sup>*Vinča Institute of Nuclear Sciences, Belgrade, Serbia,* <sup>3</sup>*School of Electrical and Computer Engineering, RMIT, Melbourne, Australia*
- P.S.B.5.* **THE SYNTHESIS AND DIELECTRIC PROPERTIES OF THE GLASS CERAMIC COMPOSITE MgO–B<sub>2</sub>O<sub>3</sub>–SiO<sub>2</sub>**  
U. Došler, M. Maček Kržmanc, M. Udovič, D. Suvorov  
*Institute "Jožef Stefan", Ljubljana, Slovenia*
- P.S.B.6.* **MESOPOROUS AND FUNCTIONALIZED MATERIALS IN DRUG SUPPORTS AND DELIVERY SYSTEMS**  
D. Krajišnik<sup>1</sup>, V. Dondur<sup>2</sup>, M. Milojević<sup>2</sup>, J. Milić<sup>1</sup>  
<sup>1</sup>*Department of Pharmaceutical Technology and Cosmetology, Faculty of Pharmacy, University of Belgrade, Serbia,* <sup>2</sup>*Faculty of Physical Chemistry, University of Belgrade, Serbia*

- P.S.B.7. HETEROPOLY COMPOUNDS SUPPORTED ON MONTMORILLONITE AS CATALYSTS FOR WET PEROXIDE OXIDATION OF TOLUENE**  
P. Banković<sup>1</sup>, S. Sređić<sup>2</sup>, I. Holclajtner-Antunović<sup>3</sup>, Ž. Čupić<sup>1</sup>, M. Davidović<sup>4</sup>, U.B. Mioč<sup>3</sup>  
<sup>1</sup>IHTM, Center of Catalysis and Chemical Engineering, Belgrade, Serbia, <sup>2</sup>Institute of Mining, Prijedor, Republic of Srpska, Bosnia and Herzegovina, <sup>3</sup>Faculty of Physical Chemistry University of Belgrade, Serbia, <sup>4</sup>Goša Institute, Belgrade, Serbia
- P.S.B.8. PHYSICOCHEMICAL CHARACTERIZATION OF INSOLUBLE ALKALINE SALTS OF 12-TUNGSTOPHOSPHORIC ACID**  
I. Holclajtner-Antunović<sup>1</sup>, U.B. Mioč<sup>1</sup>, D. Bajuk-Bogdanović<sup>1</sup>, M. Davidović<sup>2</sup>, Z. Jovanović<sup>3</sup>  
<sup>1</sup>Faculty of Physical Chemistry, Belgrade, <sup>2</sup>Institute Goša, Belgrade, <sup>3</sup>The Vinča Institute of Nuclear Science, Belgrade, Serbia
- P.S.B.9. NICKEL MANGANITE THICK FILM THERMISTORS FOR WATER FLOW SENSOR APPLICATION**  
S.M. Savić<sup>1</sup>, O.S. Aleksić<sup>2</sup>, M.V. Nikolić<sup>2</sup>, D. Luković Golić<sup>1</sup>  
<sup>1</sup>Institute of Technical Sciences of SASA, Belgrade, Serbia, <sup>2</sup>Institute for Multidisciplinary Research, Belgrade, Serbia
- P.S.B.10. MAGNETOCALORIC EFFECT IN RARE EARTH MANGANITES**  
R. Tetean, I.G. Deac, E. Burzo  
Babes-Bolyai University, Faculty of Physics, Cluj-Napoca, Romania
- P.S.B.11. ANALYSIS OF THERMAL PARAMETERS OF GLASSES FROM SYSTEM BI<sub>x</sub>(AS<sub>2</sub>S<sub>3</sub>)<sub>100-x</sub> BASED ON DSC THERMOGRAMS**  
M.V. Šiljegović, G.R. Štrbac, S.R. Lukić, F. Skuban  
Department of Physics, Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia
- P.S.B.12. CHARACTERIZATION OF X-RAY DIAMOND DETECTOR BY MONTE CARLO METHOD**  
S.J. Stanković, R.D. Ilić, D. Davidović, M. Petrović  
Vinča Institute of Nuclear Sciences, Belgrade, Serbia
- P.S.B.13. RADIATION ABSORPTION CHARACTERISTICS OF TITANIUM ALLOYS**  
S.J. Stanković, M. Petrović, D. Davidović, S. Tadić, M. Kovačević  
Vinča Institute of Nuclear Sciences, Belgrade, Serbia

- P.S.B.14. INFLUENCE OF DEFECTS INDUCED BY MECHANICAL ACTIVATION ON OPTICAL AND ELECTRICAL PROPERTIES OF ZnO**  
T. Srećković<sup>1</sup>, M. Šćepanović<sup>2</sup>, K. Vojisavljević<sup>1</sup>, G. Branković<sup>1</sup>  
<sup>1</sup>*Institute for Multidisciplinary Research, Belgrade, Serbia,* <sup>2</sup>*Institute of Physics, Center for Solid State Physics and New Materials, Belgrade, Serbia*
- P.S.B.15. GRAHITE-CONTAINING AND NANOSRUCTURED ELECTRODES FOR ELECTROSPARK DEPOSITION COATINGS WITH IMPROVED TRIBOLOGICAL PARAMETERS**  
E.I. Zamulaeva, E.A. Levashov, A.E. Kudryashov, M.I. Petrzhik, Zh.V. Eremeeva  
*SHS- Center of Moscow State Institute of Steel and Alloys (Technological University), Moscow, Russia*
- P.S.B.16. THE ROLE OF RADICALS IN KINETICS OF PLASMA ETCHERS IN Ar/CF<sub>4</sub> MIXTURES**  
Ž. Nikitović, V. Stojanović, Z.Lj. Petrović  
*Institute of Physics, Belgrade, Serbia*
- P.S.B.17. SURFACE AND STRUCTURAL CHANGES OF BORON ION IMPLANTED GLASSY CARBON**  
A. Kalijadis<sup>1</sup>, M. Laušević<sup>2</sup>, Z. Laušević<sup>1</sup>  
<sup>1</sup>*Laboratory of Physics, Institute of Nuclear Science Vinča, Belgrade, Serbia,* <sup>2</sup>*Faculty of Technology and Matallurgy, University of Belgrade, Belgrade, Serbia*
- P.S.B.18. SILVER DEPOSITION ON THE CHEMICALLY SURFACE TREATED CARBON MONOLITH**  
A. Kalijadis<sup>1</sup>, M. Vukčević<sup>2</sup>, Z. Jovanović<sup>1</sup>, Z. Laušević<sup>1</sup>, M. Laušević<sup>2</sup>  
<sup>1</sup>*Laboratory of Physics, Institute of Nuclear Science Vinča, Belgrade, Serbia,* <sup>2</sup>*Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia*
- P.S.B.19. EFFECT OF PROTON IRRADIATION ON SURFACE PROPERTIES OF GLASSY CARBON**  
Z. Jovanović<sup>1</sup>, M. Laušević<sup>2</sup>, Z. Laušević<sup>1</sup>  
<sup>1</sup>*Institute of Nuclear Sciences Vinča, Belgrade, Serbia,* <sup>2</sup>*Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia*
- P.S.B.20. INFLUENCE OF PHYSICAL CHARACTERISTIC OF FLAT ALUMINUM CONCENTRATOR ON ENERGETIC EFFICIENCY OF PV/THERMAL COLLECTOR**  
Lj. Kostić, T. Pavlović, Z. Pavlović  
*Faculty of Science and Mathematics, Physics Department, Niš, Serbia*
- P.S.B.21. OPTICAL AND MAGNETIC PROPERTIES OF PbTe(Ni)**

