

## FIRST PLENARY SESSION

*Monday, August 31, 2009*

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

Chairpersons: D. Raković, G. Vunjak-Novaković and D. Suvorov

**10<sup>00</sup>-10<sup>30</sup> BIOMATERIALS FOR TISSUE ENGINEERING**

G. Vunjak-Novaković  
*Columbia University, New York, NY, USA*

**10<sup>30</sup>-11<sup>00</sup> FUNCTIONALIZATION CHANGES TARGETING SITE AND THE STABILITY OF CARBON NANOTUBES INSIDE LUNG EPITHELIAL CELLS**

A. Porter  
*Department of Materials, Imperial College, London, UK*

**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> ON PHYSICS AND NANOENGINEERING OF HIGH-T<sub>c</sub> AND RELATED OXIDE FILMS**

D. Pavuna  
*Institute of Physics of Condensed Matter – Station 3, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland*

**12<sup>30</sup>-13<sup>00</sup> TUNABLE CERAMICS BASED ON THE Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub> SYSTEM**

D. Suvorov, M. Spreitzer, J. König  
*Advanced Materials Department, Jožef Stefan Institute, Ljubljana, Slovenia*

**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>

Chairmen: M. Drofenik, J. Kusinski and M. Kuznetsov

Conference Hall

- 15<sup>00</sup>-15<sup>15</sup> **THE PREPARATION OF SUPERPARAMAGNETIC BaFe<sub>12</sub>O<sub>19</sub> PARTICLES BY COPRECIPIRATION ROUTE**  
M. Drofenik<sup>1,2</sup>, I. Ban<sup>1</sup>, G. Ferk<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, Maribor, Slovenia, <sup>2</sup>Jožef Stefan Institute, Ljubljana, Slovenia
- 15<sup>15</sup>-15<sup>30</sup> **THE SYNTHESIS OF IRON OXIDE-DEXTRAN NANOCOMPOSITES FOR THE APPLICATION IN HYPERTHERMIA**  
I. Ban<sup>1</sup>, M. Drofenik<sup>1,2</sup>, A. Hamler<sup>3</sup>, G. Ferk<sup>1</sup>, D. Makovec<sup>2</sup>  
<sup>1</sup>Faculty of Chemistry and Chemical Engineering, University of Maribor, Maribor, Slovenia, <sup>2</sup>Jožef Stefan Institut, Ljubljana, Slovenia, <sup>3</sup>Faculty of Electronic Computing and Informatics, University of Maribor, Maribor, Slovenia
- 15<sup>30</sup>-15<sup>45</sup> **INFLUENCE OF LASER MELTING ON MICROSTRUCTURE AND PROPERTIES OF AMORPHOUS COATINGS DEPOSITED BY HIGH VELOCITY OXYFUEL DEPOSITION METHOD**  
J. Kusinski<sup>1</sup>, S. Kac<sup>1</sup>, G. Kusiński<sup>2</sup>  
<sup>1</sup>AGH - University of Science and Technology, Faculty of Metals Engineering and Industrial Computer Science, Krakow, Poland, <sup>2</sup>Chevron Energy Technology Company, Richmond, CA, USA
- 15<sup>45</sup>-16<sup>00</sup> **DEFECTS RESPONSIBLE FOR AFTERGLOW IN LUTETIUM SESQUIOXIDES DOPED WITH Eu<sup>3+</sup>**  
A. Bessière, B. Viana, H. Rétot, S. Blahuta  
LCMCP-ENSCP– UMR7574, ENSCP, Paris, France
- 16<sup>00</sup>-16<sup>15</sup> **INTERACTION BETWEEN SURFACE ACTIVE SOLUTES AND SURFACES OF METAL OXIDES IN POLAR ORGANIC SOLVENTS**  
M. Kosmulski, P. Próchniak, J.B. Rosenholm  
Department of Physical Chemistry, Åbo Akademi University, Åbo, Finland, and Department of Electrochemistry, Lublin University of Technology, Lublin, Poland
- 16<sup>15</sup>-16<sup>30</sup> **NON-CONVENTIONAL SYNTHESIS OF MANNICH POLYOLS**  
M. Ionescu  
Pittsburg State University, Kansas Polymer Research Center, Pittsburg, Kansas, USA

- 16<sup>30</sup>-16<sup>45</sup> **MICROWAVE METHODS OF OBTAINING OF GRAPHITE INTERCALATION COMPOUNDS AND NANOMATERIALS ON THEIR BASE**  
A.N. Mikheev  
*Nikolayev Institute of Inorganic Chemistry SB RAS; Research and Educational Centre, Research and Educational Complex, Novosibirsk State University, Novosibirsk, Russia*
- 16<sup>45</sup>-17<sup>00</sup> **THE APPLICATION OF CONTROLLED MICROWAVE HEATING IN ORGANIC SYNTHESIS AND EXTRACTION**  
N. Pankrushina<sup>1,2</sup>, I. Nikitina<sup>1,2</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> **SELF-PROPAGATING HIGH-TEMPERATURE SYNTHESIS OF COMPLEX OXIDE MATERIALS FOR GAS-SENSING APPLICATION**  
M.L. Busurina, M.V. Kuznetsov  
*Institute of Structural Macrokinetics and Materials Science RAS, Chernogolovka, Moscow region, Russia*
- 17<sup>45</sup>-18<sup>00</sup> **PHASE FORMATION AND MICROSTRUCTURE OF Mn/(Ba)-Fe-O-SYSTEM DURING COMBUSTION SYNTHESIS**  
S.M. Busurin, Yu.G. Morozov  
*Institute of Structural Macrokinetics and Materials Science RAS, Chernogolovka, Moscow region, Russia*
- 18<sup>00</sup>-18<sup>15</sup> **DESIGN OF NANOSTRUCTURED OXIDE MATERIALS FOR TERAHERTZ OPTICS APPLICATIONS**  
A.N. Khodan<sup>1</sup>, A.P. Shkurinov<sup>2</sup>  
*<sup>1</sup>A.N.Frumkin Institute of Physical Chemistry and Electrochemistry RAS, Moscow, Russia, <sup>2</sup>Physical Department of M.V. Lomonosov Moscow State University, Moscow, Russia*
- 18<sup>15</sup>-18<sup>30</sup> **EFFECT OF MECHANICAL ACTIVATION ON PHYSICAL-CHEMICAL PROPERTIES OF DRUGS**  
T.P. Shakhtshneider, V.V. Boldyrev  
*Institute of Solid State Chemistry and Mechanochemistry, SB RAS, Novosibirsk, Russia; Research and Education Centre "Molecular Design and Ecologically Safe Technologies" at the Novosibirsk State University, Novosibirsk, Russia*

18<sup>30</sup>-18<sup>45</sup> **CHEMICAL PROCESS FOR FABRICATION OF MICROMECHANICAL INFRARED DETECTORS**

S.F. Devyatova, O.I. Semenova, N.A. Valisheva  
*Novosibirsk Institute of Semiconductor Physics, Novosibirsk, Russia*

18<sup>45</sup>-19<sup>00</sup> **SYNTHESIS OF METALLIC AND OXIDE NANO-POWDER BY ULTRASONIC SPRAY PYROLYSIS**

S. Stopić, B. Friedrich  
*RWTH Aachen University, IME Process Metallurgy and Metal Recycling, Aachen, Germany*

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

Chairpersons: N. Romčević, N. Pankrushina and E.P. Elsukov

Press Hall

15<sup>00</sup>-15<sup>15</sup> **EFFECT OF MECHANICAL ACTIVATION ON THE SHS OF POROUS TiNi**

O.K. Kamynina<sup>1</sup>, I.P. Gotman<sup>2</sup>, E.Y. Gutmanas<sup>2</sup>, S.G. Vadchenko<sup>1</sup>, A.E. Sytshev<sup>1</sup>, E.N. Balikhina<sup>1</sup>

<sup>1</sup>*Institute of Structural Macrokineitics and Materials Science, Russian Academy of Sciences, Chernogolovka, Moscow, Russia,* <sup>2</sup>*Faculty of Materials Engineering, Technion-IIT, Haifa, Israel*

15<sup>15</sup>-15<sup>30</sup> **MECHANOCHEMICAL SYNTHESIS OF CO-CRYSTALS OF MELOXICAM WITH CARBOXYLIC ACIDS**

S.A. Myz<sup>1,2</sup>, T.P. Shakhtshneider<sup>1,2</sup>, K. Fucke<sup>3</sup>, N.A. Tumanov<sup>2</sup>, E.V. Boldyreva<sup>1,2</sup>, U.J. Griesser<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>*Institut für Pharmazie, University of Innsbruck, Innsbruck, Austria*

15<sup>30</sup>-15<sup>45</sup> **MECHANOCHEMISTRY OF FLAKY-BASED NANOCOMPOSITES**

A.N. Streletskii<sup>1</sup>, I.V. Kolbanov<sup>1</sup>, A.B. Borunova<sup>1</sup>, A.V. Leonov<sup>2</sup>

<sup>1</sup>*N.N. Semenov Institute of Chemical Physics RAS, Moscow, Russia,* <sup>2</sup>*Moscow State University, Chemical Department, Moscow, Russia*

- 15<sup>45</sup>-16<sup>00</sup> **PROSPECTS OF APPLICATION NEUTRAL AND ACTIVE REAGENTS FOR DEVELOPMENT MECHANOCHEMICAL METHODS OF ENRICHMENT AND PROCESSING MINERAL AND MAN-MADE RAW MATERIALS**  
T.A. Ketegenov<sup>1</sup>, O.A. Tyumentseva<sup>1</sup>, F.Kh. Urakaev<sup>2</sup>  
<sup>1</sup>*Institute of High Technology, Kazatomprom, Almaty, Kazakhstan*, <sup>2</sup>*Institute of Geology and Mineralogy SB RAS, Novosibirsk, Russia*
- 16<sup>00</sup>-16<sup>15</sup> **MECHANOCHEMICAL SYNTHESIS OF Ti-CONTAINING HYDROGEN STORAGE NANOCOMPOSITES**  
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>  
<sup>1</sup>*Institute of Chemical Physics RAS, Moscow, Russia*, <sup>2</sup>*Moscow State University, Department of Chemistry, Leninskie Gory, 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*
- 16<sup>15</sup>-16<sup>30</sup> **SYNTHESIS OF MONODISPERSE LUMINESCENT OXIDE POWDERS UTILIZING MICROWAVE IRRADIATION**  
A.S. Vanetsev, E.A. Karpukhina, O.M. Gaitko  
*Kurnakov Institute of General and Inorganic Chemistry RAS, Moscow, Russia*
- 16<sup>30</sup>-16<sup>45</sup> **MECHANICAL ACTIVATION ASSISTED SELF-PROPAGATING HIGH-TEMPERATURE SYNTHESIS OF NANOCOMPOSITE MATERIALS IN METAL-OXIDE SYSTEMS**  
T.F. Grigoreva<sup>1</sup>, T.L. Talako<sup>2</sup>, P.A. Vitiaz<sup>2</sup>, N.Z. Lyakhov<sup>1</sup>, A.I. Letsko<sup>1</sup>, M.R. Sharafutdinov<sup>2</sup>, Yu.D. Kaminsky<sup>2</sup>, I.A. Vorsina<sup>2</sup>, A.P. Barinova<sup>2</sup>  
<sup>1</sup>*Institute of Solid State Chemistry and Mechanochemistry, Russia*, <sup>2</sup>*Powder Metallurgy Institute, Minsk, Belarus*
- 16<sup>45</sup>-17<sup>00</sup> **PHYSICOCHEMICAL TRANSFORMATION OF ALUMINIUM AND QUARTZ POWDERS MIXTURE UNDER LOADING BY SPHERICAL CONVERGING SHOCK WAVES**  
N.I. Taluts<sup>1</sup>, A.V. Dobromyslov<sup>1</sup>, E.A. Kozlov<sup>2</sup>  
<sup>1</sup>*Institute of Metal Physics, Ural Division of Russian Academy of Sciences, Ekaterinburg, Russia*, <sup>2</sup>*Russian Federal Nuclear Center – All-Russian Research Institute of Technical Physics, Snezhinsk, Chelyabinsk region, Russia*
- Break: 17<sup>00</sup>-17<sup>30</sup>**
- 17<sup>30</sup>-17<sup>45</sup> **HOMOGENEOUS AND MICROHETEROGENEOUS PEROVSKITE-LIKE SYSTEMS: FORMATION, MICROSTRUCTURE AND REACTIVITY IN OXIDATION REACTIONS**  
L.A. Isupova  
*Borekov Institute of Catalysis SB RAS, Novosibirsk, Russia*

- 17<sup>45</sup>-18<sup>00</sup> **INFLUENCE OF DOPANT AND ITS PRECURSOR NATURE ON FORMATION OF DOPED APATITE-TYPE LANTHANUM SILICATES VIA MECHANICAL MILLING**  
T. Kharlamova<sup>1</sup>, S. Pavlova<sup>1</sup>, Y. Bespalko<sup>1</sup>, V. Sadykov<sup>1,2</sup>, M. Chaikina<sup>3</sup>, T. Krieger<sup>1</sup>, O. Lapina<sup>1</sup>, Ch. Argirusis<sup>3,4</sup>  
<sup>1</sup>Borshkov Institute of Catalysis SB RAS, Russia, <sup>2</sup>Novosibirsk State University, Russia, <sup>3</sup>Institute of Solid State Chemistry and Mechanochemistry, Russia, <sup>4</sup>Institute for Metallurgy, Clausthal University of Technology, Germany, <sup>5</sup>School of Chemical Engineering, National Technical University of Athens, Greece
- 18<sup>00</sup>-18<sup>15</sup> **SYNTHESES OF SELF-STABILIZING POLYBUTADIENE-BASED POLYURETHANES**  
J. Podešva, J. Kovářová  
Institute of Macromolecular Chemistry, v.v.i., Academy of Sciences of the Czech Republic, Prague, Czech Republic
- 18<sup>15</sup>-18<sup>30</sup> **HYPERBRANCHED POLYMERS**  
H. Galina, J.B. Lechowicz, M. Walczak  
Rzeszów University of Technology, Faculty of Chemistry, Rzeszów, Poland
- 18<sup>30</sup>-18<sup>45</sup> **APPLICATIONS OF MOTT'S THEORY TO THE EXPERIMENTAL INVESTIGATION OF ELECTRICAL CONDUCTIVITY OF POLYANILINE CONTROLABLY DOPED WITH SULPHURIC ACID**  
Z. Muharemović<sup>1</sup>, I. Gazdić<sup>2</sup>, D. Babić<sup>3</sup>  
<sup>1</sup>Faculty of Medicine, Biophysics Department, Sarajevo, Bosnia and Herzegovina, <sup>2</sup>Faculty of Natural Science, Physics Department, Tuzla, Bosnia and Herzegovina, <sup>3</sup>Faculty of Natural Science, Physics Department, Zagreb, Croatia
- 18<sup>45</sup>-19<sup>00</sup> **THE EFFECT OF Gd OR Ho IMPURITIES ON THE PHYSICAL PROPERTIES OF HALF-METALLIC FERROMAGNET Co<sub>2</sub>MnSi**  
R. Tetean<sup>1</sup>, R. Grasin<sup>1</sup>, E. Vinteler<sup>1</sup>, A. Bezerghéanu<sup>1</sup>, I.G. Deac, L. Chioncel<sup>2</sup>  
<sup>1</sup>Faculty of Physics, Cluj Napoca, Babes-Bolyai University, Romania, <sup>2</sup>Institute for Theoretical Physics and Computational Physics, Graz University of Technology, Graz, Austria

## SECOND PLENARY SESSION

*Tuesday, September 1, 2009*

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

Chairmen: S.K. Milonjić, J. Mijović and M.B. Plavšić

09<sup>00</sup>-09<sup>30</sup> **DYNAMICS OF LIQUID CRYSTALLINE PHYSICAL GELS**

J. Mijović<sup>1</sup>, K. Hicks<sup>1</sup>, G. Williams<sup>2</sup>

<sup>1</sup>*Othmer-Jacobs Department of Chemical and Biological Engineering, Polytechnic Institute of New York University, Brooklyn, NY, USA,* <sup>2</sup>*University of Wales at Swansea, Wales, UK*

09<sup>30</sup>-10<sup>00</sup> **PROCESSING AND PROPERTIES OF ADVANCED COMPOSITE MATERIALS WITH NACOMPOSITE POLYMER MATRICES**

J.M. Kenny<sup>1,2</sup>, M. Monti<sup>2</sup>, R. Petrucci<sup>2</sup>, L. Torre<sup>2</sup>

<sup>1</sup>*Institute of Science and Technology of Polymers, CSIC, Madrid, Spain,* <sup>2</sup>*European Centre for Nanostructured Polymers, University of Perugia, Terni, Italy*

10<sup>00</sup>-10<sup>30</sup> **MATERIALS WITH TIME CONTROL LUMINESCENCE IN MEDICAL IMAGING**

B. Viana, A. Lecointre, A. Bessiere

*LCMCP-ENSCP–UMR7574, ENSCP, Paris, France*

10<sup>30</sup>-11<sup>00</sup> **COMBUSTION SYNTHESIS OF COMPLEX OXIDE MATERIALS: PRESENT STATE AND PERSPECTIVES OF DEVELOPMENT**

M.V. Kuznetsov

*Institute of Structural Macrokinetics and Materials Science Russian Academy of Sciences (ISMAN), p/o Chernogolovka, Moscow region, Russia*

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

11<sup>30</sup>-12<sup>00</sup> **QUANTITATIVE DESCRIPTION OF THE INTERFACE BETWEEN  $\gamma$  AND  $\gamma'$  PARTICLES IN NI-AL ALLOYS BY HREM**

H.A. Calderon<sup>1</sup>, L. Calzado-Lopez<sup>2</sup>, T. Mori<sup>3</sup>

<sup>1</sup>*Depto. de Ciencia de Materiales, ESFM-IPN, Ed. 9 UPALM Zacatenco D.F., Mexico,* <sup>2</sup>*Universidad de la Ciudad de Mexico, Mexico DF, Mexico,* <sup>3</sup>*Materials Science Centre, University of Manchester, Manchester, UK*

12<sup>00</sup>-12<sup>30</sup> **FAILURE MECHANISMS IN HYBRID NANOCRYSTALLINE CELLULAR MATERIALS**

G.D. Hibbard

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

12<sup>30</sup>-13<sup>00</sup> **ALLOY STRUCTURES AT THE NANOSCALE BY ATOM-PROBE TOMOGRAPHY**

E.A. Marquis

*Department of Materials, University of Oxford, Oxford, United Kingdom*

**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>30</sup>**

Chairmen: J. Nedeljković, P. Rogl and M. Davidović

15<sup>00</sup>-15<sup>15</sup> **CLATHRATE TYPE I THERMOELECTRICS: Ba<sub>8</sub>M<sub>x</sub>□<sub>y</sub>{Ge,Si}<sub>46-x-y</sub>**  
**M=Mn,Fe,Co,Pd,Pt,Cu,Ag,Au,Zn**

P. Rogl<sup>1</sup>, A. Grytsiv<sup>1</sup>, N. Melnychenko-Koblyuk<sup>1</sup>, N. Nasir, E. Bauer<sup>2</sup>, E. Royanian<sup>2</sup>

<sup>1</sup>*Institute of Physical Chemistry, University of Vienna, Wien, Austria*, <sup>2</sup>*Institute of Solid State Physics, Vienna University of Technology, Wien, Austria*

15<sup>15</sup>-15<sup>30</sup> **NANOSTRUCTURED MATERIALS FOR OPTOELECTRONIC APPLICATIONS**

N.V. Kamanina<sup>1</sup>, P.Ya. Vasilyev<sup>1</sup>, V.I. Studeonov<sup>1</sup>, K.Yu. Bogdanov<sup>2</sup>, D.P.

