

## Conference program

**Day 1, Wednesday, September 21, 2016**

**9:30-13:30 Participants registration**

**Aula Magna: 14:00-14:30 Opening ceremony**

Acad. Maria Zaharescu, "*Ilie Murgulescu*" Institute of Physical Chemistry  
Prof. Gabriela Bahrim, "*Dunărea de Jos*" University of Galați  
Dr. Vlad Tudor Popa, "*Ilie Murgulescu*" Institute of Physical Chemistry  
Prof. Viorica Mușat, "*Dunărea de Jos*" University of Galați

**Aula Magna: 14:30-16:10 Plenary lectures**

Chair: Prof. Viorica Mușat

Secretary: Dr. Răzvan State

14:30-15:00 Plenary lecture 1

Fishing and Fish Trade at the Lower Danube. Historical Perspectives and Lessons for Today,  
*Constantin Ardeleanu, "Dunărea de Jos" University of Galați, Romania*

15:00-15:30 Plenary lecture 2

Danube Sturgeons - current status and conservation measures,  
*Radu Suci, Danube Delta National Institute, Tulcea, Romania*

15:30-16:10 Plenary lecture 3

Structural speciation and structure-property correlations in binary-ternary coordination polymers  
Pb(II) with di-/tricarboxylic acids,  
*Prof. Athanasios Salifoglou, University of Thessaloniki, Greece*

**16:10-17:00 Poster (Session 1) and Coffee Break**

**Aula Magna: 17:00-18:20 Plenary lectures**

Chair: Dr. Vlad Tudor Popa

Secretary: Dr. Florentina Maxim

17:00-17:40 Plenary lecture 4

Functionalized graphene for environmental and biomedical applications,  
*Dr. Rabah Boukherroub, University Lille 1, France*

17:40-18:20 Plenary lecture 5

Certainty and Uncertainty of Thermodynamic Data,  
*Dr. Marius Stan, Argonne National Laboratory, U. S. A.*

**19:00-22:30 Cocktail**

## Day 2, Thursday, September 22, 2016

### **Hall D12: 9:00-10:30 Plenary lectures**

Chair: Acad Zoran V. Popović

Secretary: Dr. Luminița Predoană

#### 9:00-9:40 Plenary lecture 6

History of sol-gel preparation of some functional materials,

*Emerit Prof. Summio Sakka, Kyoto University, Japan*

#### 9:40-10:20 Plenary lecture 7

Dipole ordering and its interplay with spin-orbit coupling in perovskite halide solar cells,

*Prof. Alessandro Stroppa, CNR-SPIN, Italy*

#### 10:20-10:35 Sponsor presentation

Quantitative Analytics of Biomolecular Interactions using Microscale Thermophoresis (MST)

*Dr. Marek Zurawski, NanoTemper Technologies Sp.z.o.o., Krakow, Poland*

### **10:35-11:20 Poster (Session 1) and Coffee break**

### **Hall D12: 11:20-12:40 Plenary lectures**

Chair: Prof. Dumitru Oancea

Secretary: Dr. Aurica Precupaș

#### 11:20-12:00 Plenary lecture 8

Electrochemical application of Boron-doped diamond electrodes,

*Prof. Yasuaki Einaga, Keio University, Japan*

#### 12:00-12:40 Plenary lecture 9

XRD and luminescence properties of nanocrystalline hexagonal Boron Nitride powders,

*Prof. Branko Matovic, Belgrade University, Serbia*

### **12:40-14:00 Poster (Session 2) and Lunch**

### **14:00-17:40 Keynote and oral presentations**

### **18:00-22:00 Party on boat**

## Day 3, Friday, September 23, 2016

### Hall D12: 9:00-10:20 Plenary lectures

Chair: Acad. Maria Zaharescu

Secretary: Dr. Cecilia Lete

#### 9:00-9:40 Plenary lecture 10

Engineered, tailor-made polymers for bio-related applications,

**Acad. Bogdan Simionescu**, *“Petru Poni” Institute of Macromolecular Chemistry of Romanian Academy & Department of Natural and Synthetic Polymers, “Gh. Asachi” Technical University, Iași, Romania*

#### 9:40-10:20 Plenary lecture 11

Super paramagnetism in iron doped  $\text{Ce}(\text{Fe}^{2+}/\text{Fe}^{3+})\text{O}_2$  nanocrystals,

**Acad. Zoran V. Popović**, *Center for Solid State Physics and New Materials, Institute of Physics, University of Belgrade, Serbia*