N. Romčević<sup>1</sup>, J. Trajić<sup>1</sup>, M. Romčević<sup>1</sup>, D. Stojanović<sup>1</sup>, T.A. Kuynetsova<sup>2</sup>, D.R. Khokhlov<sup>2</sup>, W.D. Dobrowolski<sup>3</sup>  
<sup>1</sup>*Institute of Physics, Belgrade, Serbia*, <sup>2</sup>*Moscow State University, Moscow, Russia*,  
<sup>3</sup>*Institute of Physics PAS, Warsaw, Poland*

- P.S.B.22. THE EFFECT OF FREQUENCY AND TEMPERATURE ON MAGNETIC PROPERTIES OF Fe<sub>81</sub>B<sub>13</sub>Si<sub>4</sub>C<sub>2</sub> AMORPHOUS ALLOY**  
S. Djukić, V. Maričić, S. Randjić, J. Živanić, N. Mitrović  
*Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems, Technical Faculty Čačak, Čačak, Serbia*
- P.S.B.23. NANOCRYSTALLIZATION OF Fe<sub>72</sub>Al<sub>5</sub>Ga<sub>2</sub>P<sub>11</sub>C<sub>6</sub>B<sub>4</sub> AMORPHOUS ALLOYS BY CURRENT ANNEALING TECHNIQUE**  
N. Mitrović<sup>1</sup>, A. Kalezić-Glišović<sup>1</sup>, A. Maričić<sup>1</sup>, R. Simeunović<sup>1</sup>, S. Roth<sup>2</sup>, J. Eckert<sup>3</sup>  
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- P.S.B.24. THE EFFECT OF THE HYDRATION OF A CRYSTAL IRON-NICKEL POWDER MIXTURE ON THE MICROSTRUCTURE AND MAGNETIC PROPERTIES**  
R. Simeunović, L. Ribić-Zelenović, A. Maričić, M. Spasojević  
*Technical Faculty of Agronomy, University of Kragujevac, Čačak, Serbia*
- P.S.B.25. THE EFFECT OF PRESSURE AND TEMPERATURE ON ELECTRICAL CONDUCTIVITY OF COLD SINTERED COPPER POWDER**  
I. Simeunović<sup>1</sup>, L. Novaković<sup>1</sup>, A. Kalezić-Glišović<sup>2</sup>, N. Mitrović<sup>2</sup>  
<sup>1</sup>*Faculty of Physics, Belgrade, Serbia*, <sup>2</sup>*Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems, Technical Faculty Čačak, Čačak, Serbia*
- P.S.B.26. THE EFFECT OF CURRENT DENSITY ON THE PROPERTIES OF THE ELECTROCHEMICALLY PRODUCED Ni<sub>x</sub>Mo<sub>y</sub> ALLOY POWDERS**  
M. Spasojević, L. Ribić-Zelenović, A. Maričić  
*Technical Faculty of Agronomy, University of Kragujevac, Čačak, Serbia*
- P.S.B.27. THE EFFECT OF MICROSTRUCTURE AND STRUCTURAL CHANGES IN NICKEL, MOLYBDENUM AND PHOSPHORUS POWDERS ON ELECTRIC AND MAGNETIC PROPERTIES**  
L. Ribić-Zelenović, M. Spasojević, A. Maričić  
*Technical Faculty of Agronomy, University of Kragujevac, Čačak, Serbia*
- P.S.B.28. THE EFFECT OF ANNEALING AND EXTERNAL MAGNETIC FIELD ON THE MAGNETIC PERMEABILITY OF THE BaO+6Fe<sub>2</sub>O<sub>3</sub> PRESSED POWDER**

A. Maričić<sup>1</sup>, B. Zlatkov<sup>2</sup>, Lj. Vulićević<sup>1</sup>, N. Mitrović<sup>1</sup>, M. Spasojević<sup>1</sup>  
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Technical Faculty Čačak, Čačak, Serbia, <sup>2</sup>FOTEC Forschungs- und  
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**P.S.B.29. THE EFFECT OF THE THERMAL PROCESSING TEMPERATURE ON  
THE MICROSTRUCTURE AND ELECTROCHEMICAL PERFORMANCE  
OF AN ACTIVE RuO<sub>2</sub>TiO<sub>2</sub>/IrO<sub>2</sub>, Pt COATING ON TITANIUM**

L. Ribić-Zelenović, A. Maričić, M. Spasojević  
Technical Faculty of Agronomy, University of Kragujevac, Čačak, Serbia

**P.S.B.30. PREPARATION AND CHARACTERIZATION OF PT/C AND TIO<sub>x</sub>-PT/C  
CATALYSTS FOR HYDROGEN OXIDATION REACTION**

Lj.M.Gajić-Krstajić<sup>1</sup>, N.R.Elezović<sup>2</sup>, B.M.Babić<sup>3</sup>, Lj. M. Vračar<sup>4</sup>, N.V.Krstajić<sup>4</sup>  
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Belgrade, Serbia, <sup>4</sup>Faculty of Technology and Metallurgy, University of Belgrade,  
Belgrade, Serbia

**P.S.B.31. TIME DELAY IN THIN DIELECTRIC SLABS WITH SATURABLE  
NONLINEARITY**

P. Beličev<sup>1</sup>, I. Ilić<sup>1</sup>, J. Radovanović<sup>2</sup>, V. Milanović<sup>2</sup>, Lj. Hadžievski<sup>1</sup>  
<sup>1</sup>Vinča Institute of Nuclear Sciences, Belgrade, Serbia, <sup>2</sup>School of Electrical  
Engineering, University of Belgrade, Belgrade, Serbia