Uskoković<sup>3</sup>

<sup>1</sup>*Vavilov State Optical Institute, St. Petersburg, Russia*, <sup>2</sup>*Lyceum # 1586, Moscow, Russia*, <sup>3</sup>*Institute of Technical Sciences of the SASA, Belgrade, Serbia*

15<sup>30</sup>-15<sup>45</sup> **A SYNTHESIS TOOLBOX FOR WELL-DEFINED CATALYST COATINGS: NANOPARTICLES OF NOBLE METALS SUPPORTED ON MESOPOROUS OXIDE FILMS**

S. Sokolov, E. Ortel, T.T. Ahner, K. Weh, R. Kraehnert

*Leibniz Institute for Catalysis at the University of Rostock, Branch Berlin, Germany*

- 15<sup>45</sup>-16<sup>00</sup> **POWDER METALLURGY MANUFACTURING OF CARBON-FREE PRECIPITATION HARDENED HIGH SPEED STEELS**  
H. Danninger<sup>1</sup>, Ch. Harold<sup>1</sup>, Ch. Gierl<sup>1</sup>, H. Ponemayr<sup>2</sup>, M. Daxelmueller<sup>2</sup>, F. Simancik<sup>3</sup>, K. Izdinsky<sup>3</sup>  
<sup>1</sup>Vienna University of Technology, Wien, Austria, <sup>2</sup>Boehler Uddeholm Precision Strip GmbH, Boehlerwerk, Austria, <sup>3</sup>Institute of Materials and Machine Mechanics SAS, Bratislava, Slovakia
- 16<sup>00</sup>-16<sup>15</sup> **THERMAL EXPANSION AND MECHANICAL PROPERTIES OF SKUTTERUDITES**  
G. Rogl<sup>1,2,3</sup>, A. Grytsiv<sup>1</sup>, E. Bauer<sup>2</sup>, D. Rojs<sup>2</sup>, H. Mueller<sup>2</sup>, P. Rogl<sup>1</sup>, M. Reinecker<sup>3</sup>, J. Koppensteiner<sup>3</sup>, M. Zehetbauer<sup>3</sup>  
<sup>1</sup>Institute of Physical Chemistry, University of Vienna, Wien, Austria, <sup>2</sup>Institute of Solid State Physics, TU-Wien, Wien, Austria, <sup>3</sup>Physics of Nanostructured Materials, University of Vienna, Wien, Austria
- 16<sup>15</sup>-16<sup>30</sup> **NOVEL BORIDES IN THE SYSTEMS M-T-B. PHASE EQUILIBRIA AND CRYSTAL STRUCTURES**  
O. Sologub<sup>1</sup>, P. Rogl<sup>1</sup>, G. Giester<sup>2</sup>  
<sup>1</sup>Institute of Physical Chemistry, University of Vienna, Vienna, Austria, <sup>2</sup>Institute of Mineralogy and Crystallography, University of Vienna, Vienna, Austria
- 16<sup>30</sup>-16<sup>45</sup> **PHASE RELATIONS AND ADVANCED CERAMIC IN THE SYSTEMS FORMED BY CERIUM AND RARE-EARTH OXIDES**  
E.R. Andrievskaya  
*Frantsevich Institute for Problems of Materials Science NAS of Ukraine, Kiev, Ukraine*
- 16<sup>45</sup>-17<sup>00</sup> **HETEROSTRUCTURES ON A BASE OF ADVANCED SUPERIONIC CONDUCTORS - NEW FUNCTIONAL MATERIALS FOR NANOIONIC SUPERCAPACITORS**  
A.L. Despotuli, A.V. Andreeva  
*Institute of Microelectronics Technology RAS, Chernogolovka, Russia*
- Break: 17<sup>00</sup>-17<sup>30</sup>**
- 17<sup>30</sup>-17<sup>45</sup> **COMPARISON OF OXIDE AND NITRIDE THIN FILMS – ELECTROCHEMICAL IMPEDANCE MEASUREMENTS AND MATERIALS PROPERTIES**  
Y. Liu, C. Qu, R.E. Miller, D.D. Edwards, J.H. Fan, P. Li, E. Pierce, A. Geleil, G. Wynick, X.W. Wang  
*Alfred University, Alfred, NY, USA*

- 17<sup>45</sup>-18<sup>00</sup> **CHANGES IN ODS SUPERALLOY MATERIALS INDUCED BY HIGH TEMPERATURE EXPOSITION IN DIFFERENT ENVIRONMENTS**  
V. Jan<sup>1</sup>, Y. Iino<sup>2</sup>  
<sup>1</sup>Brno University of Technology, Brno, Czech Republic, <sup>2</sup>Toyota Technological Institute, Nagoya, Aichi, Japan
- 18<sup>00</sup>-18<sup>15</sup> **BaTi<sub>0.975</sub>Sn<sub>0.025</sub>O<sub>3</sub>/BaTi<sub>0.85</sub>Sn<sub>0.15</sub>O<sub>3</sub> FUNCTIONALLY GRADED MATERIALS: MASTER SINTERING CURVES AND ELECTRICAL PROPERTIES**  
S. Marković, D. Uskoković  
*Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Belgrade, Serbia*
- 18<sup>15</sup>-18<sup>30</sup> **TO THE THEORY OF DIRECTIONAL SOLIDIFICATION OF A BINARY ALLOY WITH A MUSHY LAYER. THE EFFECT OF NONLINEAR LIQUIDUS SLOPE**  
A.P. Malygin, D.V. Alexandrov  
*Ural State University, Ekaterinburg, Russia*
- 18<sup>30</sup>-18<sup>45</sup> **CHARACTERIZATION OF LiMF<sub>4</sub>:RE<sup>3+</sup> MULTIFUNCTIONAL MATERIALS BY HIGH-RESOLUTION OPTICAL SPECTROSCOPY**  
D.S. Pytalev, S.A. Klimin, M.N. Popova  
*Institute of Spectroscopy RAS, Troitsk, Moscow region, Russia*
- 18<sup>45</sup>-19<sup>00</sup> **ANOMALOUS HALL EFFECT IN THE SPIN-GLASSLIKE (Ge,Mn)Te-(Sn,Mn)Te**  
L. Kilanski<sup>1</sup>, R. Szymczak, W. Dobrowolski<sup>1</sup>, A.B. Antunes<sup>2</sup>, V.E. Slynko<sup>3</sup>, E.I. Slynko<sup>3</sup>  
<sup>1</sup>Institute of Physics, Polish Academy of Sciences, Warsaw, Poland, <sup>2</sup>Laboratoire National des Champs Magnétiques Intenses, Grenoble, France, <sup>3</sup>Institute of Materials Science Problems, Ukrainian Academy of Sciences, Chernovtsy, Ukraine
- 19<sup>00</sup>-19<sup>15</sup> **OPTICAL PROPERTIES OF PLASTICALLY DEFORMED COPPER**  
R. Rudolf<sup>1,2</sup>, I. Anžel<sup>1</sup>, N. Romčević<sup>3</sup>, M. Mirić<sup>3</sup>, B. Hadžić<sup>3</sup>, M. Romčević<sup>3</sup>, J. Trajčić<sup>3</sup>  
<sup>1</sup>Faculty of Mechanical Engineering, University of Maribor, Maribor, Slovenia, <sup>2</sup>Zlatarna Celje d.d., Celje, Slovenia, <sup>3</sup>Institute of Physics, Belgrade, Serbia
- 19<sup>15</sup>-19<sup>30</sup> **MULTICOMPONENT POLYCARBONATE-BASED POLYURETHANE ELASTOMERS AND FILMS**  
J. Pavličević<sup>1</sup>, M. Špírková<sup>2</sup>, A. Strachota<sup>2</sup>, K. Meszaros Szecsényi<sup>3</sup>, N. Lazić<sup>4</sup>, J. Budinski-Simendić<sup>1</sup>  
<sup>1</sup>Faculty of Technology, Novi Sad, Serbia, <sup>2</sup>Institute of Macromolecular Chemistry ASCR, Prague, Czech Republic, <sup>3</sup>Faculty of Sciences, Novi Sad, Serbia, <sup>4</sup>Institute of General and Physical Chemistry, Belgrade, Serbia

## SYMPOSIUM C: NANOSTRUCTURED MATERIALS

*Wednesday, September 2, 2009*

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

Chairpersons: M. Zlatanović, S. Bošković and M. Damnjanović

- 09<sup>00</sup>-09<sup>15</sup> **STRUCTURAL AND MAGNETIC CHARACTERIZATION OF HIGH MOMENT SYNTHETIC ANTI-FERROMAGNETIC NANOPARTICLES**  
A.L. Koh<sup>1,2</sup>, W. Hu<sup>1</sup>, R.J. Wilson<sup>1</sup>, S.X. Wang<sup>1</sup>, R. Sinclair<sup>1</sup>  
<sup>1</sup>Materials Science and Engineering Department, Stanford University, Stanford CA, USA, <sup>2</sup>Department of Materials, Imperial College London, London, UK
- 09<sup>15</sup>-09<sup>30</sup> **TAILORING LOW-DIMENSIONAL SEMICONDUCTOR NANOSTRUCTURES FROM Si AND Ge NANOWIRES**  
Dj. Hourlier  
*Institut d'Electronique, de Microélectronique et de Nanotechnologies, UMR-CNRS 8520, Villeneuve d'Ascq, France*
- 09<sup>30</sup>-09<sup>45</sup> **SIZE ANALYSIS OF NANOPARTICLES BY SCATTERING EXPERIMENTS: THE RAYLEIGH DISTRIBUTION, A UNIVERSAL APPROACH**  
W. Gille  
*Martin-Luther-University Halle-Wittenberg, Institute of Physics, Halle, Germany*
- 09<sup>45</sup>-10<sup>00</sup> **PREPARATION AND THERMOELECTRIC PROPERTIES OF NANO SIZED  $M_mFe_{4-x}Co_xSb_{12}$**   
L. Zhang<sup>1,2</sup>, A. Grytsiv<sup>1</sup>, M. Kerber<sup>2</sup>, P. Rogl<sup>1</sup>, E. Bauer<sup>3</sup>, M.J. Zehetbauer<sup>2</sup>  
<sup>1</sup>Institute of Physical Chemistry, University of Vienna, Wien, Austria, <sup>2</sup>Physics of Nanostructured Materials, University of Vienna, Wien, Austria, <sup>3</sup>Institute of Solid State Physics, Vienna University of Technology, Wien, Austria
- 10<sup>00</sup>-10<sup>15</sup> **DIFFRACTION FROM NANOTUBES AND QUASI ONE-DIMENSIONAL CRYSTALS**  
M. Damnjanović, T. Vuković, I. Milošević  
*NanoLab, Faculty of Physics, University of Belgrade, Belgrade, Serbia*
- 10<sup>15</sup>-10<sup>30</sup> **ELECTRON-PHONON INTERACTION IN GRAPHENE**  
I. Milošević<sup>1</sup>, N. Kepcija<sup>1</sup>, E. Dobardžić<sup>1</sup>, M. Mohr<sup>2</sup>, J. Maultzsch<sup>2</sup>, C. Thomsen<sup>2</sup>, M. Damnjanović<sup>1</sup>  
<sup>1</sup>NanoLab, Faculty of Physics, University of Belgrade, Belgrade, Serbia, <sup>2</sup>Institut für Festkörperphysik, TU Berlin, Berlin, Germany

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

- 11<sup>00</sup>-11<sup>15</sup> **QUANTUM CASCADE LASER DESIGN FOR CHEMICAL SENSING AND DETECTION IN THE INFRARED SPECTRAL RANGE**  
A. Daničić<sup>1</sup>, J. Radovanović<sup>2</sup>, V. Milanović<sup>2</sup>, D. Indjin<sup>3</sup>, Z. Ikončić<sup>3</sup>  
<sup>1</sup>Vinča Institute of Nuclear Sciences, Belgrade, Serbia, <sup>2</sup>School of Electrical Engineering, University of Belgrade, Belgrade, Serbia, <sup>3</sup>Institute of Microwaves and Photonics, School of Electronic and Electrical Engineering, University of Leeds, Leeds, UK
- 11<sup>15</sup>-11<sup>30</sup> **FORMATION OF CONDENSED DNA NANOPARTICLES INDUCED BY SPERMINE AND HEXADECYLTRIMETHYLAMMONIUM BROMIDE: DYNAMIC LIGHT SCATTERING AND FLUORESCENCE CORRELATION SPECTROSCOPY STUDY**  
M. Štěpánek<sup>1</sup>, J. Humpolíčková<sup>2</sup>, L. Beranová<sup>2</sup>, A. Benda<sup>2</sup>, M. Hof<sup>2</sup>  
<sup>1</sup>Department of Physical and Macromolecular Chemistry, Faculty of Science, Charles University, Prague, Czech Republic, <sup>2</sup>J. Heyrovský Institute of Physical Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic
- 11<sup>30</sup>-11<sup>45</sup> **SYNTHESIS OF NANOSTRUCTURAL AND AMORPHOUS ALLOYS FROM ELEMENTARY POWDERS BY INTENSIVE PLASTIC DEFORMATION UNDER HIGH PRESSURE**  
A.V. Dobromyslov, R.V. Churbaev  
Institute of Metal Physics, Ural Division of Russian Academy of Sciences, Ekaterinburg, Russia
- 11<sup>45</sup>-12<sup>00</sup> **NANO ALPHA-ALUMINA POWDERS AND DENSE CERAMICS. CHALLENGES AND ACHIEVEMENTS**  
G.R. Karagedov, N.Z. Lyakhov  
Institute of Solid State Chemistry and Mechanochemistry, Novosibirsk, Russia
- 12<sup>00</sup>-12<sup>15</sup> **ELECTRON TRANSPORT THROUGH SINGLE PHTHALOCYANINE MOLECULES WITH STM**  
A.F. Takács<sup>\*,1,2</sup>, S. Schmaus<sup>1,2</sup>, F. Witt<sup>1</sup>, T. Balashov<sup>1</sup>, M. Bowen<sup>3</sup>, E. Beurepaire<sup>3</sup>, W. Wulfhekel<sup>1,2</sup>  
<sup>1</sup>Physikalisches Institut, Universitaet Karlsruhe(TH), Karlsruhe, Germany, <sup>2</sup>DFG-Center for Functional Nanostructures, Universitaet Karlsruhe, Karlsruhe, Germany, <sup>3</sup>Institut de Physique et Chimie des Materiaux de Strasbourg UMR 7504 CNRS-ULP, Strasbourg, France, \*present address: Physics Faculty, Babes-Bolyai University Cluj Napoca, Cluj Napoca, Romania

12<sup>15</sup>-12<sup>30</sup> **NANOSTRUCTURE AND PHASE FORMATION UNDER SEVERE MECHANICAL TREATMENT OF Fe-BASED SYSTEM**

E.P. Elsukov

*Physical-Technical Institute, UrB RAS, Izhevsk, Russia*

12<sup>30</sup>-12<sup>45</sup> **WEAR CHARACTERISTICS OF ORBITAL FORGED MATERIALS**