### 10:20-11:00 Poster (Session 2) and Coffee break

### Hall D12: 11:00-12:20 Plenary lectures

Chair: Dr. Oana Carp

Secretary: Dr. Cristian Ene

#### 11:00-11:40 Plenary lecture 12

Advanced concepts of photovoltaics based on III-V compounds,

**Prof. Olivier Durand**, *INSA de Rennes, France*

#### 11:40-12:20 Plenary lecture 13

Investigation of solid phase crystallization and of optical properties of  $\text{HfO}_2$  thin films formed by plasma ion-assisted deposition at room temperature,

**Dr. Mircea Modreanu**, *Tyndall National Institute-University College Cork, Ireland*

### 12:30 Conference Closure

## KEYNOTES

Thursday, September 22, 2016, 14:00-17:40

### Hall D12 - Symposium Prof. Eugen Segal

Chair: Prof. Viorica Muşat

Secretary: Dr. Adina Musuc

#### 14:00-14:20 Keynote lecture 1

Oscillations in catalytic solid-gas systems,

**Niculae Ionescu** and **Cristian Hornoiu**, *Institute of Physical Chemistry "Ilie Murgulescu", Romania*

#### 14:20-14:40 Keynote lecture 2

Image furnace floating zone crystal growth: an adventure of several decades,

**Alexandre Revcolevski**, *Institute of Molecular Chemistry and Materials of Orsay, France*

#### 14:40-15:00 Keynote lecture 3

The measurement and kinetic relevance of the ignition delay time,

**Dumitru Oancea**, **Maria Mitu** and **Domnina Razus**, *University of Bucharest, Romania*

#### 15:00-15:20 Keynote lecture 4

Non-uniform binding and reactivity: from adsorption equilibrium, via single-route complex reactions, to bacterial growth kinetics,

**Vlad Tudor Popa**, *Institute of Physical Chemistry "Ilie Murgulescu", Romania*

### 15:20-15:40 Coffee break

### Hall D12 - Symposium Prof. Eugen Segal

Chair: Prof. Dumitru Oancea

Secretary: Dr. Cristian Hornoiu

#### 15:40-16:00 Keynote lecture 5

Effect of interface on the biomimetic reconstruction of enamel-type biomaterials in the presence of different hydrogel bioactive templates,

**Viorica Muşat**, **Agripina Zaharia**, **Mariana Buşilă**, **Elena Maria Anghel**, **Oana Catalina Mocioiu**, **Irina Atkinson** and **Oana Carp**, *"Dunarea de Jos" University of Galati, Romania*

#### 16:00-16:20 Keynote lecture 6

Phase transitions of a parchment: A calorimetric and kinetic analysis,

**Petru Budrugaec**, *National Institute for Research and Development in Electrical Engineering, Bucharest, Romania*

16:20-16:40 Keynote lecture 7

High entropy oxides: a new class of functional materials,

***Nita Dragoe***, *David Bérardan, Sylvain Franger, Diana Dragoe and Arun Kumar Meena, Institute of Molecular Chemistry and Materials of Orsay, France*

16:40-17:00 Keynote lecture 8

Kinetic models for oxidation of nuclear graphite by moisture in Helium coolant,

***Cristian Contescu***, *Robert Mee, Nidia Gallego and Tim Burchell, Oak Ridge National Laboratory, USA*

17:00-17:20 Keynote lecture 9

On the kinetic of structure sensitive reactions over well-defined metal nanoparticles: lean reduction of NO with C<sub>3</sub>H<sub>6</sub> and ammonia synthesis,

***Ioan Balint***, *Ken-ichi Aika and Eugen Segal, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

17.20-17:40 Keynote lecture 10

Carbohydrates and materials: a step toward a greener chemistry,

***Oana Carp***, *Institute of Physical Chemistry "Ilie Murgulescu", Romania*

**Hall D03 - Section 1. Theoretical chemistry. Molecular spectroscopy**

Chair: Dr. Nicolae Spătaru

Secretary: Dr. Iulia Matei

14:00-14:20 Keynote lecture 1

Complexation of TEMPO derivatives with cyclodextrins assessed by EPR spectroscopy, circular dichroism and DFT calculations,

***Iulia Matei***, *Maria Victoria Neacșu, Sorin Mocanu and Gabriela Ioniță, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

14:20-14:30 Oral Presentation 1

Complexation of  $\beta$ -cyclodextrin with dual molecular probes bearing florescent and paramagnetic moieties linked by short polyether chains,

***Sorin Mocanu***, *Iulia Matei and Gabriela Ioniță, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

**Hall D03 - Section 4. Electrochemistry. Corrosion. Ionic liquids**

Chair: Dr. Nicolae Spătaru

Secretary: Dr. Maria Marcu

14:30-14:50 Keynote lecture 1

Computational investigation of some aliphatic amine inhibitors for silver corrosion,