**P.S.B.32. ORIENTATION AND RADIATION INDUCED CHANGES IN  
MICROSTRUCTURE AND CRYSTALLINITY OF ISOTACTIC  
POLYPROPYLENERNE**

E. Suljovrujić, G. Stamboliev, M. Mitrić, A. Leskovac, D. Milićević, S. Trifunović,  
M. Mičić  
Vinča Institute of Nuclear Sciences, Belgrade, Serbia

**P.S.B.33. THERMAL STABILITY OF MODEL IRREGULAR POLY(URETHANE-  
ISOCYANURATE) NETWORKS**

J. Pavličević<sup>1</sup>, J. Budinski-Simendić<sup>1</sup>, R. Radičević<sup>1</sup>, L. Katsikas<sup>2</sup>, I. Popović<sup>2</sup>,  
K. Meszaros Szecsenyi<sup>3</sup>, M. Špírkova<sup>4</sup>  
<sup>1</sup>Faculty of Technology, Novi Sad, Serbia, <sup>2</sup>Faculty of Metallurgy and Technology,  
Belgrade, Serbia, <sup>3</sup>Faculty of Sciences, Novi Sad, Serbia, <sup>4</sup>Institute of  
Macromolecular Chemistry, Prague, Academy of Sciences of the Czech Republic

**P.S.B.34. ORGANIC SOLID PROTON CONDUCTING ELECTROLYTES BASED ON  
AROMATIC SULFONIC ACIDS**

A.V. Pisareva, R.V. Pisarev, G.V. Shilov, A.I. Karelin, Yu.A. Dobrovolsky

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- P.S.B.35. ANALYSIS OF ANISOTROPY BEHAVIOR IN UOE FORMING FOR X80 HSLA STEEL**  
S. Moeinifar<sup>1</sup>, A.H. Kokabi<sup>2</sup>, S.H.R. Madah Hoseini<sup>2</sup>  
<sup>1</sup>Engineering Department, Azad University, Shushtar Branch, Iran <sup>2</sup> Material Science and Engineering Department, Sharif University of Technology, Iran
- P.S.B.36. INFLUENCE OF SUBMERGED TANDEM ARC WELDING ON HAZ TOUGHNESS OF X80 MICRO ALLOY STEEL**  
S. Moeinifar<sup>1</sup>, A.H. Kokabi<sup>2</sup>, S.H.R. Madah Hoseini<sup>2</sup>  
<sup>1</sup>Engineering Department, Azad University, Shushtar Branch, Iran <sup>2</sup>Material Science and Engineering Department, Sharif University of Technology, Iran
- P.S.B.37. TO STUDY THE EFFECT OF CRYOGENIC HEAT TREATMENT ON HARDNESS AND THE AMOUNT OF RESIDUAL AUSTENITE IN 1/2304 STEEL**  
K. Amini<sup>1</sup>, S. Nategh<sup>2</sup>, A. Shafyei<sup>3</sup>  
<sup>1</sup>Young Researchers Club, Islamic Azad University, Majlessi Branch, Isfahan, Iran, <sup>2</sup>Islamic Azad University, Science and Research Branch, Isfahan, Iran, <sup>3</sup>Isfahan University of Technology, Isfahan, Iran
- P.S.B.38. THE EFFECT OF CURING SYSTEMS ON THE PROPERTIES OF NATURAL RUBBER / CHLOROSULPHONATED POLYETHYLENE RUBBER BLENDS**  
G. Marković<sup>1</sup>, B. Radovanović<sup>2</sup>, M. Marinović-Cincović<sup>3</sup>, J. Budinski-Simendić<sup>4</sup>  
<sup>1</sup>Tigar, Pirot, <sup>2</sup>Faculty of Science, Niš, <sup>3</sup>Institute of Nuclear Science VINČA, Belgrade, <sup>4</sup>Faculty of Technology, Novi Sad, Serbia
- P.S.B.39. THE INFLUENCE OF MACRODIOL TYPE ON MECHANICAL PROPERTIES OF POLYURETHANE MATERIALS**  
A. Kuta<sup>1</sup>, Z. Hrdlicka<sup>1</sup>, M. Spirkova<sup>2</sup>  
<sup>1</sup>Institute of Chemical Technology, Prague, Czech Republic, <sup>2</sup>Institute of Macromolecular Chemistry ASCR, v.v.i., Prague, Czech Republic
- P.S.B.40. MICROSTRUCTURE OF A SINTERED PRODUCT ON THE BASIS OF ILLITE-KAOLINITE CLAYS**  
N. Marstijepović<sup>1</sup>, M. Ivanović<sup>1</sup>, M.M. Krgović<sup>1</sup>, I. Bošković<sup>1</sup>, R. Zejak<sup>2</sup>, M. Knežević<sup>2</sup>

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<sup>2</sup>Faculty of Civil Engineering, University of Montenegro, Podgorica, Montenegro

**P.S.B.41. MICROSTRUCTURAL CHANGES OF HIGH TEMPERATURE CONCRETE DURING CREEP DEFORMATION**

A. Terzić<sup>1</sup>, Lj. Pavlović<sup>1</sup>, A. Milutinović-Nikolić<sup>2</sup>

<sup>1</sup>*Institute for Technology of Nuclear and other Raw Mineral Materials, Belgrade, Serbia,* <sup>2</sup>*Institute for Chemistry, Technology and Metallurgy, Belgrade, Serbia*

**P.S.B.42. INFLUENCE OF THE PLATINUM ALLOY MICROSTRUCTURE ON THE OPTIMUM CHARACTERISTICS OF THE PRECISE ANEMOMETERS**

M. Lečić, B. Kokotović, A. Milosavljević, Dj. Čantrak

*Faculty of Mechanical Engineering, University of Belgrade, Serbia*

**P.S.B.43. SYNTHESIS AND PROPERTIES OF SINGLE ISOTOPE POLYCRYSTALLINE CVD-DIAMOND**

A.N. Taldenkov<sup>1</sup>, A.V. Inyushkin<sup>1</sup>, A.A. Artyukhov<sup>1</sup>, A.A. Artyukhov<sup>1</sup>, Ya.M. Kravets<sup>1</sup>, I.P. Gnidoy<sup>1</sup>, A.L. Ustinov<sup>1</sup>, V.Ya. Panchenko<sup>1</sup>, V.G. Ralchenko<sup>2</sup>, A.P. Bolshakov<sup>2</sup>, A.F. Popovich<sup>2</sup>, A.V. Saveliev<sup>2</sup>, M.N. Sinyavskiy<sup>2</sup>, V.I. Konov<sup>2</sup>, A.V. Khomich<sup>3</sup>