R. Bidulský<sup>1</sup>, M. Actis Grande<sup>1</sup>, J. Bidulská<sup>2</sup>, T. Kvačkaj<sup>2</sup>, T. Donič<sup>3</sup>, M. Martikán<sup>3</sup>

<sup>1</sup>*Politecnico Torino-Alessandria Campus, Alessandria, Italy,* <sup>2</sup>*Technical University of Košice, Košice, Slovakia,* <sup>3</sup>*Žilina University, Žilina, Slovakia*

12<sup>45</sup>-13<sup>00</sup> **NICKEL NANOPARTICLES FOR CATALYTIC APPLICATIONS**

Yu.G. Morozov, O.V. Belousova, M.V. Kuznetsov

*Institute of Structural Macrokinetics and Materials Science Russian Academy of Sciences, Chernogolovka, Moscow region, Russia*

## THIRD PLENARY SESSION

*Thursday, September 3, 2009*

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

Chairmen: R. Sinclair, V. Radmilović and Z.Lj. Petrović

#### 09<sup>00</sup>-09<sup>30</sup> ELECTRON MICROSCOPY OF NANOPARTICLES FOR CANCER DETECTION

R. Sinclair<sup>1</sup>, P.J. Kempen<sup>1</sup>, A.L. Koh<sup>1,2</sup>

<sup>1</sup>Materials Science and Engineering Department, Stanford University, Stanford, CA, USA, <sup>2</sup>Department of Materials, Imperial College London, London, UK

#### 09<sup>30</sup>-10<sup>00</sup> SYNTHESIS AND CHARACTERIZATION OF HIGH-QUALITY GRAPHENE

V. Radmilović, Z. Lee, A. Dato, K-J. Jeon, T. Richardson, M. Frenklach

National Center for Electron Microscopy, Lawrence Berkeley National Laboratory, Berkeley, California, USA

#### 10<sup>00</sup>-10<sup>30</sup> MONOLITHIC CMOS ACTIVE PIXEL SENSORS FOR DIRECT DETECTION IN ELECTRON MICROSCOPY

P. Denes<sup>1</sup>, M. Battaglia<sup>2</sup>, D. Contarato<sup>2</sup>, D. Doering<sup>1</sup>, B. Krieger<sup>1</sup>, P. Giubilat<sup>2</sup>, D. Gnani<sup>1</sup>, V. Radmilović<sup>3</sup>

<sup>1</sup>Engineering Division, Lawrence Berkeley National Laboratory, Berkeley, CA, USA,

<sup>2</sup>Physics Division, Lawrence Berkeley National Laboratory, Berkeley, CA, USA,

<sup>3</sup>National Center for Electron Microscopy, Lawrence Berkeley National Laboratory, Berkeley, CA, USA

#### 10<sup>30</sup>-11<sup>00</sup> MULTISITE STIMULATION AND SENSING BY CUSTOM LSI CHIP BY CMOS TECHNOLOGY AND MICROELECTRODE ARRAY

N. Nakano<sup>1</sup>, M. Yamaguchi<sup>1</sup>, A. Shimada<sup>2</sup>, K. Torimitsu<sup>2</sup>

<sup>1</sup>Keio University, Dept. of Electronics and Electrical Engineering, Yokohama, Japan,

<sup>2</sup>NTT Basic Research Laboratories, NTT Corporation, Atsugi, Japan

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

#### 11<sup>30</sup>-12<sup>00</sup> MICROSTRUCTURE EFFECT ON EM-INDUCED DEGRADATIONS IN DUAL-INLAID COPPER INTERCONNECTS

V. Sukharev<sup>1</sup>, A. Kteyan<sup>1</sup>, E. Zschech<sup>2</sup>, W.D. Nix<sup>3</sup>

<sup>1</sup>Mentor Graphics Corp., San Jose, CA, USA, <sup>2</sup>AMD Saxony LLC & Co. KG,

Materials Analysis Department, Dresden, Germany, <sup>3</sup>Department of Materials Science and Engineering, Stanford University, Stanford, CA, USA

- 12<sup>00</sup>-12<sup>30</sup> **MAGNETORESISTANCE IN POSITIVE AND NEGATIVE EXCHANGE BIAS Ni/FeF<sub>2</sub> BILAYERED ANTIDOTS**  
M. Kovylyna<sup>1</sup>, M. Erekhinsky<sup>2</sup>, R. Morales<sup>3</sup>, J.E. Villegas<sup>4</sup>, I.K. Schuller<sup>2</sup>, A. Labarta<sup>1</sup>, X. Batlle<sup>1</sup>  
*<sup>1</sup>Departament de Física Fonamental and Institut de Nanociència i Nanotecnologia (IN2UB), Universitat de Barcelona, Barcelona, Catalonia, Spain, <sup>2</sup>Physics Department, University of California-San Diego, La Jolla, California, USA, <sup>3</sup>Departamento de Física, Universidad de Oviedo-CINN, Oviedo, Spain, <sup>4</sup>Unite Mixte de Physique CNRS/Thales, Universite Paris Sud, Orsay, France*
- 12<sup>30</sup>-13<sup>00</sup> **SUPERHARD AND SUPERPLASTIC BRITTLE NANOMATERIALS**  
R.A. Andrievskiy  
*Institute of Problems of Chemical Physics, Russian Academy of Sciences, Chernogolovka, Russia*
- 13<sup>00</sup>-13<sup>30</sup> **GLASS-CERAMIC SCAFFOLDS FOR TISSUES ENGINEERING**  
A. Ravaglioli  
*Ceramics Science and Technology, Faenza, Italy*

**SYMPOSIUM D: COMPOSITES**

*Friday, September 4, 2009*

**Session I: 09<sup>00</sup>-10<sup>30</sup>**

Chairmen: M. Stevanović, J.P. Šetrajić and S. Mentus

- 09<sup>00</sup>-09<sup>15</sup> **DETERMINATION OF POLYOLEFINE BASED COMPOSITES NANO STRUCTURE PARAMETERS BY VERY COLD NEUTRONS SCATTERING**  
S.P. Kuznetsov<sup>1</sup>, I.L. Dubnikova<sup>2</sup>, V.S. Litvin<sup>3</sup>, I.V. Meshkov<sup>1</sup>, A.V. Shelagin<sup>4</sup>, A.I. Udovenko<sup>1</sup>  
<sup>1</sup>*Lebedev Physical Institute, Russian Academy of Sciences, Moscow, Russia,*  
<sup>2</sup>*Semenov Institute of Chemical Physics, Russian Academy of Sciences, Moscow, Russia,*  
<sup>3</sup>*Institute of Nuclear Researches, Russian Academy of Sciences, Moscow, Russia,*  
<sup>4</sup>*Moscow Institute of Physics and Technology, Moscow Region, Russia*
- 09<sup>15</sup>-09<sup>30</sup> **IMPACT MODIFIED EPOXY AND THERMOPLASTIC NANOCOMPOSITES; REINFORCEMENT/COMPATIBILIZATION CONCEPT**  
I. Kelnar, J. Rotrekl  
*Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic*
- 09<sup>30</sup>-09<sup>45</sup> **STRUCTURAL CHARACTERISATION OF ALUMINIUM – NICKEL COMPOSITES**  
L. Klakurková<sup>1</sup>, L. Čelko<sup>1</sup>, M. Petrevec<sup>2</sup>, P. Roupová<sup>1,2</sup>, J. Švejcar<sup>1</sup>  
<sup>1</sup>*Institute of Materials Science and Engineering, Faculty of Mechanical Engineering, Brno University of Technology, Brno, Czech Republic,* <sup>2</sup>*Institute of Physics of Materials, Academy of Sciences of the Czech Republic, Brno, Czech Republic*
- 09<sup>45</sup>-10<sup>00</sup> **CREATION OF MESOSTRUCTURAL MATERIAL WITH NANOCRYSTALLINE INCLUSIONS OF TITANIUM DIBORIDE BY QUASIDYNAMIC METHOD**  
M.P. Bondar<sup>1</sup>, M.A. Korchagin, Ya.L. Lukyanov, E.S. Obodovski  
*Lavrentyev Institute of Hydrodynamics, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia*
- 10<sup>00</sup>-10<sup>15</sup> **MULTIMODE NDE APPROACH FOR ASSESSMENT OF COMPOSITE STRUCTURES IN AEROSPACE APPLICATIONS**  
K. Dragan<sup>1</sup>, W. Swiderski<sup>2</sup>  
<sup>1</sup>*Air Force Institute of Technology, Warsaw, Poland,* <sup>2</sup>*Military Institute of Armament Technology, Zielonka, Poland*

10<sup>15</sup>-10<sup>30</sup> **INFLUENCE OF ECAP-BACK PRESSURE ON THE POROSITY DISTRIBUTION**

J. Bidulská<sup>1</sup>, T. Kvačkaj<sup>1</sup>, R. Kočiško<sup>1</sup>, R. Bidulský<sup>2</sup>, M. Actis Grande<sup>2</sup>, T. Donič<sup>3</sup>, M. Martikán<sup>3</sup>

<sup>1</sup>Technical University of Košice, Košice, Slovakia, <sup>2</sup>Politecnico Torino-Alessandria Campus, Alessandria, Italy, <sup>3</sup>University of Žilina, Žilina, Slovakia

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

**SYMPOSIUM E: BIOMATERIALS**

Session I: 11<sup>00</sup>-12<sup>30</sup>

Chairmen: Dj. Koruga, N. Ignjatović and Z.S. Petrović

11<sup>00</sup>-11<sup>15</sup> **IMITATING THE GROWTH OF TOOTH ENAMEL**

V. Uskoković<sup>1</sup>, W. Li<sup>2</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, CA, USA, <sup>2</sup>Department of Oral and Craniofacial Sciences, University of California, San Francisco, CA, USA

11<sup>15</sup>-11<sup>30</sup> **NOVEL THERMOPLASTIC POLYURETHANE ELASTOMERS BASED ON METHYL-12-HYDROXY STEARATE**

Z.S. Petrović, O. Yemul

Kansas Polymer Research Centre, Pittsburgh State University, Pittsburgh, KS, USA

11<sup>30</sup>-11<sup>45</sup> **IN VITRO AND IN VIVO PERFORMANCE OF NANOSIZED HYDROXYAPATITE PARTICLES COATED WITH POLY-DL-LACTIDE-CO-GLYCOLIDE AS SYSTEMS FOR DRUG DELIVERY OF TIGECYCLINE**

N. Ignjatović<sup>1</sup>, P. Ninkov<sup>2</sup>, R. Sabetrasekh<sup>2</sup>, P. Lyngstadaas<sup>2</sup>, D. Uskoković<sup>1</sup>

<sup>1</sup>Institute of Technical Sciences of SASA, Belgrade, Serbia, <sup>2</sup>Faculty of Dentistry, Department of Biomaterials, University of Oslo, Norway

11<sup>45</sup>-12<sup>00</sup> **POLY(D,L-LACTIDE-CO-GLYCOLIDE)/HYDROXYAPATITE/CLINDAMYCIN CORE-SHELL NANOSPHERES PROCESSED IN THE FIELD OF ULTRASOUND**

M. Vukomanović<sup>1</sup>, T. Maksin<sup>2</sup>, S. Škapin<sup>3</sup>, N. Ignjatović<sup>1</sup>, D. Uskoković<sup>1</sup>

<sup>1</sup>Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Belgrade, Serbia, <sup>2</sup>Institute of Nuclear Sciences "Vinča", Belgrade, Serbia, <sup>3</sup>"Jožef Stefan" Institute, Ljubljana, Slovenia

- 12<sup>00</sup>-12<sup>15</sup> **QUANTUM FOUNDATIONS OF RESONANT RECOGNITION MODEL**  
G. Keković<sup>1</sup>, D. Raković<sup>2</sup>, B. Tošić<sup>3</sup>, D. Davidović<sup>4,5</sup>, I. Ćosić<sup>5</sup>  
*<sup>1</sup>Biological Institute, Belgrade, Serbia, <sup>2</sup>Faculty of Electrical Engineering, Belgrade, Serbia, <sup>3</sup>Vojvodina Academy of Sciences and Arts, Novi Sad, Serbia, <sup>4</sup>Vinča Institute of Nuclear Sciences, Belgrade, Serbia, <sup>5</sup>School of Electrical and Computer Engineering, RMIT, Melbourne, Australia*
- 12<sup>15</sup>-12<sup>30</sup> **HYDROGEN BONDS STUDY BY OPTOMAGNETIC FINGERPRINT**  
Dj. Koruga  
*NanoLab, Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia*
- 12<sup>30</sup>-13<sup>00</sup> **CLOSING CEREMONY**

**POSTER SESSION I**

*Tuesday, September 1, 2009, 20<sup>30</sup>-22<sup>00</sup>*

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

- P.S.A.1. LOCAL STRUCTURE AND MORPHOLOGY-DEPENDENT PROPERTIES OF NANOOXIDES**  
V. Šepelák<sup>1,2</sup>, J. Žaková<sup>2</sup>, P. Heitjans<sup>3</sup>, K.D. Becker<sup>1</sup>  
<sup>1</sup>*Institute of Physical and Theoretical Chemistry, Braunschweig University of Technology, Braunschweig, Germany,* <sup>2</sup>*Institute of Geotechnics, Slovak Academy of Sciences, Košice, Slovakia,* <sup>3</sup>*Institute of Physical Chemistry and Electrochemistry, Leibniz University Hannover, Hannover, Germany*
- P.S.A.2. SORPTION OF CESIUM ON COPPER HEXACYANOFERRATE/POLYMER/ SILICA COMPOSITES: KINETICS AND MODELING STUDIES**  
S.K. Milonjić<sup>1,2</sup>, I. Bispo<sup>1</sup>, M. Fedoroff<sup>3</sup>, C. Loos-Neskovic<sup>1</sup>, C. Vidal-Madjar<sup>4</sup>  
<sup>1</sup>*Laboratoire Pierre Süe, CEA-CNRS, CEA Saclay, Gif-sur-Yvette Cedex, France,* <sup>2</sup>*The Vinča Institute of Nuclear Sciences, Belgrade, Serbia,* <sup>3</sup>*ENSCP-LECA-CNRS-Université Paris 6, Paris, France,* <sup>4</sup>*Laboratoire de Recherche sur les Polymères (CNRS), Thiais, France*
- P.S.A.3. DETACHEMENT EFFICIENCY OF HEMATITE PARTICLES UNDER TURBULENT FLOW CONDITIONS**  
Lj. Čerović<sup>1,2</sup>, M. Fedoroff<sup>1</sup>, G. Lefèvre, S.K. Milonjić<sup>2</sup>  
<sup>1</sup>*Laboratory of Electrochemistry, Chemistry of Interfaces and Modelling for Energy, ENSCP-CNRS UMR7575, Paris, France,* <sup>2</sup>*The Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.A.4. RED LUMINESCENCE AND THERMOLUMINESCENCE PROPERTIES OF Mn, RE:CaMgSi<sub>2</sub>O<sub>6</sub>**  
A. Lecointre, A. Bessiere, B. Viana  
*LCMCP-ENSCP- UMR7574, ENSCP, Paris, France*

- P.S.A.5. THEORETICAL ASSESSMENT OF STABILITY OF FLUOROXYAPATITES WITH DIFFERENT FLUORINE CONTENT**  
S. Raičević  
*Vinča Institute of Nuclear Sciences, Radiation and Environmental Protection Laboratory, Belgrade, Serbia*
- P.S.A.6. SYNTHESIS AND STRUCTURE OF Zn(II) AND Hg(II) COMPLEXES WITH 4-ACETYL-3-AMINO-5-METHYL PYRAZOLE**  
B. Holló<sup>1</sup>, V.M. Leovac<sup>1</sup>, K. Mészáros Szécsényi<sup>1</sup>, G. Bogdanović<sup>2</sup>, Ž. Jaćimović<sup>3</sup>  
*<sup>1</sup>Faculty of Sciences, Department of Chemistry, Novi Sad, Serbia, <sup>2</sup>„Vinča“ Institute of Nuclear Sciences, Laboratory of Theoretical Physics and Condensed Matter Physics, Belgrade, Serbia, <sup>3</sup>Faculty of Metallurgy and Technology, Podgorica, Montenegro*
- P.S.A.7. STRUCTURE AND CHARACTERIZATION OF COPPER(II) COMPLEX WITH PYRIDOXAL AMINO GUANIDINE**  
Lj. Vojinović-Ješić<sup>1</sup>, V.M. Leovac<sup>1</sup>, V.I. Češljević<sup>1</sup>, G.A. Bogdanović<sup>2</sup>  
*<sup>1</sup>Faculty of Sciences, Department of Chemistry, Novi Sad, Serbia, <sup>2</sup>„Vinča“ Institute of Nuclear Sciences, Laboratory of Theoretical Physics and Condensed Matter Physics, Belgrade, Serbia*
- P.S.A.8. 1,2,3,4-TETRAOLS : SIMPLE AND GENERAL STRATEGY FOR THEIR CHEMICAL SYNTHESIS**  
P. Hadžić<sup>1</sup>, M. Popsavin<sup>2</sup>  
*<sup>1</sup>Institute Goša, Belgrade, Serbia, <sup>2</sup>Faculty of Sciences, Department for Chemistry, University of Novi Sad, Serbia*
- P.S.A.9. SYNTHESIS AND CHARACTERIZATION OF Ni(II) AND Zn(II) COMPLEXES WITH N',N''-BIS[(1E)-1-(2-PYRIDYL)ETHYLIDENE]PROPANEDIHYDRAZIDE. CRYSTAL STRUCTURES OF TWO HIGHLY SOLVATED BIMETALLIC COMPLEXES OF Ni(II)**  
D. Radanović<sup>1</sup>, U. Rychlewska<sup>2</sup>, B. Warżajtis<sup>2</sup>, T. Todorović<sup>3</sup>, 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>Faculty of Chemistry, A. Mickiewicz University, Poznań, Poland, <sup>3</sup>Faculty of Chemistry, University of Belgrade, Belgrade, Serbia*