*Emre Topal and ***Gokhan Gece***, Bursa Technical University, Turkey*

14:50-15:10 Keynote lecture 2

Electrochemically triggered insulin release from graphene-based matrices,

**Florina Teodorescu**, *Institute of Electronics, Microelectronics and Nanotechnology, University Lille, France*

**15:20-15:40 Coffee break**

**Hall D03 - Section 7. Catalysis and chemical engineering**

Chair: Dr. Viorica Pârvulescu

Secretary: Dr. Monica Pavel

15:40-16:00 Keynote lecture 1

Solid-gas phase synthesis of ammonium paratungstate and amine-WO<sub>3</sub> hybrid catalysts,

**Dávid Hunyadi**, *Eszter Majzik and Imre Miklós Szilágyi, Budapest University of Technology and Economics, Hungary*

16:00-16:20 Keynote lecture 2

Photocatalytic properties of ALD coated polymer and inorganic nanostructures,

**Orsolya Kéri**, *Eszter Kocsis, Lenke Kócs, Levente Kárpáti, Zsófia Baji, Bence Pardiuka, Zoltán Erdélyi and Imre Miklós Szilágyi, Budapest University of Technology and Economics, Hungary*

16:20-16:40 Keynote lecture 3

Understanding the effect of surface phosphorus on the enhanced selectivity of NiO in ethane oxydehydrogenation by using in situ electrical conductivity measurements,

**Stefan-Bogdan Ivan**, *Ionel Popescu and Ioan-Cezar Marcu, University of Bucharest, Romania*

16:40-17:00 Keynote lecture 4

Photocatalytic removal of trichloroethylene (TCE) over Au/TiO<sub>2</sub> and Pd-Au/TiO<sub>2</sub> using solar simulated radiation,

**Răzvan Nicolae State**, *Tanya Tabakova, Florica Papa, Cătălin Negrilă, Irina Atkinson and Ioan Balint, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

**Hall D01 - Section 3. Functional interfaces. Aquaculture and food applications**

Chair: Prof. Victor Cristea, Prof. Constantin Apetrei

Secretary: Conf. Bianca Furdui

14:00-14:20 Keynote lecture 1

Romanian Center of Recirculating Aquaculture Systems Modeling and the future of Danube Sturgeons,

**Lorena Dediu**, *„Dunărea de Jos” University of Galați, Romania*

14:20-14:40 Keynote lecture 2

A review: Heavy metals concentration in fish meat from the Danube River,

**Victor Cristea**, *Ira-Adeline Simionov, Elena Bocioc and Ștefan Petrea, University of Galati, Romania*

14:40-15:00 Keynote lecture 3

The influence of water and sediments nitrite concentration on chemical fish meat composition in different aquatic ecosystems,

**Ira-Adeline Simionov**, Victor Cristea, Ștefan Mihai Petrea, Elena Bocioc and Săndița Plăcintă, University of Galați, Romania

**Hall D01 - Section 6. Biophysical, environmental and green chemistry**

Chair: Prof. Jean-Luc Blin

Secretary: Dr. Mădălina Ciobanu

15:00-15:20 Keynote lecture 1

Formulation of a nano-emulsions-based system for loading and releasing of Ketoprofen,

**Jean-Luc Blin**, Philippe Riachy, Ferran Roig, Maria José García-Celma, Marie-José Stébé, Jordi Esquena and Conxita Solans, University of Lorraine, France

**15:20-15:40 Coffee break**

15:40-16:00 Keynote lecture 2

Green synthesis, antimicrobial behaviour and DFT studies of selected benzimidazoles,

**Diana-Gabriela Tudorache**, Maria Marinescu, George Marton, Christina Marie Zălaru, Marcela Popa, Mariana-Carmen Chifiriuc and Cristina Stavarache, University of Bucharest, Romania

16:00-16:20 Keynote lecture 3

Influence of synthesis parameters on characteristics of KIT-6 type ordered mesoporous silica as support in photocatalytic and biocatalytic reactions,

**Madalina Ciobanu**, Silviu Preda, Daniela Culita, Cornel Munteanu and Viorica Parvulescu, Institute of Physical Chemistry "Ilie Murgulescu", Romania