<sup>1</sup>*RRC Kurchatov Institute, Moscow, Russia,* <sup>2</sup>*A.M. Prokhorov General Physics Institute RAS, Moscow, Russia,* <sup>3</sup>*V.A. Kotelnikov Institute of Radio Engineering and Electronics RAS, Fryazino, Russia*

**P.S.B.44. POLYURETHANE FOAMS AND FILMS: PREPARATION AND CHARACTERIZATION**

B. Strachotová, M. Špírková, A. Strachota, M. Urbanová

*Institute of Macromolecular Chemistry ASCR, v.v.i., Prague, Czech Republic*

**P.S.B.45. EXPERIMENTAL INVESTIGATIONS OF CURED AND UNCURED DISILOXANE BISBENZOCYCLOBUTEN (BCB) FILMS**

N. Ivanović<sup>1</sup>, N. Marjanović<sup>2</sup>, J. Grbović-Novaković<sup>1</sup>, M. Manasijević<sup>1</sup>, Z. Rakočević<sup>1</sup>, M. Srećković<sup>3</sup>, V. Andrić<sup>1</sup>

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**P.S.B.46. STUDY OF SPACE VEHICLES METAL SURFACE MORPHOLOGY UNDER IMPACT OF HARD HIGH-SPEED MICROPARTICLES**

O.N. Nikitushkina<sup>1</sup>, A.N. Petrov<sup>1</sup>, L.I. Ivanov<sup>1</sup>, L.S. Novikov<sup>2</sup>, B.A. Loginov<sup>3</sup>

<sup>1</sup>*A.A. Baikov Institute of Metallurgy and Material Science RAS, Moscow, Russia,* <sup>2</sup>*D.V. Skobel'syn Institute of Nuclear Physics, M.V. Lomonosov Moscow State*

*University, Moscow, Russia, <sup>3</sup>Moscow State Institute of Electronic Technology  
(Technical University), Moscow, Russia*

- P.S.B.47. OPTIMIZING CUTTING PARAMETERS FOR SURFACE ROUGHNESS IN TURNING OF THE COMMERCIAL ALUMINUM (1100-H18 Type) ALLOY USING TAGUCHI METHOD**  
A.M. Hatab<sup>1</sup>, H.R. Zaid<sup>2</sup>  
*<sup>1</sup>Department of Mechanical and Industrial Engineering, Al-Fateh University, Tripoli-Libya, <sup>2</sup>Department of Material Science, Faculty of Engineering, Al-Jabal El-Gahrbi University, Garyhan-Libya*
- P.S.B.48. CRACK INITIATION AND PROPAGATION OF HAZ SIMULATED SPECIMENS OF STEEL 12H1MF UNDER IMPACT LOADING**  
D. Momčilović<sup>1</sup>, Lj. Milović<sup>2</sup>, I. Atanasovska<sup>3</sup>, S. Putić<sup>2</sup>, T. Vuherer<sup>4</sup>  
*<sup>1</sup>Institute for Testing of Materials, Belgrade, Serbia, <sup>2</sup>Faculty of Technology and Metallurgy, Belgrade, Serbia, <sup>3</sup>Institute Kirilo Savić, Belgrade, Serbia, <sup>4</sup>Faculty of Mechanical Engineering, Maribor, Slovenia*
- P.S.B.49. STEEL-SiC CAST IN CARBIDE COMPOSITES AS ALTERNATIVE TO WEAR RESISTANT Cr-Mo STEELS**  
D. Čikara<sup>1</sup>, A. Todić<sup>1</sup>, D. Čikara-Anić<sup>2</sup>  
*<sup>1</sup>Faculty of Technical Sciences, University of Prishtine, Kosovska Mitrovica  
<sup>2</sup>Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia*
- P.S.B.50. THE PHENOMENON OF CAVITATION IN SHIP'S PROPELLERS IS NOWADAYS OF A GREAT IMPORTANCE**  
V. Kasemi, B. Xhaferaj  
*University "Ismail Qemali", Vlore, Albania*
- P.S.B.51. THE INFLUENCE OF METEOROLOGICAL FACTORS OF VLORE BAY ON CORROSION SPEED OF STEEL A-3**  
V. Kasemi  
*University "Ismail Qemali", Vlore, Albania*
- P.S.B.52. A STUDY OF THE GALLOP PHENOMENON IN ELECTRIC AERIAL LINES. MEASURES AND CHECKING IN ORDER TO REDUCE ITS CONSEQUENCES**  
M. Kullolli<sup>1</sup>, M. Shehu<sup>2</sup>, M. Qarri<sup>2</sup>, M. Celo<sup>3</sup>  
*<sup>1</sup>Polytechnic University of Tirana, Mechanical Engineering Faculty, Albania,  
<sup>2</sup>College of Sciences & Engineering, Vlora University, Vlora, Albania, <sup>3</sup>Albanian Electric Corporation, Tirana, Albania*

**P.S.B.53. A NEW FORMULATION OF THE DYNAMIC BALANCING CONDITIONS WITH APPLICATION TO LINK OPTIMIZATION FOR THE SLIDER-CRANK MECHANISM**

Dj. Ilia<sup>1</sup>, M. Shehu<sup>1</sup>, M. Kullolli<sup>2</sup>, M. Qarri<sup>1</sup>

*<sup>1</sup>University of Vlora, College of Sciences and Engineering, Albania, <sup>2</sup>Polytechnic University of Tirana, Mechanical Engineering Department, Albania*