- P.S.A.10. SYNTHESIS, X-RAY AND NMR CHARACTERIZATION OF DIPROTONATED OXALIC DIHYDRAZIDE BASED LIGAND  $N,N^2$ -BIS[(1E)-1-(2-PYRIDYL) ETHYLIDENE]-ETHANEDIHYDRAZIDE**  
K. Andjelković<sup>1</sup>, R.O.M. Eshkourfu<sup>2</sup>, G. Kaludjerović<sup>3</sup>, D. Mitić<sup>4</sup>, D. Sladić<sup>1</sup>, D. Radanović<sup>3</sup>  
<sup>1</sup>Faculty of Chemistry, University of Belgrade, Belgrade, Serbia, <sup>2</sup>Faculty of Arts and Science, Khoms, Al-Magreb University, Libya, <sup>3</sup>Center for Chemistry, Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Belgrade, Serbia, <sup>4</sup>Fruit Research Institute, Čačak, Serbia
- P.S.A.11. A STUDY OF THE INTERACTIONS OF THE BIOLOGICALLY ACTIVE METHOXY DERIVATIVE OF THE MARINE QUINONE AVARONE 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.12. MULTIDIMENSIONAL IMAGING AND MANIPULATION OF NANO-OBJECTS**  
A. Tunyagi, O. Ponta, M. Maier, I. Burda  
Babes-Bolyai University, Physics Department, Cluj-Napoca, Romania
- P.S.A.13. THEORETICAL AND EXPERIMENTAL INVESTIGATION OF EXPLOSIVE LOADING OF POWDER MATERIALS**  
A.E. Buzyurkin<sup>1</sup>, E.I. Kraus<sup>1</sup>, Y.L. Lukyanov<sup>2</sup>  
<sup>1</sup>Khrstianovich Institute of Theoretical and Applied Mechanics SB RAS, Novosibirsk, Russia, <sup>2</sup>Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia
- P.S.A.14. KINETICS OF THE HYDROGEN OXIDATION ON Pt MODIFIED MoO<sub>x</sub> NANO-SIZED CATALYST IN THE PRESENCE OF CARBON MONOXIDE**  
N.V. Krstajić<sup>1</sup>, N. Elezović<sup>2</sup>, Lj.M. Vračar<sup>1</sup>, Lj. Gajić-Krstajić<sup>3</sup>, V.R. Radmilović<sup>4</sup>  
<sup>1</sup>Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia, <sup>2</sup>Institute for Multidisciplinary Research, Belgrade, <sup>3</sup>Institute of Technical Science of SASA, Belgrade, Serbia, <sup>4</sup>National Center for Electronic Microscopy, LBLN, Berkeley, USA
- P.S.A.15. SYNTHESIS AND CHARACTERIZATION OF POLYANILINE MICRO/NANOSTRUCTURES DOPED WITH 12-TUNGSTOPHOSPHORIC ACID**  
G. Ćirić-Marjanović, D. Bajuk-Bogdanović, I. Holclajtner-Antunović, S. Mentus  
Faculty of Physical Chemistry, Belgrade, Serbia

- P.S.A.16. **FABRICATION AND MULTI-PROPERTIES OF BiFeO<sub>3</sub> CERAMICS**  
A. Lisińska-Czekaj<sup>1</sup>, L. Madej<sup>2</sup>, E. Jartych<sup>3</sup>, D. Czekaj<sup>1</sup>  
<sup>1</sup>University of Silesia, Department of Materials Science, Sosnowiec, Poland,  
<sup>2</sup>University of Silesia, Institute of Materials Science, Katowice, Poland, <sup>3</sup>Technical  
University of Lublin, Department of Experimental Physics, Lublin, Poland
- P.S.A.17. **USING SOLID OXIDIZER BaO<sub>2</sub> AND NaClO<sub>4</sub> IN SELF-PROPAGATING  
HIGH-TEMPERATURE SYNTHESIS**  
S.M. Busurin, M.L. Busurina  
*Institute of Structural Macrokinetics and Materials Science RAS, Chernogolovka,  
Moscow region, Russia*
- P.S.A.18. **SYNTHESIS OF MULTIDOPED CERIA BASED NANOPOWDERS**  
M. Puševac<sup>1</sup>, S. Bošković<sup>1</sup>, S. Zec<sup>1</sup>, B. Babić<sup>1</sup>, B. Matović<sup>1</sup>, Z. Dohčević-Mitrović<sup>2</sup>,  
S. Mentus<sup>3</sup>  
<sup>1</sup>Institute of Nuclear Sciences "Vinča", Belgrade, Serbia, <sup>2</sup>Institute of Physics,  
Belgrade, Serbia, <sup>3</sup>Faculty of Physical Chemistry, University of Belgrade, Belgrade,  
Serbia
- P.S.A.19. **RAMAN STUDY OF VANADIUM-DOPED TITANIA NANOPOWDERS  
SYNTHESIZED BY SOL-GEL METHOD**  
M. Šćepanović<sup>1</sup>, M. Grujić-Brojčin<sup>1</sup>, S. Aškrabić<sup>1</sup>, A. Golubović<sup>1</sup>, Z. Dohčević-  
Mitrović<sup>1</sup>, B. Matović<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>Institute of Nuclear Sciences "Vinča", Belgrade, Serbia
- P.S.A.20. **HOW TO CHANGE PROPERTIES OF FUNCTIONAL FILMS BY SOL-GEL  
TECHNIQUE**  
N. Korobova<sup>1</sup>, S. Timoshenkov<sup>2</sup>, O. Jharkova<sup>3</sup>  
<sup>1</sup>Kazakh National University, Almaty, Kazakhstan, <sup>2</sup>Moscow Institute of Electronic  
Technique, Moscow, Russia, <sup>3</sup>Lab. of Innovation Technologies of Microelectronics,  
Moscow, Russia
- P.S.A.21. **MICROWAVE-HYDROTHERMAL SYNTHESIS OF YV<sub>1-x</sub>P<sub>x</sub>O<sub>4</sub>:Eu  
NANOPHOSPHORS**  
O.M. Gaitko, A.S. Vanetsev, E.A. Karpukhina, A.E. Baranchikov  
*Kurnakov Institute of General and Inorganic Chemistry RAS, Moscow, Russia*

- P.S.A.22. RARE-EARTH-BASED PHOSPHOR PARTICLES SYNTHESIS THROUGH HYDROTHERMAL AND SPRAY PYROLYSED ROUTES**  
L. Mančić<sup>1</sup>, K. Marinković<sup>1</sup>, B. Marinković<sup>2</sup>, M. Dramićanin<sup>3</sup>, O. Milošević<sup>1</sup>  
<sup>1</sup>*Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Belgrade, Serbia,* <sup>2</sup>*Departamento de Ciência dos Materiais e Metalurgia, Pontifícia Universidade Católica do Rio de Janeiro, Rio de Janeiro, Brazil,* <sup>3</sup>*Institute of Nuclear Sciences Vinča, Belgrade, Serbia*
- P.S.A.23. HYDROTHERMAL SYNTHESIS OF LiFePO<sub>4</sub> POWDERS AS CATHODE MATERIAL FOR Li-ION BATTERIES**  
M. Jović, Z. Stojanović, Lj. Veselinović, D. Uskoković  
*Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Belgrade, Serbia*
- P.S.A.24. IMPACT OF SOLVENT MIXTURE COMPOSITION AND ADDITIVE PRESENCE ON LiFePO<sub>4</sub> FORMATION IN WATER – ISO-PROPANOL SOLUTIONS AT ELEVATED TEMPERATURES AND PRESSURES**  
Z. Stojanović, M. Jović, D. Uskoković  
*Institute of Technical Sciences of SASA, Belgrade, Serbia*
- P.S.A.25. ELECTROCHEMICAL BEHAVIOUR OF V<sub>2</sub>O<sub>5</sub> AND V<sub>2</sub>O<sub>5</sub>/C IN AQUEOUS SOLUTION OF LiNO<sub>3</sub> AND Mg(NO<sub>3</sub>)<sub>2</sub>**  
I. Stojković<sup>1</sup>, N. Cvjetičanin<sup>1</sup>, S. Marković<sup>2</sup>, M. Mitrić<sup>3</sup>, S. Mentus<sup>1</sup>  
<sup>1</sup>*Faculty of Physical Chemistry, Belgrade, Serbia,* <sup>2</sup>*Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Belgrade, Serbia,* <sup>3</sup>*The Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.A.26. SYNTHESIS AND CHARACTERIZATION OF TRANSITION ALUMINA PHASES**  
Z. Obrenović<sup>1</sup>, I. Stijepović<sup>2</sup>, M. Maletin<sup>2</sup>, O. Bera<sup>2</sup>, B. Pilić<sup>2</sup>, Lj.M. Nikolić<sup>2</sup>  
<sup>1</sup>*Alumina Factory „Birač“, Zvornik, Republic of Srpska, Bosnia and Hercegovina,* <sup>2</sup>*Department of Materials Engineering, Faculty of Technology, Novi Sad, Serbia*
- P.S.A.27. LOW TEMPERATURE MECHANICAL CHARACTERISTICS OF Ti GRADE 2, PRODUCED BY DIFFERENT METHODS OF SEVERE PLASTIC DEFORMATION**  
E. Tabachnikova, A. Podolskiy, S. Smirnov, V. Bengus  
*B. Verkin Institute for Low Temperature Physics & Engineering, NASU, Kharkov, Ukraine*

- P.S.A.28. PREPARATION OF HIGH HEAT CONDUCTIVITY CARBON-COPPER-SILICON MATERIALS AND COATINGS OWING TO MECHANICAL ACTIVATION**  
F.Kh. Urakaev<sup>1</sup>, V.S. Shevchenko<sup>1</sup>, R.N. Abdullaev<sup>2</sup>, A.S. Agazhanov<sup>2</sup>, R.A. Khairulin<sup>2</sup>, I.V. Savchenko<sup>2</sup>, S.V. Stankus<sup>2</sup>, N.F. Uvarov<sup>3</sup>, T.A. Ketegenov<sup>4</sup>  
<sup>1</sup>*Institute of Geology and Mineralogy SB RAS, Novosibirsk, Russia,* <sup>2</sup>*Kutateladze Institute of Thermophysics SB RAS, Novosibirsk, Russia,* <sup>3</sup>*Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia,* <sup>4</sup>*Institute of High Technology, Kazatomprom, Almaty, Kazakhstan*
- P.S.A.29. MECHANICAL ACTIVATION OF CLAY**  
M. Vasić<sup>1</sup>, Z. Radojević<sup>1</sup>, Dj. Janačković<sup>2</sup>, A. Rosić<sup>3</sup>  
<sup>1</sup>*Institute for Testing of Materials, Belgrade, Serbia,* <sup>2</sup>*Faculty of Technology and Metallurgy, Belgrade, Serbia,* <sup>3</sup>*Faculty of Mineralogy and Geology, Belgrade, Serbia*
- P.S.A.30. HYDROGEN RELEASE AND MICROSTRUCTURE OF MgH<sub>2</sub> BASED COMPOSITE POWDERS CONTAINING A RELEVANT AMOUNT OF LaNi<sub>5</sub>**  
N. Abazović<sup>1</sup>, A. Aurora<sup>2</sup>, V. Contini<sup>2</sup>, M.R. Mancini<sup>2</sup>, A. Montone<sup>2</sup>, M. Vittori Antisari<sup>2</sup>  
<sup>1</sup>*Laboratory for Radiation Chemistry and Physics, Institute of Nuclear Sciences Vinča, Belgrade, Serbia,* <sup>2</sup>*ENEA CR Casaccia, Department of Materials and New Technologies, Rome, Italy*
- P.S.A.31. FERROFLUIDS SYNTHESIS BY USING ELECTROCHEMICALLY OBTAINED NANOMETRIC MAGNETITE AS A DISPERSE PHASE**  
Lj. Vulićević<sup>1</sup>, V. Randjelović<sup>1</sup>, N. Ivanović<sup>2</sup>, A. Maričić<sup>1</sup>  
<sup>1</sup>*Technical Faculty, Čačak, Serbia,* <sup>2</sup>*Institute of Nuclear Sciences Vinča, Belgrade, Serbia*
- P.S.A.32. SYNTHESIS AND ELECTRICAL BEHAVIOR OF Bi<sub>5</sub>Ti<sub>3</sub>FeO<sub>15</sub> CERAMICS**  
D. Czekaj<sup>1</sup>, A. Lisińska-Czekaj<sup>1</sup>, E. Jartych<sup>2</sup>  
<sup>1</sup>*University of Silesia, Department of Materials Science, Sosnowiec, Poland,* <sup>2</sup>*Technical University of Lublin, Department of Experimental Physics, Lublin, Poland*
- P.S.A.33. 3D CERAMIC MEMS FABRICATION USING OXIDE POWDER MIXTURES VIA SELECTIVE LASER SINTERING (SLS)**  
I.V. Shishkovsky<sup>1</sup>, M.V. Kuznetsov<sup>2</sup>, Yu.G. Morozov<sup>2</sup>  
<sup>1</sup>*Lebedev Physics Institute, Samara branch, Russian Academy of Sciences, Samara, Russia,* <sup>2</sup>*Institute of Structural Macrokinetics and Materials Science, Russian Academy of Sciences, Chernogolovka, Moscow, Russia*
- P.S.A.34. INFLUENCE OF Ca CONTENT ON THE STRUCTURE AND PROPERTIES OF (Co,Ca)O THIN FILMS DEPOSITED BY PLD TECHNIQUE**  
L. Cieniek, S. Kac  
*AGH – University of Science and Technology, Krakow, Poland*

- P.S.A.35. INFLUENCE OF Mo CONCENTRATION ON STRUCTURE AND PROPERTIES OF Mo-DOPPED Bi<sub>2</sub>O<sub>3</sub> THIN FILMS OBTAINED BY PLD TECHNIQUE**  
S. Kac  
*Faculty of Metals Engineering and Industrial Computer Science, AGH – University of Science and Technology, Krakow, Poland*
- P.S.A.36. IN SITU STUDY OF THE NUCLEATION KINETIC AND SINGLE LAYERS GROWTH RATE OF EPITAXIAL SrTiO<sub>3</sub> FILMS DURING PULSED LASER DEPOSITION**  
A.N. Khodan  
*A.N. Frumkin Institute of Physical Chemistry and Electrochemistry RAS, Moscow, Russia*
- P.S.A.37. MODELING AND EXPERIMENTS IN THE INTERACTION OF LASER BEAM WITH CARBON NANOPOROUS MATERIALS**  
M. Janičijević<sup>1</sup>, B. Kaludjerović<sup>2</sup>, M. Srećković<sup>3</sup>, A. Kovačević<sup>4</sup>, D. Družijanić<sup>3</sup>  
*<sup>1</sup>"Metalac", Gornji Milanovac, Serbia, <sup>2</sup>Laboratory for Materials, Institute of Nuclear Sciences "Vinča", Belgrade, Serbia, <sup>3</sup>Faculty of Electrical Engineering, Belgrade, Serbia, <sup>4</sup>Institute of Physics, Belgrade, Serbia*
- P.S.A.38. SURFACE MODIFICATIONS OF A Ti-6Al-4V ALLOY BY A LASER SHOCK PROCESSING**  
M. Rozmus, J. Kusiński, M. Blicharski  
*AGH University of Science and Technology, Faculty of Metals Engineering and Industrial Computer Science, Kraków, Poland*
- P.S.A.39. THE EFFECTS OF LASER LIGHT INTERACTIONS WITH MATERIALS OF CULTURAL HERITAGE**  
S. Ristić<sup>1</sup>, M. Srećković<sup>2</sup>, S. Polić-Radovanović<sup>1</sup>, M. Kutin<sup>1</sup>  
*<sup>1</sup>Institute Goša, Belgrade, Serbia, <sup>2</sup>Faculty of Electrical Engineering, Belgrade, Serbia*
- P.S.A.40. PULSE FREQUENCY AND DUTY CYCLE INFLUENCE ON AISI C1043 STEEL GRADE PLASMA NITRIDED IN COLD WALL CHAMBER**  
M. Zlatanović<sup>1</sup>, I. Popović<sup>1</sup>, V. Zlatanović<sup>2</sup>  
*<sup>1</sup>Faculty of Electrical Engineering, Belgrade, Serbia, <sup>2</sup>Windtim doo, Belgrade, Serbia*
- P.S.A.41. TRANSPORT COEFFICIENTS IN MIXTURES BF<sub>3</sub>, F<sub>2</sub> AND F**  
Ž. Nikitović, V. Stojanović, Z.Lj. Petrović  
*Institute of Physics, Belgrade, Serbia*