16:20-16:30 Oral Presentation 1

The extent of albumin denaturation induced by aliphatic alcohols: an EPR study,

**Maria-Victoria Neacsu**, Iulia Matei and Gabriela Ioniță, Institute of Physical Chemistry "Ilie Murgulescu", Romania

**Hall D02 - Section 2. Chemical kinetics and thermodynamics**

Chair: Dr. Mariana Teodorescu

Secretary: Dr. Daniela Gheorghe

14:00-14:20 Keynote lecture 1

Mechanistic studies on the role of  $[\text{Cu}(\text{CO}_3)_n]^{2-2n}$  as a water oxidation catalyst,

**Israel-Sorin Zilbermann**, Amir Mizrahi, Eric Maimon, Haim Cohen, Haya Kornweitz and Dan Meyerstein, NCRN and Ben-Gurion University of the Negev, Israel

14:20-14:40 Keynote lecture 2

Characterization of some TiO<sub>2</sub> – HA biocomposites produced by TSS process of the nanosized HA and TiH<sub>2</sub> powders,

**Cornelia Marinescu**, *Ancuța Sofronia, Elena Maria Anghel, Oana Gîngu and Speranța Tănăsescu, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

14:40-15:00 Keynote lecture 3

Conformer entropy influence on the biological activity of bioactive molecules,

*Mihai Medeleanu, Mihai-Cosmin Pascariu, Eugen Șișu, Maria Mracec and **Mircea Mracec**, Institute of Chemistry of Romanian Academy, Timisoara, Romania*

15:00-15:20 Keynote lecture 4

Fluorine adsorption on the modified tripoli. The equilibrium and kinetics,

**Veaceslav Zelentsov** and *Tatiana Datsko, Institute of Applied Physics of the Academy Sciences of Moldova, Moldova*

**15:20-15:40 Coffee break**

**Hall D02 - Section 2. Chemical kinetics and thermodynamics**

Chair: Dr. Speranța Tănăsescu

Secretary: Dr. Cornelia Marinescu

15:40-16:00 Keynote lecture 5

Sulfur chemisorption on metal oxides,

**Florentina Maxim**, *Bojan Niceno, Andrea Testino and Christian Ludwig, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

16:00-16:20 Keynote lecture 6

Thermodynamic properties of nanostructured materials: interplay between thermodynamic stability, synthesis conditions and microstructure,

**Speranța Tănăsescu**, *Florentina Maxim and Alexandru Milea, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

16:20-16:40 Keynote lecture 7

Partial molar excess enthalpies at infinite dilution measurements for two prototype ionic liquids in water at 303.15 and 318.15 K,

**Mariana Teodorescu** and *Vlad Tudor Popa, Institute of Physical Chemistry "Ilie Murgulescu", Romania*



## Hall D11 - Section 8. Sol-gel science and applications

Chair: Prof. Sumio Sakka

Secretary: Dr. Luminița Predoană

### 14:00-14:20 Keynote lecture 1

Molecular strategies toward original nanomaterials at the frontier between soft chemistry and solid state chemistry,

**David Portehault**, *Sorbonne Universités, France*

### 14:20-14:40 Keynote lecture 2

Lead-free ferroelectric alkali niobate based thin films: Solution synthesis – Microstructure – Properties relation,

**Barbara Malic**, *Alja Kupec, Katarina Vojisavljevic, Hana Ursic, Aleksander Matavz and Vid Bobnar, Jožef Stefan Institute, Slovenia*

### 14:40:15:00 Keynote lecture 3

Fabrication of arsenic sulfide layers from solutions using arsenic sulfide dissolved in n-propylamine or prepared from arsenic trichloride and thiourea,

**Vlastimil Matejec**, *Jitka Pedlikova and Ivo Barton, Institute of Photonics and Electronics of the AS CR, Czech Republic*

### 15:00-15:20 Keynote lecture 4

Contribution to the chemistry of sol-gel and microwaved assisted sol-gel processes,

**Maria Zaharescu**, *Institute of Physical Chemistry "Ilie Murgulescu", Romania*

## 15:20-15:40 Coffee break

## Hall D11- Section 8. Sol-gel science and applications

Chair: Dr. Barbara Malic, Dr. Vlastimil Matejec

Secretary: Dr. Jeanina Pandeale-Cusu

### 15:40-16:00 Keynote lecture 5

Structural, morphological, chemical and optical properties of TiO<sub>2</sub> sol-gel films doped with Nb and V,

**Mariuca Gartner**, *Mihai Anastasescu, Petre Osiceanu, Luminita Predoana, Madalina Nicolescu, Silviu Preda, Hermine Stroescu, Maria Covei, S. Simenov, Anna Szekeres and Maria Zaharescu, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

### 16:00:16:20 Keynote lecture 6

Electrical characterization of sol-gel multilayered TiO<sub>2</sub> films doped with transition metals,