### POSTER SESSION III

*Thursday, September 11, 2008, 20<sup>30</sup>-22<sup>00</sup>*

### SYMPOSIUM C: NANOSTRUCTURED MATERIALS

- P.S.C.1. PHONON CONTRIBUTION IN THERMODYNAMICS OF NANO-CRYSTALLINE FILMS AND WIRES**  
J.P. Šetrajić<sup>1</sup>, D.Lj. Mirjanić<sup>2</sup>, S.M. Vučenović<sup>2</sup>, D.I. Ilić<sup>3</sup>, B. Markoski<sup>3</sup>,  
S.K. Jaćimovski<sup>4</sup>, V.D. Sajfert<sup>5</sup>, V.M. Zorić<sup>2</sup>  
*<sup>1</sup>Department of Physics, Faculty of Sciences, University of Novi Sad, Vojvodina – Serbia, <sup>2</sup>Faculty of Medicine, University of Banja Luka, Banja Luka, Republic of Srpska, Bosnia and Herzegovina, <sup>3</sup>Faculty of Technical Sciences, University of Novi Sad, Vojvodina – Serbia, <sup>4</sup>Faculty of Electrical Engineering, University of Belgrade, Serbia, <sup>5</sup>Technical Faculty "M. Pupin" – Zrenjanin, University of Novi Sad, Vojvodina – Serbia*
- P.S.C.2. BAND GAP PHOTONIC STRUCTURES IN DICHROMATE PULLULAN**  
S. Savić Šević, D. Pantelić, B. Jelenković  
*Institute of Physics, Belgrade, Serbia*
- P.S.C.3. ELECTRON AND HOLE STATES IN CLOSED SPHERICAL QUANTUM DOT WITH GRADIENT COMPOSITION**  
R. Kostić, D. Stojanović  
*Center for Solid State Physics and New Materials, Institute of Physics, Belgrade, Serbia*
- P.S.C.4. THE INFLUENCE OF THE ELECTRON-PHONON INTERACTION ON PHONON SPECTRA IN THE AlGa CRYSTAL LATTICE**  
D. Čevizović, S. Galović  
*Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.C.5. COMPARATIVE STUDY OF EFFECT OF VARIOUS REDUCING AGENTS ON SIZE AND SHAPES OF GOLD NANOPARTICLES**  
A. Kumar<sup>1</sup>, N. Dhawan<sup>2</sup>  
*<sup>1</sup>Materials Science and Engineering Department, Stanford University, CA, USA  
<sup>2</sup>Metallurgical Engineering Department, Punjab Engineering College, Chandigarh, India*

- P.S.C.6. THE SYNTHESIS AND CHARACTERIZATION OF Ca–Ti-BASED ONE-DIMENSIONAL NANOSTRUCTURES**  
I. Bračko<sup>1</sup>, B. Jančar<sup>1</sup>, S. Šturm<sup>2</sup>, D. Suvorov<sup>1</sup>  
<sup>1</sup>*Advanced Materials Department, Jozef Stefan Institute, Ljubljana, Slovenia*  
<sup>2</sup>*Nanostructured Materials Department, Jozef Stefan Institute, Ljubljana, Slovenia*
- P.S.C.7. KINETICS INVESTIGATION OF HYDROGEN SORPTION REACTION OF MgH<sub>2</sub>/Nb<sub>2</sub>O<sub>5</sub> NANOSTRUCTURED POWDERS**  
A. Aurora, M.R. Mancini, D. Mirabile Gattia, A. Montone, L. Pilloni, E. Todini, M. Vittori Antisari  
*ENEA, Department of Physical Methods and Materials, C.R. Casaccia, Rome, Italy*
- P.S.C.8. CHARACTERIZATION OF La-DOPED TiO<sub>2</sub> NANOPOWDERS BY RAMAN SPECTROSCOPY**  
M. Ščepanović<sup>1</sup>, V. Berec, S. Aškračić<sup>1</sup>, A. Golubović<sup>1</sup>, Z. Dohčević-Mitrović<sup>1</sup>, A. Kremenović<sup>2</sup>, Z.V. Popović<sup>1</sup>  
<sup>1</sup>*Center for Solid State Physics and New Materials, Institute of Physics, Belgrade, Serbia*, <sup>2</sup>*Faculty of Mining and Geology, Laboratory for Crystallography, University of Belgrade, Serbia*
- P.S.C.9. CHARACTERIZATION OF BARIUM TITANATE CERAMIC POWDERS BY RAMAN AND IR SPECTROSCOPY**  
Z.Ž. Lazarević<sup>1</sup>, Z. Dohčević-Mitrović<sup>1</sup>, M. Vijatović<sup>2</sup>, N. Paunović<sup>1</sup>, N.Ž. Romčević<sup>1</sup>, B.D. Stojanović<sup>2</sup>  
<sup>1</sup>*Institute of Physics, Belgrade, Serbia*, <sup>2</sup>*Institute for Multidisciplinary Research, Belgrade, Serbia*
- P.S.C.10. SELF ASSEMBLING MONOLAYER DEPOSITION APPROACH TO THE PROTECTION OF GLASS SURFACES**  
C. Altavilla, E. Ciliberto, M. Trigilia  
*Dipartimento di Scienze Chimiche Università di Catania, viale A.Doria 6, 95125 Catania, Italy*
- P.S.C.11. NANOCRYSTALLINE GLASS-CERAMICS**  
M.B. Tošić<sup>1</sup>, V.D. Živanović<sup>1</sup>, N.S. Blagojević<sup>2</sup>, S.R. Grujić<sup>2</sup>, J.D. Nikolić<sup>1</sup>  
<sup>1</sup>*Institute for Technology of Nuclear and Other Mineral Raw Materials, Belgrade, Serbia*, <sup>2</sup>*Faculty of Technology and Metallurgy, Belgrade, Serbia*
- P.S.C.12. THE ELECTRICAL AND MAGNETIC PROPERTIES OF THE COBALTITES Pr<sub>1-x</sub>Ca<sub>x</sub>CoO<sub>3</sub>**  
I.G. Deac, R. Tetean, E. Burzo  
*Faculty of Physics, Babes-Bolyai University Cluj-Napoca, Romania*