- P.S.A.42. **CALCULATIONS OF CROSS SECTIONS DATA FOR SCATTERING OF ELECTRONS ON HB<sub>r</sub>**  
Z.Lj. Petrović, M. Radmilović-Radjenović, M. Vranić  
*Institute of Physics, Belgrade, Serbia*
- P.S.A.43. **BREAKDOWN PHENOMENA IN WATER VAPOR MICRODISCHARGES**  
M. Radmilović-Radjenović, B. Radjenović  
*Institute of Physics, Belgrade, Serbia*
- P.S.A.44. **3D SIMULATIONS OF THE ANISOTROPIC WET ETCHING OF SILICON**  
B. Radjenović, M. Radmilović-Radjenović  
*Institute of Physics, Belgrade, Serbia*
- P.S.A.45. **RICHARDS TYPE DECHANNELING FUNCTIONS FOR LOW ENERGY PROTONS CHANNELED IN Cu CRYSTALS**  
M. Erić, S. Petrović, N. Nešković  
*Laboratory of Physics (010), Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.A.46. **PROTON IMPLANTATION OF GLASSY CARBON**  
Z. Jovanović<sup>1</sup>, A. Kalijadis<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.A.47. **STRUCTURAL CHARACTERIZATION OF BORON IRRADIATED AND BORON DOPED GLASSY CARBON**  
A. Kalijadis<sup>1</sup>, Z. Jovanović<sup>1</sup>, S. Zec<sup>2</sup>, M. Laušević<sup>3</sup>, Z. Laušević<sup>1</sup>  
<sup>1</sup>*Laboratory of Physics, Vinča Institute of Nuclear Science, Belgrade, Serbia,*  
<sup>2</sup>*Laboratory of Material Science, Vinča Institute of Nuclear Science, Belgrade, Serbia,* <sup>3</sup>*Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia*
- P.S.A.48. **FORMATION OF GAS PHASE FLUORINE AND CARBON CONTAINING MOLECULAR SPECIES IN PLASMA APPLIED IN THIN FILM PRODUCTION**  
J. Radić-Perić  
*Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia*
- P.S.A.49. **PULSED CO<sub>2</sub> LASER IRRADIATION OF CERIA CERAMICS**  
B. Matović<sup>1</sup>, S. Bošković<sup>1</sup>, M. Trtica<sup>1</sup>, G. Branković<sup>2</sup>, Z. Dohčević-Mitrović<sup>3</sup>, M. Radović<sup>3</sup>, Z.V. Popović<sup>3</sup>  
<sup>1</sup>*Institute of Nuclear Sciences Vinča, Belgrade, Serbia,* <sup>2</sup>*Institute for Multidisciplinary Research, Belgrade, Serbia,* <sup>3</sup>*Institute of Physics, Belgrade, Serbia*

- P.S.A.50. CHARACTERIZATION OF THE TEMPERATURE PROFILE OF FOAMING POLYURETHANE REACTION MIXTURES**  
M. Špírková, A. Strachota  
*Department of Polymer Networks and Mechanical Properties, Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Praha, Czech Republic*
- P.S.A.51. MODIFICATION OF LIQUID RUBBERS**  
J. Kovářová, J. Podešva  
*Institute of Macromolecular Chemistry, v.v.i., Academy of Sciences of the Czech Republic, Prague, Czech Republic*
- P.S.A.52. DEVELOPMENT OF CORRECTED METHOD FOR CLAY DRYING SUSCEPTIBILITY DETERMINATION IN FAST-DRYING PROCESS**  
M. Arsenović, Z. Radojević, Ž. Lalić  
*Institute for Testing of Materials, IMS, Belgrade, Serbia*
- P.S.A.53. RELATION BETWEEN PUNCHING FREQUENCY AND LOADINGS ON TOOLS AT HIGH SPEED BLANKING OF ALUMINIUM ALLOYS**  
I. Pahole<sup>1</sup>, K. Gotlih<sup>1</sup>, T. Vuherer<sup>1</sup>, Lj. Milović<sup>2</sup>  
*<sup>1</sup>Faculty of Mechanical Engineering, Maribor, Slovenia, <sup>2</sup>Faculty of Technology and Metallurgy, Belgrade, Serbia*
- P.S.A.54. EXPERIENCE FROM MODERN STEAMBOILER MATERIALS WELDING APPLICATION**  
I. Samardžić<sup>1</sup>, B. Despotović<sup>2</sup>, T. Vuherer<sup>3</sup>  
*<sup>1</sup>Mechanical Engineering Faculty in Slavonski Brod, Croatia, <sup>2</sup>«Termoenergetska postrojenja d.o.o.», Slavonski Brod, Croatia, <sup>3</sup>Faculty of Mechanical Engineering, Maribor, Slovenia*
- P.S.A.55. VIDEOEXTENSOMETRIC MEASURING OF DEFORMATION PROCESSES IN AUTOMOTIVE STEEL SHEETS AT TWO STRAIN RATE LEVELS**  
M. Mihaliková, Ľ. Ambriško, L. Pešek  
*Department of Materials Science, Faculty of Metallurgy, Technical University of Košice, Slovak Republic*
- P.S.A.56. THE MODELLING OF STABLE AND METASTABLE PHASE FORMATION IN MULTI-COMPONENT Al ALLOYS**  
B. Zlatičanin, B. Radonjić  
*Faculty of Metallurgy and Technology, Podgorica, Montenegro*

**P.S.A.57. USING AN INDENTATION TECHNIQUE FOR STRAIN DEVELOPMENT MONITORING FOR CONSTRUCTION STEEL SHEETS**

P. Zubko, L. Pešek

*Department of Materials Science, Faculty of Metallurgy, Technical University of Košice, Slovak Republic*

**P.S.A.58. THE PITCHES USED IN THE FABRICATION OF THE NEEDLE-SHAPED COKE**

M. Ichim<sup>1</sup>, F. Barca<sup>2</sup>, P. Vasilescu<sup>2</sup>

*<sup>1</sup>The Institute of Bioengineering, Biotechnology and Environmental Protection, – S.C. BIOING S.A. Bucharest, Romania, <sup>2</sup>Politehnica University of Bucharest, Chemical Engineering Department, Bucharest, Romania*

**P.S.A.59. OBTAINING AND CHARACTERIZATION OF Lu<sub>2</sub>O<sub>3</sub> NANOPARTICLES AND TRANSLUCENT CERAMICS ON THEIR BASIS**

N.A. Dulina, N.A. Matveevskaya, R.P. Yavetskiy, Z.P. Sergienko, E.A. Vovk, A.V. Tolmachev

*"STC "Institute for Single Crystals" of NAS of Ukraine, Kharkov, Ukraine*

**P.S.A.60. A NEW METHOD APPLIED IN THE CASE OF SOME CONSTRUCTION ELEMENTS: COMPUTERISED "MATERIAL – SHAPE" SELECTION**

Sh. Caslli, E. Lamani, D. Elezi

*Polytechnic University of Tirana, Mechanical Engineering Faculty, Department of Production and Management, Tirana, Albania*

**P.S.A.61. PRODUCING OF 5-NONYLSALICYLALDOXIME AND ITS PURIFICATION**

Z. Pouramini, A. Moradi

*Department of Chemical Engineering, College of Engineering, Shahid Bahonar University of Kerman, Kerman, Iran*

**P.S.A.62. FABRICATION OF SUPERSATURATED NANOSTRUCTURE AL 7075 ALLOY BY MECHANICAL ALLOYING**

N. Yazdian, M. Tavoosi, F. Karimzadeh

*Department of Materials Engineering, Isfahan University of Technology, Isfahan, Iran*

**P.S.A.63. MECHANISM AND THERMODYNAMIC ANALYSIS OF NANOCRYSTALLINE NiTi FORMATION BY MECHANICAL ALLOYING**

T. Mousavi, M.H. Abbasi, F. Karimzadeh

*Department of Materials Engineering, Isfahan University of Technology, Iran*

**POSTER SESSION II**

*Wednesday, September 2, 2009, 20<sup>30</sup>-22<sup>00</sup>*

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

- P.S.B.1. PHOTOCATALYTIC HYDROGEN PRODUCTION BY SEMICONDUCTOR HETEROJUNCTION MATERIALS**  
Zh. Zou  
*Ecomaterials and Renewable Energy Research Center (ERERC), Nanjing University, Nanjing, China*
- P.S.B.2. OPTICAL CHARACTERIZATION OF Nd – SUBSTITUTED ZIRCONOLITE OF COMPOSITION  $\text{Ca}_{(1-x)}\text{Nd}_x\text{ZrTi}_{(2-x)}\text{Al}_x\text{O}_7$  ( $0 < x \leq 0.6$ )**  
K.N. Boldyrev<sup>1</sup>, D. Caurant<sup>2</sup>, P. Loiseau<sup>2</sup>, S.A. Klimin<sup>1</sup>  
<sup>1</sup>*Institute of Spectroscopy, Russian Academy of Sciences, Troitsk, Moscow region, Russia,* <sup>2</sup>*LCMCP-UMR CNRS 7574, ENSCP, Paris, France*
- P.S.B.3. MECHANICAL PROPERTIES OF P/M MATERIALS OF RAPIDLY SOLIDIFIED Al-Co-Mg ALLOYS AT ELEVATED TEMPERATURES**  
M. Sugamata, Y. Ohki  
*College of Industrial Technology, Nihon University, Narashino, Chiba, Japan*
- P.S.B.4. DIELECTRIC PERMEABILITY OF NANOCYLINDER**  
S. Jaćimovski<sup>1</sup>, V. Sajfert<sup>2</sup>, D. Raković<sup>3</sup>, B. Tošić<sup>4</sup>  
<sup>1</sup>*Crime-Police Academy, Belgrade, Serbia,* <sup>2</sup>*Technical Faculty „M. Pupin”, University of Novi Sad, Zrenjanin, Serbia,* <sup>3</sup>*Faculty of Electrical Engineering, Belgrade, Serbia,* <sup>4</sup>*Vojvodina Academy of Sciences and Arts, Novi Sad, Serbia*
- P.S.B.5. ELECTRONIC STATES IN A DOUBLE LATERALLY COUPLED CONCENTRIC NANORINGS IN A MAGNETIC FIELD**  
V. Arsoški, M. Tadić  
*Faculty of Electrical Engineering, University of Belgrade, Belgrade, Serbia*
- P.S.B.6. OPTICAL AND MAGNETIC PROPERTIES OF PbTe(Co)**  
N. Romčević<sup>1</sup>, J. Trajić<sup>1</sup>, M. Romčević<sup>1</sup>, D. Stojanović<sup>1</sup>, B. Hadžić<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.7. **CRYSTALLINITY CHANGES OF ISOTACTIC POLYPROPYLENE FILMS MONITORED BY PHOTOACOUSTIC METHOD**  
S. Galović<sup>1</sup>, Z. Stojanović<sup>1</sup>, D. Todorović<sup>2</sup>, N. Abazović<sup>1</sup>, M. Mitrić<sup>1</sup>, M. Popović<sup>1</sup>, D. Čevizović<sup>1</sup>  
<sup>1</sup>The "Vinča" Institute of Nuclear Sciences, Belgrade, Serbia,  
<sup>2</sup>Institute for Multidisciplinary Research, Belgrade, Serbia
- P.S.B.8. **CALCULATION OF MEAN LIFETIME OF SELF TRAPPED STATES IN 1D MACROMOLECULAR CRYSTALS**  
D. Čevizović, S. Galović, Z. Ivić, A. Baltes  
*Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.B.9. **RELATIONS OF POLYMER -FILLER INTERACTION PARAMETERS WITH PROCESSING AND REINFORCEMENT OF SBR/BR BLENDS**  
M.B. Plavšić, I. Pajić-Lijaković, M.M. Plavšić  
*Faculty of Technology and Metallurgy, Belgrade, Serbia*
- P.S.B.10. **NONEXISTENCE OF THE "CLASSICAL TRAJECTORIES" IN THE STERN-GERLACH EXPERIMENT**  
M. Arsenijević, M. Dugić  
*Department of Physics, Faculty of Science, Kragujevac, Serbia*
- P.S.B.11. **ELECTRON STRUCTURE, PHYSICAL PROPERTIES AND X-RAY SPECTRA OF  $RM_5Si_3$  AND  $RM_9Si_4$  COMPOUNDS (R = Y, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu; M = Ni, Co)**  
I.D. Shcherba<sup>1\*</sup>, Ja. Chmura<sup>1</sup>, D. Uskoković<sup>2</sup>, A.O. Stosyk<sup>3</sup>, Yu.K. Gorelenko<sup>3</sup>, B.M. Jatsyk<sup>4</sup>  
<sup>1</sup>Institute of Techniques, University of Pedagogy, Krakow, Poland, <sup>2</sup>Institute of Technical Sciences of SASA, Belgrade, Serbia, <sup>3</sup>Lviv National University by Ivan Franko, Lviv, Ukraine, <sup>4</sup>University of Forestry and Wood Technology, Lviv, Ukraine
- P.S.B.12. **PERFORMANCES OF InP FOR MEDICAL X-RAY IMAGING**  
M. Djekić<sup>1</sup>, H. Šamić<sup>2</sup>  
<sup>1</sup>Faculty of Science and Mathematics, Sarajevo, B&H, <sup>2</sup>Faculty of Electrical Engineering, Sarajevo, B&H
- P.S.B.13. **ELECTRICAL AND MAGNETIC BEHAVIOR OF TRANSITION METAL OXIDES  $(La,Pr)_{2/3}A_{1/3}TMO_3$ , A = Ca, Sr AND TM = Mn, Co**  
I.G. Deac, A. Vladescu, I. Balasz, A. Tunyagi, R. Tetean  
*Babes-Bolyai University Cluj-Napoca, Faculty of Physics, Cluj-Napoca, Romania*

- P.S.B.14. ADVANCEMENT OF METHODS, TECHNIQUES AND PROCESSES FOR EXTRACTION, SEPARATION AND CHARACTERIZATION OF FULLERENES**  
T. Jovanović, Dj. Koruga  
*Department of Biomedical Engineering, Molecular Machines Research Center, Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia*
- P.S.B.15. MEASUREMENT OF COMPLEX PERMEABILITY USING SHORT COAXIAL LINE METHOD IN HIGH FREQUENCY RANGE**  
V. Radonić, N. Blaž, Lj. Živanov  
*Faculty of Technical Science, University of Novi Sad, Serbia*
- P.S.B.16. SPECTROSCOPIC CHARACTERIZATION OF  $Gd_{0.64}Y_{0.36}VO_4:Yb(1,5\%)$  SINGLE CRYSTAL**  
S.A. Klimin<sup>1</sup>, N.N. Novikova<sup>1</sup>, B.N. Mavrin<sup>1</sup>, M.N. Popova<sup>1</sup>, E. Pestryakov<sup>2</sup>  
*<sup>1</sup>Institute of Spectroscopy RAS, Troitsk, Moscow region, Russia, <sup>2</sup>Institute of Laser Physics, Siberian Branch of RAS, Novosibirsk, Russia*
- P.S.B.17. ZERO-DEGREE FOCUSING OF PROTONS CHANNELED IN A TILTED CRYSTAL**  
V. Bereć, S. Petrović, D. Borka, N. Nešković  
*Laboratory of Physics (010), Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.B.18. THE NEW PARAMAGNETIC PILLARED BENTONITES AS DIGESTIVE TRACT MRI CONTRAST AGENTS**  
M. Omerašević<sup>1</sup>, P. Banković<sup>2</sup>, Z. Mojović<sup>2</sup>, M. Daković<sup>1,3</sup>, D. Jovanović<sup>2</sup>, A. Milutinović – Nikolić<sup>2</sup>, M. Mojović<sup>1</sup>  
*<sup>1</sup>Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia, <sup>2</sup>Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Department of Catalysis and Chemical Engineering, Belgrade, Serbia, <sup>3</sup>Center for Magnetic Resonance Clinical Center of Serbia, Belgrade, Serbia*
- P.S.B.19. ANGULAR AND SPATIAL DISTRIBUTIONS OF 1 GeV PROTONS CHANNELED IN A BENT SHORT (11, 9) SINGLE-WALL CARBON NANOTUBE**  
S. Šopić, D. Borka, S. Petrović, N. Nešković  
*Laboratory of Physics (010), Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.B.20. FROM CORRELATED METAL TO MOTT INSULATOR IN  $GA(V,TI)_4S_8$  : DISORDERED – DRIVEN ANDERSON METAL – INSULATOR TRANSITION**  
E. Dorolti<sup>1,2</sup>, C. Vaju<sup>2</sup>, J. Martial<sup>2</sup>, B. Corraze<sup>2</sup>, E. Janod<sup>2</sup>, L. Cario<sup>2</sup>  
*<sup>1</sup>Faculty of Physics, Babes-Bolyai University, Cluj-Napoca, Romania, <sup>2</sup>Institut de Matériaux Jean Rouxel (IMN), Université de Nantes, CNRS, Nantes, France*