- P.S.C.13. **COMBUSTION SYNTHESIS, CHARACTERIZATION AND MAGNETIC STUDIES OF NANOPARTICLE  $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$**   
D. Marković<sup>1</sup>, M. Tadić<sup>1</sup>, V. Kusigerski<sup>1</sup>, N. Cvjetičanin<sup>2</sup>, Z. Jagličić<sup>3</sup>, V. Spasojević<sup>1</sup>  
<sup>1</sup>The Vinca Institute, Condensed Matter Physics Laboratory, Belgrade, Serbia; <sup>2</sup>Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia; <sup>3</sup>Institute of Mathematics, Physics and Mechanics, Ljubljana, Slovenia
- P.S.C.14. **UREA-ASSISTED SELF-COMBUSTION AEROSOL SYNTHESIS OF  $\text{Y}_3\text{Al}_5\text{O}_{12}:\text{Ce}^{3+}$**   
K. Marinković<sup>1</sup>, L. Mančić<sup>1</sup>, V.B. Pavlović<sup>2</sup>, M. Dramićanin<sup>3</sup>, O. Milošević<sup>1</sup>  
<sup>1</sup>Institute of Technical Sciences of Serbian Academy of Sciences and Arts, Belgrade, Serbia, <sup>2</sup>Faculty of Agriculture, University of Belgrade, Belgrade-Zemun, Serbia, <sup>3</sup>Institute of Nuclear Sciences "Vinča", Belgrade, Serbia
- P.S.C.15. **EFFECTS OF SOURCE ON PHYSICOCHEMICAL PROPERTIES OF VANADIUM IMPREGNATED AL\_PILCs**  
S. Balci, A. Tecimer  
Gazi University, Chemical Engineering Department, Ankara, Turkey
- P.S.C.16. **DETERMINING EFFECTS OF DIFFERENT TRANSITION METALS (V, Mo, Nb) TO MCM-41 STRUCTURE**  
A. Solmaz<sup>1</sup>, S. Balci<sup>1</sup>, T. Dogu<sup>2</sup>  
<sup>1</sup>Gazi University, Chemical Engineering Department, Ankara, Turkey, <sup>2</sup>Middle East Technical University, Chemical Engineering Department, Ankara, Turkey
- P.S.C.17. **EFFECT OF THE SUPPORT ON THE CHARACTERISTIC PROPERTIES OF THE SILVER BASED NANOCATALYSTS**  
C. Güldür<sup>1</sup>, F. Balıkcı Derekaya<sup>2</sup>  
<sup>1</sup>Gazi University, Faculty of Engineering and Architecture, Department of Chemical Engineering, Maltepe, Ankara, Turkey, <sup>2</sup>Gazi University, Institute of Science and Technology, Department of Advanced Technologies, Maltepe, Ankara, Turkey
- P.S.C.18. **OPEN-FRAMEWORK FLUORINATED ALUMINIUM POSPHATE - THE ANALOGUE OF THE GALLOPHOSPHATE ULM-3**  
S. Jevtić<sup>1</sup>, N. Rajić<sup>1</sup>, Dj. Stojaković<sup>1</sup>, N. Zabukovec Logar<sup>2</sup>, A. Meden<sup>3</sup>, V. Kaučič<sup>2</sup>  
<sup>1</sup>Faculty of Technology and Metallurgy, Beograd, Serbia, <sup>2</sup>National Institute of Chemistry, Ljubljana, Slovenia, <sup>3</sup>Faculty of Chemistry and Chemical Technology, Ljubljana, Slovenia
- P.S.C.19. **THE INFLUENCE OF NANOSIZED FILLERS ON THE PROPERTIES OF ELASTOMERS BASED ON DIFFERENT NETWORK PRECURSORES**  
V. Jovanović<sup>1</sup>, I. Ristić<sup>2</sup>, J. Milić<sup>2</sup>, J. Pavličević<sup>2</sup>, J. Budinski-Simendić<sup>2</sup>  
<sup>1</sup>Faculty of Science, Kosovska Mitrovica, Serbia, <sup>2</sup>University of Novi Sad, Faculty of Technology, Serbia

**P.S.C.20. THE INFLUENCE OF Cr ADDITION ON THE MAGNETIC PROPERTIES OF NiFe-BASIS NANOCRYSTALLINE ALLOYS**

E. Enescu<sup>1</sup>, O. Chicinas<sup>2</sup>, P. Lungu<sup>1</sup>, E. Patroi<sup>1</sup>, A. Bratulescu<sup>1</sup>, G. Sbarcea<sup>1</sup>  
<sup>1</sup>*National Institute for Electrical Engineering-Advanced Research, Bucuresti, Romania,* <sup>2</sup>*Universitatea Tehnica Cluj-Napoca, Cluj-Napoca, Romania*

**P.S.C.21. STRUCTURE OF Ca<sub>1-x</sub>Y<sub>x</sub>MnO<sub>3</sub> (0 ≤ x ≤ 1) NANOPOWDERS**

J. Đukić, S. Bošković, B. Matović  
*Institute of Nuclear Sciences "Vinča", Materials Science Laboratory, Belgrade, Serbia*

## SYMPOSIUM D: COMPOSITES

- P.S.D.1.* **A MESOMECHANICS MODEL OF FATIGUE CRACK GROWTH FOR NANO ENGINEERING APPLICATIONS**  
M.P. Wnuk, A. Rouzbehani  
*Department of Civil Engineering and Mechanics, University of Wisconsin - Milwaukee, USA*
- P.S.D.2.* **DENSIFICATION EVOLUTION OF BTS FUNCTIONALLY GRADED MATERIALS DURING SINTERING**  
S. Marković, D. Uskoković  
*Institute of Technical Sciences of SASA, Belgrade, Serbia*
- P.S.D.3.* **SYNTHESIS, CHARACTERISATION AND APPLICATION OF Fe-PILLARED CLAYS**  
P. Banković, A. Milutinović-Nikolić, N. Jović-Jovičić, J. Dostanić, Ž. Čupić, D. Lončarević, D. Jovanović  
*ICH<sub>TM</sub>-Department of Catalysis and Chemical Engineering, Belgrade University, Belgrade, Serbia*
- P.S.D.4.* **POLY(NIPAm) HYDROGEL/Ag NANOCOMPOSITE SYNTHESIZED BY GAMMA IRRADIATION**  
A. Krklješ, Z. Kačarević-Popović, J. Nedeljković  
*Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.D.5.* **CHARACTERIZATION OF Me-HISTIDINE COMPLEXES (Me = Cu, Co, Zn, Mn, Fe) INCORPORATED IN FAU-TYPE ZEOLITE FRAMEWORK**  
V. Rakić<sup>1</sup>, Lj. Damjanović<sup>2</sup>, D. Stošić<sup>2,3</sup>, R. Hercigonja<sup>2</sup>, V. Dondur<sup>2</sup>.  
<sup>1</sup>University of Belgrade, Faculty of Agriculture, Zemun, Serbia, <sup>2</sup>University of Belgrade, Faculty of Physical Chemistry, Belgrade, Serbia, <sup>3</sup>Institute of Nuclear Sciences "Vinča", Belgrade, Serbia
- P.S.D.6.* **THERMAL BEHAVIOR OF Ag/PMMA NANOCOMPOSITES SYNTHESIZED BY "IN SITU" METHOD**  
V. Vodnik<sup>1</sup>, E. Džunuzović<sup>2</sup>, J. Vuković<sup>3</sup>, J. Nedeljković<sup>1</sup>  
<sup>1</sup>Vinča Institute of Nuclear Sciences, Belgrade, Serbia, <sup>2</sup>Faculty of Technology and Metallurgy, University of Belgrade, Serbia, <sup>3</sup>IHTM Center for Chemistry, Belgrade, Serbia

- P.S.D.7. CELLULOSE NANO- AND MICROCOMPOSITES WITH NATURAL AND MODIFIED CLAYS**  
I.S. Makarov<sup>1</sup>, L.K. Golova<sup>1</sup>, E.V. Matukhina<sup>2</sup>, V.G. Kulichikhin<sup>1</sup>  
<sup>1</sup>*A.V. Topchiev Institute of Petrochemical Synthesis, Russian Academy of Sciences, Moscow, Russia,* <sup>2</sup>*Moscow State Pedagogical University, Moscow, Russia*
- P.S.D.8. MECHANOCHEMICAL SYNTHESIS OF MELOXICAM-BASED COMPOSITES**  
S.A. Myz<sup>1,2</sup>, M.A. Dyakonova<sup>2</sup>, T.P. Shakhtshneider<sup>1,2</sup>, A.P. Fedotov<sup>2</sup>, V.V. Boldyrev<sup>1,2</sup>, N.I. Kuleshova<sup>3</sup>  
<sup>1</sup>*Institute of Solid State Chemistry and Mechanochemistry, SB RAS, Novosibirsk, Russia,* <sup>2</sup>*Research and Education Centre "Molecular Design and Ecologically Safe Technologies" at the Novosibirsk State University, Novosibirsk, Russia,* <sup>3</sup>*"Altaivitaminy" ZAO, Biysk, Russia*
- P.S.D.9. SYNTHESIS OF POLYVINYLALCOHOL/GRAPHITE NANOSHEETS NANOCOMPOSITES WITH ENHANCED MECHANICAL AND PERMEABILITY PROPERTIES**  
C. Borriello<sup>1</sup>, A. De Maria<sup>1</sup>, N. Jović<sup>3</sup>, A. Montone<sup>2</sup>, F. Pierdominici<sup>2</sup>, M. Schwarz<sup>2</sup>, M. Vittori Antisari<sup>2</sup>  
<sup>1</sup>*ENEA, Department of Physical Methods and Materials, C.R. Portici, Napoli, Italia,* <sup>2</sup>*ENEA, Department of Physical Methods and Materials, C.R. Casaccia, Roma, Italia,* <sup>3</sup>*Institute of Nuclear Sciences "Vinča", Laboratory of Solid State Physics (020), Belgrade, Serbia*
- P.S.D.10. Cu-C COMPOSITE MATERIAL**  
S. Emmer<sup>1</sup>, J. Bielek<sup>1</sup>, J. Kovacic<sup>2</sup>  
<sup>1</sup>*Slovak University of Technology, Bratislava, Slovakia,* <sup>2</sup>*Slovak Academy of Sciences, Bratislava, Slovakia*
- P.S.D.11. RESEARCH OF CHARACTERISTICS OF PARTICULATE BASALT – POLYMER COMPOSITES**  
A. Todić<sup>1</sup>, R. Aleksić<sup>2</sup>, D. Čikara<sup>1</sup>  
<sup>1</sup>*Faculty of Technical Sciences, University of Prishtine, Kosovska Mitrovica, Serbia* <sup>2</sup>*Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia*
- P.S.D.12. POLYESTER AND POLYESTERIMIDE COMPOUNDS WITH NANOFILLERS FOR IMPREGNATING OF ELECTRICAL MOTORS**  
B. Gornicka<sup>1</sup>, E. Prociow<sup>2</sup>  
<sup>1</sup>*Electrotechnical Institute Wroclaw Division of Electrotechnology and Materials Science, Wroclaw, Poland,* <sup>2</sup>*Faculty of Microsystem Electronics and Photonics, Wroclaw University of Technology, Wroclaw, Poland*
- P.S.D.13. INSULATING SYSTEM OF INVERTER DRIVEN MOTORS BASED ON NANOCOMPOSITES**

B. Gornicka, K. Prociow  
*Electrotechnical Institute Wroclaw Division of Electrotechnology and Materials  
Science, Wroclaw, Poland*

**P.S.D.14. INTERFACIAL MODIFICATION OF WOOD-PLASTIC COMPOSITES  
BASED ON WASTE AND VIRGIN HIGH-DENSITY POLYETHYLENE**  
V. Radojević, D. Stojanović, Dj. Janačković, P.S. Uskoković, R. Aleksić  
*Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia*

**P.S.D.15. EFFECT OF BLENDING FILLERS ON TIRE TREAD COMPOSITE  
PERFORMANCE**  
N.L. Lazić<sup>1</sup>, J. Budinski-Simendić<sup>2</sup>, S. Ostojic<sup>1</sup>, M. Kićanović<sup>1</sup>, M.B. Plavšić<sup>3</sup>  
*<sup>1</sup>Institute of General and Physical Chemistry, Belgrade, Serbia, <sup>2</sup>University of Novi  
Sad, Faculty of Technology, Novi Sad, <sup>3</sup>University of Belgrade, Faculty of  
Technology and Metallurgy, Belgrade*