- P.S.B.21. **Si<sub>3</sub>N<sub>4</sub> ELONGATED NANOSTRURES AND FORMING CRITERIA OF POROUS BODY ON THEIR BASIS**  
A. Ragulya, A. Bykov, P. Sylenko  
*I.M. Frantsevych Institute for Problems in Material Science of NAS of Ukraine, Kyiv, Ukraine*
- P.S.B.22. **ELECTRONIC PRINCIPLES OF SOME TRENDS IN PROPERTIES OF METALLIC HYDRIDES**  
N. Ivanović<sup>1</sup>, N. Novaković<sup>1</sup>, D. Colognesi<sup>2</sup>, I. Radisavljević<sup>1</sup>, S. Ostojčić<sup>3</sup>  
<sup>1</sup>*Institute of Nuclear Sciences "Vinča", Belgrade, Serbia*, <sup>2</sup>*Istituto dei Sistemi Complessi, Sezione di Firenze, Sesto Fiorentino (FI), Italy*, <sup>3</sup>*Faculty of Technology and Metallurgy, Belgrade, Serbia*
- P.S.B.23. **DIAMOND IN SURFACE ACOUSTIC WAVE SENSORS**  
M. Hribšek, S. Ristić, B. Radojković  
*Institute Goša, Belgrade, Serbia*
- P.S.B.24. **SPECTROSCOPIC CHARACTERIZATION OF THE NEW MULTIFUNCTIONAL MATERIAL SmFe<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub>**  
E.P. Chukalina<sup>1</sup>, M.N. Popova<sup>1</sup>, L.N. Bezmaternykh<sup>2</sup>, I.A. Gudim<sup>2</sup>  
<sup>1</sup>*Institute of Spectroscopy, RAS, Troitsk, Moscow region, Russia*, <sup>2</sup>*Kirensky Institute of Physics, Siberian Branch of RAS, Krasnoyarsk, Russia*
- P.S.B.25. **THE INFLUENCE OF THERMAL TREATMENTS ON MAGNETIC PROPERTIES OF MnZn FERRITES PREPARED BY PIM TECHNOLOGY**  
B. Zlatkov<sup>1</sup>, H. Loibl<sup>1</sup>, H. Danninger<sup>2</sup>, A. Maričić<sup>3</sup>, N. Mitrović<sup>3</sup>  
<sup>1</sup>*FOTEC Forsch & Technologietransfer GmbH, Wiener Neustadt, Austria*, <sup>2</sup>*Institute of Chemical Technologies and Analytics, Wien, Austria*, <sup>3</sup>*Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems, Technical Faculty Čačak, Čačak, Serbia*
- P.S.B.26. **PHASE DIAGRAM OF Sm<sub>1-x</sub>Sr<sub>x</sub>MnO<sub>3</sub> PEROVSKITE MANGANITES**  
A. Kurbakov  
*Petersburg Nuclear Physics Institute, Gatchina, Russia*
- P.S.B.27. **UNIQUE ELECTRON-DOPED MANGANITES: CRYSTAL AND MAGNETIC STRUCTURES AND MAGNETOTRANSPORT PROPERTIES**  
A. Kurbakov<sup>1</sup>, C. Martin<sup>2</sup>, A. Maignan<sup>2</sup>, M. Hervieu<sup>2</sup>, S. Hébert<sup>2</sup>, G. Andre<sup>3</sup>, F. Bouree<sup>3</sup>, J. Broto<sup>4</sup>, H. Rakoto<sup>4</sup>, B. Raquet<sup>4</sup>  
<sup>1</sup>*Petersburg Nuclear Physics Institute, Gatchina, Russia*, <sup>2</sup>*Laboratoire CRISMAT, Caen, France*, <sup>3</sup>*LLB, CEA-Saclay, France*, <sup>4</sup>*LNCMP 143, Toulouse, France*

**P.S.B.28. DESIGN OF THE SUPPORTS AND CATALYSTS ON THE BASE OF THE MESOPOROUS ALUMINA ENCAPSULATED IN THE UTRAMACROPORE CERAMOMETAL MATRIX**

S.F. Tikhov<sup>1</sup>, N.A. Pakhomov<sup>1</sup>, V.V. Usoltsev<sup>1</sup>, V.A. Sadykov<sup>1</sup>, Yu.N. Bepalko<sup>1,2</sup>, N.A. Yazikov<sup>1</sup>, A.D. Simonov<sup>1</sup>, A.N. Salanov<sup>1</sup>, G.V. Golubkova<sup>2</sup>, O.I. Lomovskii<sup>2</sup>  
<sup>1</sup>Boriskov Institute of Catalysis SB RAS, Novosibirsk, Russia, <sup>2</sup>Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia

**P.S.B.29. INFRARED AND RAMAN SPECTROSCOPY STUDY OF LANTHANUM AND ANTIMONY DOPED BARIUM TITANATE PREPARED FROM ORGANOMETALLIC COMPLEX**

Z.Ž. Lazarević<sup>1</sup>, N.Ž. Romčević<sup>1</sup>, M.M. Vijatović<sup>2</sup>, N. Paunović<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.B.30. SYNTHESIS, CHARACTERISATION AND SORPTIVE PROPERTIES OF ORGANO BENTONITES**

N. Jović-Jovičić<sup>1</sup>, A. Milutinović-Nikolić<sup>1</sup>, P. Banković<sup>1</sup>, B. Nedić<sup>2</sup>, B. Dojčinović<sup>3</sup>, D. Lončarević<sup>1</sup>, D. Jovanović<sup>1</sup>  
<sup>1</sup>Institute of Chemistry Technology and Metallurgy, University of Belgrade, Department of Catalysis and Chemical Engineering, Belgrade, Serbia, <sup>2</sup>Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia, <sup>3</sup>Institute of Chemistry Technology and Metallurgy, University of Belgrade, Department of Chemistry, Belgrade, Serbia

**P.S.B.31. SHORT-CIRCUIT OXYGEN DIFFUSION IN THERMALLY GROWN SILICA LAYER**

B. Gligorić<sup>1</sup>, H. Schmidt<sup>2</sup>, N. Radović<sup>3</sup>, M. Davidović<sup>1</sup>, M. Kutin<sup>1</sup>, A. Janićijević<sup>3</sup>  
<sup>1</sup>Institute Goša, Research and Development, Belgrade, Serbia, <sup>2</sup>Institute of Metallurgy, Materials Physics Group, TU Clausthal, Germany, <sup>3</sup>Faculty of Technology and Metallurgy, University of Belgrade, Serbia

**P.S.B.32. URANIUM (VI) ADSORPTION ON ACIDS MODIFIED ZEOLITIC TUFF**

S. Matijašević, A. Daković, D. Ileš, J. Stojanović, S. Miličević  
Institute for Technology of Nuclear and Other Mineral Raw Materials, Belgrade, Serbia

**P.S.B.33. RELAXATION IN METALLIC GLASS Ni<sub>36,5</sub>Zr<sub>63,5</sub>**

S. Sulejmanović<sup>1</sup>, T. Mihać<sup>1</sup>, S. Bikić<sup>2</sup>, N. Bajrović<sup>1</sup>  
<sup>1</sup>Faculty of Science and Mathematics, Sarajevo, B&H, <sup>2</sup>Faculty of Metallurgy and Materials Science, Zenica, B&H

- P.S.B.34. **STRUCTURAL, THERMAL AND MAGNETIC PROPERTIES OF ELECTROCHEMICALLY DEPOSITED Co-Ni-Mo POWDERS**  
N. Mitrović<sup>1</sup>, J. Stevanović<sup>2</sup>, O. Pešić<sup>1</sup>, B. Jordović<sup>1</sup>, V. Spasojević<sup>3</sup>  
<sup>1</sup>Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems, Technical Faculty Čačak, Čačak, Serbia, <sup>2</sup>Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia, <sup>3</sup>Institute of Nuclear Sciences Vinča, Belgrade, Serbia
- P.S.B.35. **ORGANIC-INORGANIC NANOCOMPOSITE COATINGS CONTAINING ORGANICALLY MODIFIED LAYERED SILICATES**  
M. Špírková<sup>1</sup>, P. Duchek<sup>2</sup>, J. Kotek<sup>1</sup>, A. Strachota<sup>1</sup>  
<sup>1</sup>Institute of Macromolecular Chemistry AS CR, v. v. i., Prague, Czech Republic, <sup>2</sup>Faculty of Mechanical Engineering, University of West Bohemia, Plzeň, Czech Republic
- P.S.B.36. **REAL-LIFE HETEROGENEOUS WELD JOINT ANALYSIS OF HEAT RESISTANT STEELS USING EXPERIMENTAL AND COMPUTATIONAL APPROACH**  
V. Jan<sup>1</sup>, Z. Hodis<sup>1</sup>, J. Sopoušek<sup>2</sup>, R. Foret<sup>1</sup>  
<sup>1</sup>Brno University of Technology, Brno, Czech Republic, <sup>2</sup>Masaryk University Brno, Czech Republic
- P.S.B.37. **CORROSION AND FATIGUE PROPERTIES OF MAGNESIUM ALLOY AZ31**  
P. Doležal<sup>1</sup>, J. Zapletal<sup>1</sup>, M. Zmrzlý<sup>2</sup>, B. Pacal<sup>1</sup>, A. Němcová<sup>1</sup>  
<sup>1</sup>Institute of Materials Science and Engineering, Faculty of Mechanical Engineering, Brno University of Technology, Brno, Czech Republic, <sup>2</sup>Institute of Materials Chemistry, Faculty of Chemistry, Brno University of Technology, Brno, Czech Republic
- P.S.B.38. **INITIATION AND BEHAVIOUR OF SMALL CRACK DURING PROPAGATION FROM ARTIFICIAL SMALL DEFECTS IN COARSE GRAIN HEAT AFFECTED ZONE**  
T. Vuherer<sup>1</sup>, Lj. Milović<sup>2</sup>, V. Gliha<sup>1</sup>, M. Zrilić<sup>2</sup>  
<sup>1</sup>Faculty of Mechanical Engineering, Maribor, Slovenia, <sup>2</sup>Faculty of Technology and Metallurgy, Belgrade, Republic of Serbia
- P.S.B.39. **MODELING OF HEAT FLOW AND SOLIDIFICATION DURING SPRAY DEPOSITION PROCESS**  
P. Tomić<sup>1</sup>, M. Kutin<sup>2</sup>, M. Davidović<sup>2</sup>  
<sup>1</sup>Alumina Factory Company "Birač", Zvornik, B&H, <sup>2</sup>Institute Goša, Research and Development, Belgrade, Serbia

- P.S.B.40. APPLICATION OF MODERN INVESTIGATION TECHNIQUES WITH THE AIM OF DEFECTS IDENTIFICATION IN 30CrMoV9V ALLOY**  
A. Milosavljević<sup>1</sup>, R. Pljakić<sup>2</sup>, M. Gašić<sup>2</sup>, R. Petrović<sup>2</sup>, M. Savković<sup>2</sup>, S. Drecun-Nešić<sup>1</sup>  
<sup>1</sup>Faculty of Mechanical Engineering, University of Belgrade, Serbia, <sup>2</sup>Faculty of Mechanical Engineering Kraljevo, University of Kragujevac, Serbia
- P.S.B.41. POROUS STRUCTURE OF SINTERED NIOBIUM COMPOSITE**  
L. Skatkov<sup>1</sup>, V. Gomozov<sup>2</sup>  
<sup>1</sup>PCB "Argo", Beer Sheva, Israel, <sup>2</sup>NTU "KhPI", Kharkov, Ukraine
- P.S.B.42. CONTEMPORARY APPLICATION OF STEELS FOR CUTTING TOOLS**  
Lj. Janjušević, M. Prokolab  
Goša Institute, Belgrade, Serbia
- P.S.B.43. THE USE OF ADVANCED MATERIALS AND TOOLS AS A GOOD WAY TO IMPROVE THE PERFORMANCE OF MARINE YACHTS**  
B. Xhaferaj, M. Duka, V. Kasemi  
Technical Sciences Faculty, University of Vlora "Ismail Qemali" Vlore, Albania
- P.S.B.44. INTERPRETATION ABOUT THE ROLE OF THE HOT WORKING (ELABORATION TERMITES) PROCESS IN THE FATIGUE RESISTANCE FOR THE CONSTRUCTIVE STEEL 40**  
V. Kasemi, B. Xhaferaj, M. Duka  
Faculty of Technical Sciences, University of Vlora "Ismail Qemali" Vlorë, Albania
- P.S.B.45. DESIGN OF THE ADJUSTABLE FOUR-BAR LINKAGES, ONE POINT OF THE COUPLER PLANE OF WHICH GENERATE TWO APPROXIMATELY STRAIGHT PATHS**  
D. Ilia<sup>1</sup>, A. Anxhaku<sup>2</sup>, M. Shehu<sup>1</sup>  
<sup>1</sup>Department of Mechanical and Naval Engineering, University of Vlora, Albania, <sup>2</sup>Mechanical Department, Polytechnic University, Tirana, Albania
- P.S.B.46. THE FRACTURE MECHANICAL BACKGROUND OF EUROCODE 3 IN THE STRUCTURAL STEELS**  
M. Shehu<sup>1</sup>, P. Huebner<sup>2</sup>, M. Cukalla<sup>3</sup>, D. Ilia<sup>1</sup>  
<sup>1</sup>Department of Mechanical and Naval Engineering, University of Vlora, Albania, <sup>2</sup>Metallkunde Institute, Bergakademie, Freiberg, Germany, <sup>3</sup>Mechanical Department, Polytechnic University, Tirana, Albania
- P.S.B.47. CURRENT STATE AND DEVELOPMENT PERSPECTIVE OF ALBANIAN PORTS**  
E. Katira, E. Habibi, E. Kulla, E. Mustafaraj, M. Shehu  
College of Science and Engineering, Dept. of Mechanical & Naval Engineering, University of Vlora, Albania

- P.S.B.48. ANALYTICAL AND COMPUTATIONAL STRESS ANALYSIS OF FIBER (MATERIAL ORTHOTROPIC)/MATRIX COMPOSITE MODELS**  
O. Koça, J. Kaçani, M. Kullolli  
*Polytechnic University of Tirana, Mechanical Engineering Faculty, Tirana Albania*
- P.S.B.49. EFFECTS OF WATER ON THE SURFACE POTENTIAL DECAY IN CORONA CHARGED POLYIMIDE FILMS**  
A. Kahlouche<sup>1</sup>, A. Bellel<sup>2</sup>, S. Sahli<sup>3</sup>  
*<sup>1</sup>Faculté des Sciences et Sciences de l'Ingénieur, Université Mohamed Boudiaf, M'sila – Algérie, <sup>2</sup>Laboratoire des Etudes de Matériaux d'Electronique pour Applications Médicales (LEMEAMED), Faculté des Sciences de l'Ingénieur, Université Mentouri de Constantine-Algérie, <sup>3</sup>Laboratoire de Microsystèmes et Instrumentation (LMI), Faculté des Science de l'Ingénieur, Université Mentouri de Constantine-Algérie*
- P.S.B.50. ANTISTATIC PROPERTIES OF NANOFILLED COATINGS**  
B. Gornicka<sup>1</sup>, M. Mazur<sup>2</sup>, K. Sieradzka<sup>2</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 Microsystems Electronics and Photonics, Wroclaw University of Technology, Wroclaw, Poland*
- P.S.B.51. NEW MOLECULAR CONDUCTORS WITH COBALT BIS(DICARBOLLIDE) ANION AND ITS DERIVATIVES**  
O.N. Kazheva, O.A. Dyachenko  
*Institute of Problems of Chemical Physics of RAS, Chernogolovka, Russia*
- P.S.B.52. THE INFLUENCE OF WOOD SPECIES ON CURING OF UREA-FORMALDEHYDE ADHESIVE FOR WOOD PANELS PRODUCTION**  
M. Popović<sup>1</sup>, J. Budinski Simendić<sup>2</sup>, J. Miljković<sup>1</sup>, J. Pavličević<sup>2</sup>, I. Ristić<sup>2</sup>  
*<sup>1</sup>Faculty of Forestry, Belgrade, Serbia, <sup>2</sup>Faculty of Technology, Novi Sad, Serbia*
- P.S.B.53. ORGANOMETALLIC COMPOUNDS AND CORROSION ON THE FLUE GAS SIDE OF THE WATER BOILER SYSTEM**  
M. Prvulović, B. Gligorijević, B. Jegdić, M. Prokolab, D. Jovanović  
*Institute Goša, Research and Development, Belgrade, Serbia*
- P.S.B.54. GAMMA RADIATION ABSORPTION CHARACTERISTICS OF CONCRETE WITH COMPONENTS OF DIFFERENT TYPE MATERIALS**  
S.J. Stanković<sup>1</sup>, R.D. Ilić<sup>1</sup>, K. Janković<sup>2</sup>, D. Bojović<sup>2</sup>, B. Lončar<sup>3</sup>  
*<sup>1</sup>Vinča Institute of Nuclear Sciences, Belgrade, Serbia, <sup>2</sup>Institute for Testing Materials-IMS, Belgrade, Serbia, <sup>3</sup>Faculty of Technology and Metallurgy, Belgrade, Serbia*

- P.S.B.55. INFLUENCE OF THE TEMPERATURE ON THE PROPERTIES OF THE SINTERED PRODUCT ON THE BASIS OF ELECTROFILTER ASH AS A COMPONENT OF THE RAW MATERIAL MIXTURE**  
M. Krgović<sup>1</sup>, M. Knežević<sup>2</sup>, M. Ivanović<sup>1</sup>, I. Bošković<sup>1</sup>, M. Vukčević<sup>1</sup>, R. Zejak<sup>2</sup>, B. Zlatičanin<sup>1</sup>, S. Djurković<sup>1</sup>  
<sup>1</sup>University of Montenegro, Faculty of Metallurgy and Technology, Podgorica, Montenegro, <sup>2</sup>University of Montenegro, Faculty of Civil Engineering, Podgorica, Montenegro
- P.S.B.56. COMPARISON OF CHEMICAL ANALYSIS OF SAMPLE CLAYS AND THE MICROSTRUCTURE OF SINTERED PRODUCT**  
N. Marstijepović<sup>1</sup>, Z. Begović<sup>1</sup>, M. Mirković<sup>1</sup>  
University of Montenegro, Faculty of Metallurgy and Technology, Podgorica; Ministry of Internal Affairs, Podgorica, Montenegro
- P.S.B.57. DEVELOPMENT OF NANO- GRAIN STRUCTURE BY MARTENSITIC REVERSION IN AISI 304L STAINLESS STEEL**  
R. Surki, S. Sabooni, A. Najafizadeh  
Department of Materials, Isfahan University of Technology, Isfahan, Iran
- P.S.B.58. ORGANICALLY MODIFIED NANOSILICA/RIGID POLYURETHANE NANOCOMPOSITES**  
M.M. Alavi Nigjeh, Z. Mazaheri Tehrani  
Chemistry Department, Faculty of Science, IKIU, Qazvin, Iran
- P.S.B.59. COMPUTER AIDED ETCHING SIMULATION USING CELLULAR AUTOMATA METHOD**  
M. Shayan, S.A. Sadough, B. Arezoo  
Mechanical Engineering Department, Amir Kabir University of Technology, Tehran, Iran

**POSTER SESSION III**

*Thursday, September 3, 2009, 20<sup>30</sup>-22<sup>00</sup>*

**SYMPOSIUM C: NANOSTRUCTURED MATERIALS**

- P.S.C.1. SAXS AND WAXS STUDY OF POLY(BUTYL METHACRYLATE)/MONTMORILLONITE NANOCOMPOSITE LATEXES**  
J. Pleštil<sup>1</sup>, Z. Sedláková<sup>1</sup>, J. Baldrian<sup>1</sup>, P. Holub<sup>2</sup>  
<sup>1</sup>*Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic,* <sup>2</sup>*Hexion Specialty Chemicals, a.s., Sokolov, Czech Republic*
- P.S.C.2. NANOSTRUCTURED THIN FILMS  $\beta$ -Al-Mg OBTAINED USING PLD TECHNIQUE**  
A. Radziszewska  
*AGH University of Science and Technology, Faculty of Metals Engineering and Industrial Computer Science, Cracow, Poland*
- P.S.C.3. INFRARED AND STRUCTURAL STUDY OF ZINC OXIDE FILMS AND NANOWIRES**  
N.N. Novikova<sup>1</sup>, E.A. Vinogradov<sup>1</sup>, V.A. Yakovlev<sup>1</sup>, S. Pung<sup>2</sup>, K.-L. Choy<sup>2</sup>  
<sup>1</sup>*Institute for Spectroscopy of RAS, Troitsk, Moscow region, Russia,* <sup>2</sup>*Department of Mechanical, Materials and Manufacturing Engineering, Faculty of Engineering, University of Nottingham, Nottingham, UK*
- P.S.C.4. TEMPERATURE- AND FREQUENCY-DEPENDENCE OF DIELECTRIC PROPERTIES OF EPOXY/ $\alpha$ -HEMATITE NANOROD COMPOSITE**  
V. Djoković, D. Dudić, M. Marinović-Cincović, J.M. Nedeljković  
*Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.C.5. COMPARATIVE STUDY OF THE STRUCTURAL AND MAGNETIC PROPERTIES OF NANOSIZED  $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$  OBTAINED BY MECHANOCHEMICAL AND GLYCINE NITRATE PROCEDURES**  
D. Marković, A. Mraković, M. Perović, M. Tadić, J. Blanuša, V. Kusigerski, B. Antić, M. Mitrić, V. Spasojević  
*Institute of Nuclear Sciences Vinča, Laboratory for Solid State Physics, Belgrade, Serbia*
- P.S.C.6. MAGNETIC PROPERTIES OF Mn DOPED AMORPHOUS  $\text{SiO}_2$  NANOPARTICLES**  
D. Milivojević<sup>1</sup>, B. Babić-Stojić<sup>1</sup>, Z. Jagličić<sup>2</sup>, V. Jokanović<sup>1</sup>  
<sup>1</sup>*Vinča Institute of Nuclear Sciences, Belgrade, Serbia,* <sup>2</sup>*Institute of Mathematics, Physics and Mechanics, Ljubljana, Slovenija*

- P.S.C.7. CHANGES IN OPTICAL PROPERTIES OF MOLECULAR NANOSTRUCTURES**  
S.M. Vučenović<sup>1</sup>, J.P. Šetrajčić<sup>2</sup>, B. Markoski<sup>3</sup>, D.Lj. Mirjanić<sup>1</sup>, S. Pelemiš<sup>4</sup>, B. Škipina<sup>5</sup>  
<sup>1</sup>Medical Faculty, University of Banja Luka, Republic of Srpska, B&H, <sup>2</sup>Department of Physics, Faculty of Sciences, University of Novi Sad, Vojvodina, Serbia, <sup>3</sup>Technical Faculty M.Pupin, Zrenjanin, University of Novi Sad, Vojvodina, Serbia, <sup>4</sup>Faculty of Technology, Zvornik, University of East Sarajevo, Republic of Srpska, B&H, <sup>5</sup>Faculty of Technology, University of Banja Luka, Republic of Srpska, B&H
- P.S.C.8. QUASISTATIONARY ELECTRON STATES FOR CdTe/ZnTe/CdTe OPEN SPHERICAL QUANTUM DOTS**  
D. Stojanović, R. Kostić  
University of Belgrade, Institute of Physics, Center for Solid State Physics and New Materials, Belgrade, Serbia
- P.S.C.9. PHOTOREFRACTIVE AND PHOTOCONDUCTIVE FEATURES OF THE NANOSTRUCTURED MATERIALS**  
N.V. Kamanina<sup>1,2</sup>, S.V. Serov<sup>1,2</sup>, P.Ya. Vasilyev<sup>1</sup>, V.I. Studeonov<sup>1</sup>  
<sup>1</sup>Vavilov State Optical Institute, St. Petersburg, Russia, <sup>2</sup>State Electrotechnical University, St. Petersburg, Russia
- P.S.C.10. SYNTHESIS AND CHARACTERIZATION OF NANOSTRUCTURED HYBRID MATERIALS**  
Z. Sedláková<sup>1</sup>, F. Kovanda<sup>2</sup>, J. Pleštil<sup>1</sup>, J. Baldrian<sup>1</sup>, L. Brožová<sup>1</sup>  
<sup>1</sup>Institute of Macromolecular Chemistry AS CR, v. v. i., Prague, Czech Republic, <sup>2</sup>Department of Solid State Chemistry, Institute of Chemical Technology, Prague, Prague, Czech Republic
- P.S.C.11. SYNTHESIS AND CHARACTERIZATION OF ANATASE NANOPOWDERS DOPED WITH Fe IONS**  
N.D. Abazović<sup>1</sup>, M. Mitrić<sup>1</sup>, D. Šojić<sup>2</sup>, V. Despotović<sup>2</sup>, B. Abramović<sup>2</sup>, M.I. Čomor<sup>1</sup>  
<sup>1</sup>Vinča Institute of Nuclear Sciences, Belgrade, Serbia, <sup>2</sup>Department of Chemistry, Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia
- P.S.C.12. MORPHOLOGICAL CHARACTERIZATION OF NANOFIBROUS MATERIALS FOR MEDICINAL APPLICATION**  
J. Širc<sup>1</sup>, J. Michálek<sup>1</sup>, M. Příkladný<sup>1</sup>, R. Hobzová<sup>1</sup>, M. Šlouf<sup>1</sup>, M. Lhotka<sup>2</sup>, M. Munzarová<sup>3</sup>  
<sup>1</sup>Institute of Macromolecular Chemistry AS ČR v.v.i., Prague, Czech Republic, <sup>2</sup>Institute of Chemical Technology, Czech Republic, <sup>3</sup>Elmarco s.r.o., Liberec, Czech Republic

- P.S.C.13. IMMOBILIZATION OF GOLD NANOPARTICLES ON POLYELECTROLYTES THIN FILMS**  
M. Urzúa<sup>1</sup>, X. Briones<sup>1</sup>, A. Leiva<sup>2</sup>, C. Saldías<sup>2</sup>, F. Espinoza Beltrán<sup>3</sup>  
<sup>1</sup>*Departamento de Química, Facultad de Ciencias, Universidad de Chile, Santiago, Chile,* <sup>2</sup>*Departamento de Química Física, Facultad de Química, Pontificia Universidad Católica de Chile, Santiago, Chile,* <sup>3</sup>*Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional (CINVESTAV-QUERETARO), Santiago de Querétaro, México*
- P.S.C.14. THE ROLE OF INTERFACE MODELING IN CREATION OF HIGH FUNCTIONAL NANOSYSTEMS**  
A.V. Andreeva  
*Institute of Microelectronics Technology RAS, Chernogolovka, Russia*
- P.S.C.15. ATOMIC FORCE MICROSCOPY CHARACTERIZATION OF GOLD NANOCRYSTALS**  
R. Stiuftuc<sup>1,2</sup>, F. Toderas<sup>1</sup>, G. Stiuftuc<sup>1</sup>, C.M. Lucaciu<sup>2</sup>  
<sup>1</sup>*"Babes-Bolyai" University, Faculty of Physics, Cluj-Napoca, Romania*  
<sup>2</sup>*University of Medicine and Pharmacy "Iuliu Hatieganu", Dept. of Biophysics, Cluj-Napoca, Romania*
- P.S.C.16. STEEL SURFACE CHARACTERIZATION WITH DIFFERENT COMPOSITION AND VARYING TOOL GEOMETRY BY SCANNING PROBE MICROSCOPY**  
D. Kojić, Lj. Petrov, R. Mitrović, L. Matija  
*Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia*
- P.S.C.17. MECHANOCHEMICAL SYNTHESIS OF ZnO NANOSTRUCTURED POWDER USING A DIFFERENT ORGANIC SURFACTANTS AND ITS INFLUENCE ON THE PARTICLES SIZE AND MORFOLOGY**  
A. Stanković, Lj. Veselinović, D. Uskoković  
*Institute of Technical Science of the Serbian Academy of Sciences and Arts, Belgrade, Serbia*
- P.S.C.18. CORELATION OF STRUCTURAL RELAXATION, THERMAL EXPANSION AND ELECTRICAL RESISTIVITY OF Fe<sub>89.8</sub>Ni<sub>1.5</sub>Si<sub>5.2</sub>B<sub>3</sub>C<sub>0.5</sub> AMORPHOUS ALLOY**  
A. Maričić<sup>1</sup>, M. Spasojević<sup>1</sup>, D. Minić<sup>2</sup>, N. Mitrović<sup>1</sup>  
<sup>1</sup>*Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems, Technical Faculty Čačak, Čačak, Serbia,* <sup>2</sup>*Faculty for Physical Chemistry, University of Belgrade, Belgrade, Serbia*

- P.S.C.19. **MECHANICAL ACTIVATION INFLUENCE ON ELECTRICAL AND MAGNETIC PROPERTIES OF THE SYSTEM POWDER  $\text{Fe}_{81}\text{B}_{13}\text{Si}_4\text{C}_2$**   
A. Kalezić-Glišović, Z. Ristanović, Lj. Vulićević, V. Arandjelović-Ćirić  
*Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems, Technical Faculty Čačak, Čačak, Serbia*
- P.S.C.20. **PRESSURE AND TEMPERATURE INFLUENCE ON ELECTRICAL AND MAGNETIC PROPERTIES OF COLD SINTERED POWDER  $\text{Fe}_{20}\text{Ni}_{80}$**   
R. Simeunović<sup>1</sup>, A. Kalezić-Glišović<sup>1</sup>, N. Mitrović<sup>1</sup>, V. Divjaković<sup>2</sup>  
<sup>1</sup>*Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems, Technical Faculty Čačak, Čačak, Serbia,* <sup>2</sup>*Institute of Physics, Faculty of Sciences Novi Sad, Serbia*
- P.S.C.21. **THE EFFECT OF MICROSTRUCTURAL CHANGES DURING ANNEALING ON ELECTRICAL AND MAGNETIC PROPERTIES OF THE  $\text{Fe}_{1.42}\text{B}_{1.30}\text{Si}_{0.14}\text{C}_{0.17}$  AMORPHOUS ALLOY RIBBON**  
A. Maričić, M. Spasojević, L. Ribić-Zelenović, N. Mitrović  
*Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Alloys, Čačak, Serbia*
- P.S.C.22. **FABRICATION AND CHARACTERIZATION OF NANOSTRUCTURED Cu-3%wt Mo COMPOUND BY MECHANICAL ALLOYING**  
S. Sabooni, T. Mousavi, F. Karimzadeh  
*Department of Materials Engineering, Isfahan university of Technology, Isfahan, Iran*
- P.S.C.23. **POLYURETHANE/ CHITOSAN BIONANOCOMPOSITES**  
M.M. Alavi Nigjeh, Z. Mazaheri Tehrani  
*Chemistry Department, Faculty of Science, IKIU, Qazvin, Iran*
- P.S.C.24. **PUF FOAM/ NANO SILICA COMPOSITES**  
M.M. Alavi Nigjeh, Z. Mazaheri Tehrani  
*Chemistry Department, Faculty of Science, IKIU, Qazvin, Iran*

**SYMPOSIUM D: COMPOSITES**

- P.S.D.1. POLYMERIC COMPOSITES OF METALLACARBORANES AND METALLACARBORANE CONJUGATES**  
P. Matějček<sup>1</sup>, M. Uchman<sup>1</sup>, M. Špírková<sup>2</sup>, K. Procházka<sup>1</sup>  
<sup>1</sup>Department of Physical and Macromolecular Chemistry, Charles University, Prague, Czech Republic, <sup>2</sup>Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic
- P.S.D.2. ANOMALOUS STABILITY OF "COLOURED" FORM OF SPIROXAZINE PHOTOCHROMS TRAPPED IN POLYCARBONATE MATRIX AFTER SUPERCRITICAL FLUID IMPREGNATION**  
P.S. Timashev<sup>1</sup>, N.N. Glagolev<sup>2</sup>, A.V. Kotova<sup>2</sup>, A.B. Solovyeva<sup>2</sup>, B.I. Zapadinskii<sup>2</sup>, V.N. Bagratashvili<sup>1</sup>  
<sup>1</sup>Institute of Laser and Information Technologies RAS, Troitsk, Moscow region, Russia, <sup>2</sup>Institute of Chemical Physics RAS, Moscow, Russia
- P.S.D.3. MICROHARDNESS AND MORPHOLOGY OF POLYPROPYLENE BASED ELECTROCONDUCTIVE NANOCOMPOSITES**  
L. Minkova<sup>1</sup>, J. Pionteck<sup>2</sup>, M. Omastová<sup>3</sup>  
<sup>1</sup>Institute of Polymers, Bulgarian Academy of Sciences, Sofia, Bulgaria, <sup>2</sup>Leibniz Institute of Polymer Research Dresden, Dresden, Germany, <sup>3</sup>Polymer Institute, Slovak Academy of Sciences, Bratislava, Slovakia
- P.S.D.4. APPLICATION OF IRRADIATION ON PROPERTIES OF COMPOSITES BASED ON POLYAMIDE**  
I. Janigová<sup>1</sup>, M. Porubská<sup>2,3</sup>, I. Chodák<sup>1</sup>  
<sup>1</sup>Polymer Institute SAS, Bratislava, Slovakia, <sup>2</sup>Constantine The Philosopher University in Nitra, Nitra, Slovakia, <sup>3</sup>VÚSAPL, a.s., Nitra, Slovakia
- P.S.D.5. FUNCTIONAL CHARACTERISTICS OF THE POLYMER COMPOSITION CONTAINING NANOAGGREGATES OF SOLUBILIZED BY PLURONICS EUROPIUM DIKETONATES AND SPIROOXAZINES**  
N.A. Aksenova<sup>1</sup>, N.N. Glagolev<sup>1</sup>, V.T. Shashkova<sup>1</sup>, N.L. Zaichenko<sup>1</sup>, L.S. Kol'tsova<sup>1</sup>, A.I. Shiyonok<sup>1</sup>, I.R. Mardaleishvili<sup>1</sup>, P.S. Timashev<sup>2</sup>, B.I. Zapadinskyy<sup>1</sup>, A.B. Solovieva<sup>1</sup>  
<sup>1</sup>N.N. Semenov Institute of Chemical Physics, Moscow, Russia, <sup>2</sup>Institute of Laser and Information Technologies RAS, Troitsk, Moscow region, Russia