## SYMPOSIUM E: BIOMATERIALS

- P.S.E.1. PREPARATION OF  $^{99m}\text{Tc}$ -PLGA AND ITS DISTRIBUTION STUDIES**  
M. Stevanović<sup>1</sup>, T. Maksin<sup>2</sup>, Lj. Veselinović<sup>1</sup>, D. Uskoković<sup>1</sup>  
<sup>1</sup>*Institute of Technical Sciences of SASA, Belgrade, Serbia*, <sup>2</sup>*Institute of Nuclear Sciences "Vinča", Belgrade, Serbia*
- P.S.E.2. POROUS, POLY (DL-LACTIDE-CO-GLYCOLIDE)-BASED MATERIAL FOR BIOMEDICAL APPLICATION**  
M. Stevanović<sup>1</sup>, M. Jevtić<sup>1</sup>, I. Jovanović<sup>1</sup>, V. Pavlović<sup>2</sup>, D. Uskoković<sup>1</sup>  
<sup>1</sup>*Institute of Technical Sciences of SASA, Belgrade, Serbia*, <sup>2</sup>*Faculty of Agriculture, University of Belgrade, Serbia*
- P.S.E.3. CRYSTALLIZATION OF BIOGENIC CRYSTALS FROM AQUEOUS SOLUTIONS**  
V. Babić-Ivančić<sup>1</sup>, M. Dutour Sikirić<sup>1</sup>, H. Füredi-Milhofer<sup>2</sup>  
<sup>1</sup>*"Ruđer Bošković" Institute, Zagreb, Croatia*, <sup>2</sup>*Casali Institute, Hebrew University of Jerusalem, Jerusalem, Israel*
- P.S.E.4. PREPARATION AND CHARACTERIZATION OF POLY-D,L-LACTIDE MICROSPHERES FOR CONTROLLED RELEASE OF HORSE RADISH PEROXIDASE AS MODEL PROTEIN**  
I. Jovanović<sup>1</sup>, M. Mitrić<sup>2</sup>, B. Nedeljković<sup>3</sup>, N. Ignjatović<sup>1</sup>, D. Uskoković<sup>1</sup>  
<sup>1</sup>*Institute of Technical Sciences of SASA, Belgrade, Serbia*, <sup>2</sup>*Institute for Nuclear Sciences Vinča, Belgrade, Serbia*, <sup>3</sup>*Faculty of Technical Sciences, University of Čačak, Serbia*
- P.S.E.5. IMPORTANCE OF CATALYTIC PROCESSES FOR POLYMER NETWORK-CELL MECHANICAL CHANGES OF BIO-MEDICAL SYSTEMS**  
M.B. Plavšić<sup>1</sup>, I. Pajić-Lijaković<sup>1</sup>, N. Lazić<sup>2</sup>, P. Putanov<sup>3</sup>  
<sup>1</sup>*Faculty of Technology and Metallurgy, Belgrade, Serbia*, <sup>2</sup>*Institute of General and Physical Chemistry, Belgrade, Serbia*, <sup>3</sup>*Serbian Academy of Sciences and Arts, Belgrade, Serbia*
- P.S.E.6. ULTRASONIC DEAGGLOMERATION AND PARTICLE SIZE REDUCTION OF HYDROXYAPATITE BY COATING WITH POLY(D,L-LACTIDE-CO-GLYCOLIDE)**  
M. Jevtić<sup>1</sup>, M. Mitrić<sup>2</sup>, S. Škapin<sup>3</sup>, I. Bračko<sup>3</sup>, N. Ignjatović<sup>1</sup>, D. Uskoković<sup>1</sup>  
<sup>1</sup>*Institute of Technical Sciences of SASA, Belgrade, Serbia*, <sup>2</sup>*Institute of Nuclear Sciences "Vinča", Belgrade, Serbia*, <sup>3</sup>*"Jožef Stefan" Institute, Ljubljana, Slovenia*

- P.S.E.7. HYDROTHERMAL SYNTHESIS OF COBALT-EXCHANGED HYDROXYAPATITE NANOPARTICLES**  
Z. Stojanović, Lj. Veselinović, S. Marković, N. Ignjatović, D. Uskoković  
*Institute of Technical Sciences of SASA, Belgrade, Serbia*
- P.S.E.8. XRD ANALYSIS OF COBALT-SUBSTITUTED HYDROXYAPATITE PREPARED BY HYDROTHERMAL METHOD**  
Lj. Veselinović, Z. Stojanović, S. Marković, N. Ignjatović, D. Uskoković  
*Institute of Technical Sciences of SASA, Belgrade, Serbia*
- P.S.E.9. GREATER REGENERATION OF ALVEOLAR BONE RESORPTION BY HIGH ADVANCE BIOACTIVITY COMPOSITES**  
Z. Ajduković<sup>1</sup>, N. Ignjatović<sup>2</sup>, B. Kaličanin<sup>3</sup>, V. Savić<sup>4</sup>  
<sup>1</sup>*Faculty of Medicine, Clinic of Stomatology, Department of Prosthodontics, Niš,*  
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- P.S.E.10. NANODIAMOND-REINFORCED HYDROXYAPATITE COATINGS: INTERACTION WITH FIBRONECTIN AND OSTEOBLAST CELLS**  
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- P.S.E.11. SUBSTRUCTURE-PROPERTIES RELATIONSHIPS IN NANOCRYSTALLINE Ti PRODUCED BY CRYOMECHANICAL TREATMENT FOR BIOMEDICAL APPLICATIONS**  
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- P.S.E.12. SOL-DERIVED HYDROXYAPATITE DIP-COATING OF A POROUS Ti<sub>6</sub>Al<sub>4</sub>V POWDER COMPACT**  
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- P.S.E.13. THERMAL COMPRESSIVE FATIGUE BEHAVIOUR OF DENTAL COMPOSITES**  
M.R. Javaheri<sup>1</sup>, S.M. Seifi<sup>1</sup>, J.A. Mohandesi<sup>1</sup>, Shafie<sup>2</sup>  
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- P.S.E.14. THE INFLUENCE OF THERMAL CYCLIC TEST ON THE COMPRESSIVE FATIGUE BEHAVIOUR OF DENTAL COMPOSITES**  
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- P.S.E.15. NMR CRYSTALLOGRAPHY OF ACTIVE PHARMACEUTICALS INGREDIENTS FOR INDUSTRIAL APPLICATIONS**  
M. Urbanova, J. Brus, L. Kobera  
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- P.S.E.16. ACIDE CHARACTERISTIC OF FULLERENOL C<sub>60</sub>(OH)<sub>24</sub> IN WATER**  
A. Djordjević<sup>1</sup>, Dj. Vastag<sup>1</sup>, I. Ičević<sup>1</sup>, V. Bogdanović<sup>2</sup>  
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- P.S.E.17. RELEASE OF DRUGS AND SILVER NANOPARTICLES FROM SMART COPOLYMERIC HYDROGELS BASED ON METHACRYLATES AND ITACONIC ACID**  
M. Mičić<sup>1</sup>, T. Vukašinović Milić<sup>1</sup>, S. Tomić<sup>2</sup>, S. Dimitrijević<sup>2</sup>, E. Suljovrujić<sup>1</sup>  
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- P.S.E.18. SURFACE CHARACTERIZATION OF THE GLASS-IONOMER BASED MATERIALS DURING FLUORIDE RELEASE AND UPTAKE**  
D. Marković<sup>1</sup>, B. Petrović<sup>2</sup>, T. Perić<sup>1</sup>, V. Jokanović<sup>3</sup>, M. Plavšić<sup>4</sup>  
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- P.S.E.19. NUCLEATION OF THE CALCIUMHYDROXYAPATITE THIN FILMS FROM SBF ON THE SILICA LAYERS OF THE STEEL TAPE SUBSTRATES**  
B. Čolović<sup>1</sup>, M. Miljković<sup>2</sup>, Z. Marković<sup>1</sup>, D. Marković<sup>3</sup>, M. Plavšić<sup>4</sup>, V. Jokanović<sup>1</sup>  
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- P.S.E.20. MECHANICAL CHARACTERISTICS WIRE ARCHES IN FIXED ORTHODONTIC TECHNIQUE**  
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**P.S.E.21. MATERIALS FOR DIRECT CEMENTING OF DENTAL BRACKET**

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**P.S.E.22. SHEAR BOND STRENGTH ANALYSIS OF DENTAL SELF-ADHESIVE RESIN CEMENTS**

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