- P.S.D.6. **ELECTRICALLY AND THERMALLY CONDUCTIVE COMPOSITES ON THE BASE OF EVA COPOLYMERE FILLED WITH WOLLASTONITE FIBRES COATED BY SILVER**  
I. Krupa<sup>1</sup>, V. Cecen<sup>2</sup>, R. Tlili<sup>3</sup>, A. Boudenne<sup>3</sup>, L. Ibos<sup>3</sup>, I. Novák<sup>1</sup>, J. Prokeš<sup>4</sup>  
<sup>1</sup>Polymer Institute, Slovak Academy of Sciences, Bratislava, Slovakia, <sup>2</sup>Dokuz Eylul University, Mechanical Eng. Department, Bornova/Izmir, Turkey, <sup>3</sup>CERTES EA 3481 - Centre d'Etude et de Recherche en Thermique, Environnement et Systèmes, Université Paris 12 Val de Marne, Créteil, France, <sup>4</sup>Charles University Prague, Faculty of Mathematics and Physics, Prague, Czech Republic
- P.S.D.7. **OPTICAL PROPERTIES OF «POLYIMID - YBa<sub>2</sub>Cu<sub>3</sub>O<sub>6+x</sub>» COMPOSITES**  
A. Muradov  
Kazakh National University, Almaty, Kazakhstan
- P.S.D.8. **Gd<sub>2</sub>O<sub>3</sub>:Eu<sup>3+</sup>/PMMA COMPOSITE: THERMAL AND LUMINESCENCE PROPERTIES**  
Ž. Antić, R. Krsmanović, M. Marinović-Cincović, M.D. Dramićanin  
Vinča Institute of Nuclear Sciences, Belgrade, Serbia
- P.S.D.9. **THE INFLUENCE OF NETWORK PARAMETERS ON THE PROPERTIES OF THERMORESPONSIVE Ag/PNIPAA HYDROGEL NANOCOMPOSITE SYNTHESIZED BY GAMMA IRRADIATION**  
A. Krklješ, Z. Kačarević-Popović, J. Nedeljković  
Vinča Institute of Nuclear Sciences, Belgrade, Serbia
- P.S.D.10. **RESEARCH ON POLYMER – BONDED MAGNETIC MATERIALS WITH VARIOUS Nd-Fe-B FILLER CONTENT**  
A.S. Grujić<sup>1</sup>, N.L. Lazić<sup>2</sup>, N.M. Talić<sup>1</sup>, V. Spasojević<sup>3</sup>, J.T. Stajić-Trošić<sup>1</sup>, V.R. Čosović<sup>1</sup>, R. Aleksić<sup>4</sup>  
<sup>1</sup>Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia, <sup>2</sup>Institute of General and Physical Chemistry, Belgrade, Serbia, <sup>3</sup>The Vinča Institute of Nuclear Sciences, Belgrade, Serbia, <sup>4</sup>University of Belgrade, Faculty of Technology and Metallurgy, Belgrade, Serbia
- P.S.D.11. **POLYMER NANOCOMPOSITES FOR OPTICAL APPLICATIONS**  
S. Salem Musbah<sup>1</sup>, V. Radojević<sup>1</sup>, P.S. Uskoković<sup>1</sup>, D. Stojanović<sup>1</sup>, M. Dramićanin<sup>2</sup>, Lj. Brajović<sup>3</sup>, R. Aleksić<sup>1</sup>  
<sup>1</sup>Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia, <sup>2</sup>Institute of Nuclear Sciences "Vinča", Belgrade, Serbia, <sup>3</sup>Faculty of Civil Engineering, University of Belgrade, Serbia

- P.S.D.12. THERMO-MECHANICAL PROPERTIES OF POLY(VINYL BUTYRAL)/ TITANIUM DIOXIDE NANOCOMPOSITES**  
A.M. Torki<sup>1</sup>, D.B. Stojanović<sup>1</sup>, J.T. Stajić-Trosić<sup>2</sup>, P.S. Uskoković<sup>1</sup>, V.J. Radojević<sup>1</sup>, V.R. Radmilović<sup>3</sup>, R.R. Aleksić<sup>1</sup>  
<sup>1</sup>Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia, <sup>2</sup>Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia, <sup>3</sup>National Center for Electron Microscopy, LBLN University of California, Berkeley, USA
- P.S.D.13. NANOCOMPOSITES BASED ON SILANE TREATED NANOSILICA AND WASTE AND VIRGIN HIGH-DENSITY POLYETHYLENE MATRIX**  
D. Stojanović<sup>1</sup>, J.T. Stajić-Trosić<sup>2</sup>, V. Radojević<sup>1</sup>, A. Orlović<sup>1</sup>, Dj. Janačković<sup>1</sup>, P.S. Uskoković<sup>1</sup>, I. Balac<sup>3</sup>, R. Aleksić<sup>1</sup>  
<sup>1</sup>Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia, <sup>2</sup>Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia, <sup>3</sup>Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia
- P.S.D.14. BARRIER PROPERTIES OF COATED AND LAMINATED POLYOLEFIN FILMS FOR FOOD PACKAGE MANUFACTURING**  
V.L. Lazić<sup>1</sup>, J. Budinski-Simendić<sup>1</sup>, J. Gvozdenović<sup>1</sup>, B. Simendić<sup>2</sup>  
<sup>1</sup>University of Novi Sad, Faculty of Technology, Serbia, <sup>2</sup>Higher Educational Technical School of Professional Studies, Novi Sad, Serbia
- P.S.D.15. ENERGY ABSORPTION CAPACITY OF GLASS-POLYESTER COMPOSITE TUBES**  
M. Stamenović<sup>1</sup>, S. Putić<sup>2</sup>, M. Zrilić<sup>2</sup>, Lj. Milović<sup>2</sup>, D. Vitković<sup>2</sup>  
<sup>1</sup>Belgrade Polytechnic, Belgrade, Serbia, <sup>2</sup>Faculty of Technology and Metallurgy, Belgrade, Serbia
- P.S.D.16. GAMMA-RADIATION RESISTANCE OF CARBON BLACK REINFORCED NBR/CSM 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, Serbia<sup>3</sup>, Institute of Nuclear Science Vinča, Belgrade, Serbia, <sup>4</sup>Faculty of Technology, Novi Sad, Serbia
- P.S.D.17. MIX DESIGN AND PROPERTIES OF ULTRA-HIGH STRENGTH CONCRETE**  
K. Janković, D. Bojović, D. Nikolić, Lj. Lončar  
Institute IMS, Belgrade, Serbia

**SYMPOSIUM E: BIOMATERIALS**

- P.S.E.1. ORGANIZATION OF PROVISIONAL FIBRONECTIN MATRIX WITHIN MULTILAYERED LbL NANOSTRUCTURED BIOMATERIALS**  
N. Krasteva<sup>1</sup>, K. Hristova<sup>1</sup>, K. Kirchhof<sup>2</sup>, G. Altankov<sup>3</sup>, Th. Groth<sup>2</sup>  
<sup>1</sup>*Institute of Biophysics, Bulgarian Academy of Sciences, Sofia, Bulgaria,* <sup>2</sup>*Institute of Pharmacy, Martin-Luther University, Halle (Saale), Germany,* <sup>3</sup>*ICREA (Institutio Catalana de Recercia i Estudias Avançats), Barcelona, Spain*
- P.S.E.2. FUNCTIONALIZATION OF CALCIUM PHOSPHATE BIOCERAMICS FROM NATURAL RESOURCES**  
E. Pecheva<sup>1</sup>, L. Pramatarova<sup>1</sup>, E. Iacob<sup>2</sup>, L. Vanzetti<sup>2</sup>, R. Dimitrova<sup>3</sup>, T. Spassov<sup>4</sup>, T. Hikov<sup>1</sup>, D. Fingarova<sup>1</sup>  
<sup>1</sup>*Institute of Solid State Physics, Bulgarian Academy of Sciences, Sofia, Bulgaria,* <sup>2</sup>*Materials and Microsystems, Fondazione Bruno Kessler, Povo-Trento, Italy,* <sup>3</sup>*Institute of Organic Chemistry With Centre Of Phytochemistry, Bulgarian Academy of Sciences, Sofia, Bulgaria,* <sup>4</sup>*University of Sofia, Faculty of Chemistry, Sofia, Bulgaria*
- P.S.E.3. STRUCTURAL AND MICROSTRUCTURAL ANALYSIS OF HUMAN ALVEOLAR BONE USING X-RAY POWDER DIFFRACTION AND RAMAN SPECTROSCOPY**  
Lj. Veselinović<sup>1</sup>, Lj. Karanović<sup>2</sup>, S. Marković<sup>1</sup>, N. Ignjatović<sup>1</sup>, D. Uskoković<sup>1</sup>  
<sup>1</sup>*Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Belgrade, Serbia,* <sup>2</sup>*Laboratory for Crystallography, Faculty of Mining and Geology, University of Belgrade, Belgrade, Serbia*
- P.S.E.4. SYNTHESIS, CHARACTERIZATION AND THE SOLUBILITY OF  $\beta$ -TCP POWDERS WITH Mg AND Zn BASED DOPANTS**  
Ch. Tardei<sup>1</sup>, O. Craciunescu<sup>2</sup>, M. Balan<sup>2</sup>, S. Stoleriu<sup>3</sup>, R. Trusca<sup>4</sup>, E. Vasile<sup>4</sup>  
<sup>1</sup>*National Institute for Research and Development in Electrical Engineering, ICPE-CA, Bucharest, Romania,* <sup>2</sup>*National Institute R&D for Biological Sciences, Bucharest, Romania,* <sup>3</sup>*Politehnica University of Bucharest, Bucharest, Romania,* <sup>4</sup>*SC Metav-Cercetare-Dezvoltare SA, Bucharest, Romania*
- P.S.E.5. PRECIPITATION SYNTHESIS AND TWO-STEP SINTERING OF HYDROXYAPATITE NANOPOWDERS**  
M. Lukić, S. Marković, N. Ignjatović, D. Uskoković  
*Institute of Technical Sciences of SASA, Belgrade, Serbia*

- P.S.E.6 TREATMENT OF OSTEOPOROSIS ALVEOLAR BONE WITH COBALT SUBSTITUTED HYDROXYAPATITE NANOPARTICLES**  
Z. Ajduković<sup>1</sup>, N. Ignjatović<sup>2</sup>, Z. Stojanović<sup>2</sup>, B. Kaličanin<sup>3</sup>, V. Savić<sup>4</sup>, S.M. Petrović<sup>1</sup>, B.M. Petrović<sup>1</sup>, J. Milićević<sup>1</sup>, D. Uskoković<sup>2</sup>  
<sup>1</sup>Faculty of Medicine, Niš, Clinic of Stomatology, Department of Prosthodontics, <sup>2</sup>Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Belgrade, <sup>3</sup>Faculty of Medicine, Niš, Department of Pharmacy, <sup>4</sup>Faculty of Medicine, Niš, Institute of Biomedical Research, Serbia
- P.S.E.7 ROLE OF PHASE IMAGING IN SURFACE ROUGHNESS ANALYSIS OF BIOPOLYMERS**  
B. Bojović, Z. Miljković, B. Babić, D. Kojić  
Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia
- P.S.E.8 THE RELEASE OF SILVER IONS FROM Ag/P(HEMA/BIS/IA) HYDROGEL COMPLEXES**  
E.H. Suljovrujić<sup>1</sup>, M.M. Mičić<sup>1</sup>, S.Lj. Tomić<sup>2</sup>  
<sup>1</sup>Vinča Institute of Nuclear Sciences, Belgrade, Serbia, <sup>2</sup>Faculty of Technology and Metallurgy, Belgrade, Serbia
- P.S.E.9 SURFACE MODIFICATION OF METHACRYLATE HYDROGELS FOR COVALENT BINDING OF BIOACTIVE MOTIFS**  
R. Hobzová, J. Širc, T. Fenclova, J. Michálek  
Institute of Macromolecular Chemistry, Academy of Sciences of Czech Republic, Prague, Czech Republic
- P.S.E.10 CONTACT LENSES CHARACTERIZATION BY AFM/MFM AND OPTOMAGNETIC FINGERPRINT**  
D. Stamenković<sup>1</sup>, D. Kojić<sup>2</sup>, Z. Miljković<sup>3</sup>, B. Babić<sup>3</sup>  
<sup>1</sup>Optix, Inc, Zemun, Serbia, <sup>2</sup>NanoLab, Faculty of Mechanical Engineering, Belgrade, Belgrade, Serbia, <sup>3</sup>Department of Manufacturing Engineering, Faculty of Mechanical Engineering, Belgrade, Belgrade, Serbia
- P.S.E.11 SYNTHESIS, CHARACTERIZATION AND ANTITUMORAL ACTIVITY OF THE PLATINUM(II) COMPLEX WITH O,O'-DIETHYL-ETHYLENEDIAMINE-N,N'-DI-(S,S)-2(4-METHYL)-PENTANOATE LIGAND**  
J.M. Vujić<sup>1</sup>, M. Milovanović<sup>2</sup>, V. Volarević<sup>2</sup>, N. Arsenijević<sup>2</sup>, M. Cvijović<sup>1</sup>, S.R. Trifunović<sup>3</sup>  
<sup>1</sup>Faculty of Agronomy, University of Kragujevac, Čačak, Serbia, <sup>2</sup>Center for Molecular Medicine, Faculty of Medicine, University of Kragujevac, Kragujevac, Serbia, <sup>3</sup>Department of Chemistry, Faculty of Science, University of Kragujevac, Kragujevac, Serbia

- P.S.E.12. A PRELIMINARY STUDY ON THE ANTIFUNGAL ACTIVITY OF THE ETHANOL EXTRACT OF *HYPERICUM PERFORATUM L.***  
P. Mašković<sup>1</sup>, S. Solujić<sup>2</sup>  
<sup>1</sup>Faculty of Agronomy, University of Kragujevac, Čačak, Serbia, <sup>2</sup>Department of Chemistry, Faculty of Science, University of Kragujevac, Kragujevac, Serbia
- P.S.E.13. COMPARATIVE INVESTIGATION OF NORMAL AND PATHOLOGICAL CERVICAL CELLS BY OPTICODIGITAL MICROSCOPY AND AFM**  
S. Janković<sup>1,2</sup>, Lj. Petrov<sup>2</sup>, Ž. Perišić<sup>1</sup>, Dj. Koruga<sup>2</sup>  
<sup>1</sup>School of Medicine, University of Belgrade, Clinic of Gynecology and Obstetrics, Belgrade, Serbia <sup>2</sup>Biomedical Engineering, Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia
- P.S.E.14. IMPORTANCE OF BIO-CATALYTIC PROCESSES FOR CELL IMMOBILIZATION IN ALGINATE BEADS**  
I. Pajić-Lijaković<sup>1</sup>, M.M. Plavšić<sup>1</sup>, N. Lazić<sup>2</sup>, M.B. Plavšić<sup>1</sup>, B. Bugarski<sup>1</sup>, P. Putanov<sup>3</sup>  
<sup>1</sup>Faculty of Technology and Metallurgy, Belgrade, <sup>2</sup>Institute of General and Physical Chemistry, Belgrade, <sup>3</sup>Serbian Academy of Sciences and Arts, Belgrade, Serbia
- P.S.E.15. IMPLEMENTATION OF MATERIALS TESTING METHODS IN DENTAL WITHENING STUDIES**  
T. Savić Stanković<sup>1</sup>, R. Jančić Heinemann<sup>2</sup>, B. Karadžić<sup>1</sup>, D. Trifunović<sup>2</sup>  
<sup>1</sup>Faculty of Stomatology, University of Belgrade, <sup>2</sup>Faculty of Technology and Metallurgy, University of Belgrade, Serbia
- P.S.E.16. SEM ANALYSIS ON RETRIVED DENTAL IMPLANTS**  
L.T. Ciocan<sup>1</sup>, F. Miculescu<sup>2</sup>, I. Patrascu<sup>1</sup>, N. Miculescu<sup>2</sup>  
<sup>1</sup>"Carol Davila" Medicine and Pharmacy University from Bucharest, Bucharest, Romania, <sup>2</sup>University Politehnica from Bucharest, Bucharest, Romania
- P.S.E.17. ESEM ANALYSIS OF FRACTURED ZIRCONIA CORE DENTAL-CROWNS**  
L.T. Ciocan<sup>1</sup>, F. Miculescu<sup>2</sup>, I. Patrascu<sup>1</sup>, N. Miculescu<sup>2</sup>  
<sup>1</sup>"Carol Davila" Medicine and Pharmacy University of Bucharest, Romania, <sup>2</sup>University Politehnica from Bucharest, Bucharest, Romania
- P.S.E.18. DISSOLUTION PROPERTIES OF K<sub>2</sub>O-CaO-MgO-P<sub>2</sub>O<sub>5</sub> BIOACTIVE GLASSES**  
M.B. Tošić<sup>1</sup>, V.D. Živanović<sup>1</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.E.19. VITAMIN C DEGRADATION DURING THE DRYING PROCESS OF THE WILD-ROSE EXTRACT**  
Gh. Jinescu<sup>1</sup>, G. Isopencu<sup>1</sup>, M. Mares<sup>1</sup>, P. Vasilescu<sup>1</sup>, D.M. Mihăilescu<sup>2</sup>  
<sup>1</sup>Universitatea Politehnica București, Departamentul de Inginerie Chimică, București, România, <sup>2</sup>Chiminform Data Bucharest, Bucharest, Romania
- P.S.E.20. MATERIALS ASPECTS OF FIBER-OPTIC BUNDLES AND EFFECTS OF DAMAGES CAUSED BY LASER IRRADIATION ON THEIR PROPERTIES**  
S. Pantelić<sup>1</sup>, N. Borna<sup>2</sup>, M. Srećković<sup>3</sup>  
<sup>1</sup>Institute of Security, Belgrade, Serbia, <sup>2</sup>Faculty of Technology and Metallurgy, Belgrade, Serbia, <sup>3</sup>Faculty of Electrical Engineering, Belgrade, Serbia
- P.S.E.21. CONTEMPORARY MATERIALS IN ORTHODONTICS**  
V. Mirjanić, S. Čupić  
University of Banja Luka, Faculty of Medicine – Department of Dental Medicine, Banja Luka, Bosnia and Herzegovina
- P.S.E.22. BIOMIMETICALLY OBTAINED SELF-ASSEMBLED CALCIUM HYDROXYAPATITE THIN FILMS**  
B. Čolović, V. Jokanović  
Institute of Nuclear Sciences "Vinča", Laboratory of Radiation Chemistry and Physics, Belgrade, Serbia