*Simeon Simeonov, **Anna Szekeres**, Dencho Spassov, Maria Covei, Luminita Perdoana, Mariuca Gartner and Maria Zaharescu, Institute of Solid State Physics, Bulgarian Academy of Sciences, Bulgaria*

16:20-16:40 Keynote lecture 7

Solid oxides with fluorite and apatite structures for SOFC electrolyte,

**Nicoleta Cioateră**, *Elena-Adriana Voinea, Simona Șomăcescu and Cezar-Ionuț Spînu, University of Craiova, Romania*

16:40-16:50 Oral Presentation 1

Thin film SnO<sub>2</sub>-ZnO composite metal-oxide semiconductor sensors for selective CO detection,

**Paul Chesler**, *Cristian Hornoiu, Măriuca Gartner, Susana Mihaiu, Maria Zaharescu, Luminița Predoană, Carmen Moldovan, Bogdan Firtat and Ion Stan, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

16:50-17:00 Oral Presentation 2

Mn doped ZnO thin films for harvesting applications obtained by sol-gel method,

**Cristina Vladuț**, *Susana Mihaiu, Silviu Preda, Jose-Maria Calderon Moreno, Mihai Anastasescu, Hermine Stroescu, Petre Osiceanu, Mariuca Gartner and Maria Zaharescu, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

**Hall D13 - Section 5. Advanced materials science**

Chair: Prof. Daniela Berger

Secretary: Dr. Oana Cătălina Mocioiu

14:00-14:20 Keynote lecture 1

Influence of the crystal structure and composition of nanosize WO<sub>3</sub> on the gas sensing, photocatalytic and catalytic properties,

**Imre Miklos Szilagyı**, *Budapest University of Technology and Economics, Hungary*

14:20-14:40 Keynote lecture 2

Doped BaTiO<sub>3</sub> 1D-nanostructures prepared by template-mediated colloidal chemistry,

**Adelina-Carmen Ianculescu**, *Cătălina-Andreea Stanciu, Lucian Trupină, Bogdan Ștefan Vasile, Roxana Trușcă, Marin Cernea and Adrian Nicoară, Politehnica University of Bucharest, Romania*

14:40-15:00 Keynote lecture 3

Preparation of iron tungstate (FeWO<sub>4</sub>) nanosheets by hydrothermal method,

**Teodora Nagyne Kovacs**, *Istvan Lukacs, Imre Miklos Szilagyı and Gyorgy Pokol, Budapest University of Technology and Economics, Hungary*

15:00-15:20 Keynote lecture 4

Atomic layer deposition of semiconductor oxides on carbon nanomaterials,

**Nóra Justh**, *Krisztina László, Barbara Berke, Balázs Nagy, Gergő Mikula, László Bakos, Zoltán Erdélyi, Bence Parditka, Zsófia Baji, Klára Hernádi, Gabriella Kiss, Balázs Réti and Imre Miklós Szilagyı, Budapest University of Technology and Economics, Hungary*

**15:20-15:40 Coffee break**

## Hall D13 - Section 5. Advanced materials science

Chair: Prof. Adelina Ianculescu

Secretary: Dr. Raul-Augustin Mitran

### 15:40-16:00 Keynote lecture 5

Recycling of vitreous waste in ceramics with thermomechanical vocation,

***Eniko Volceanov***, *Adrian Volceanov, Victor Fruth, Branko Matovic and Simona Badea, Politehnica University of Bucharest, Romania*

### 16:00-16:20 Keynote lecture 6

Mesoporous inorganic carriers for biologically active molecules,

***Daniela Berger***, *Raul-Augustin Mitran, Laura Băjenaru, Silviu Năstase and Cristian Matei, Politehnica University of Bucharest, Romania*

### 16:20-16:40 Keynote lecture 7

Mesoporous silica-titania composites as vehicles for oxytetracycline,

***Cristian Matei***, *Doina Georgescu, Ana-Maria Brezoiu, Raul-Augustin Mitran, Bogdan Negreanu-Pîrjol and Daniela Berger, Politehnica University of Bucharest, Romania*

### 16:40-17:00 Keynote lecture 8

Controlling the metoprolol release rate from mesoporous silica-based drug delivery systems,

***Raul-Augustin Mitran***, *Silviu Năstase, Cristian Matei and Daniela Berger, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

### 17:00-17:10 Oral presentation 1

Studies on the solubility enhancement of norfloxacin by encapsulation in pristine and functionalized mesoporous silica,

***Mihaela Deaconu***, *Lucia Pintilie, Raul-Augustin Mitran, Cristian Matei and Daniela Berger, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

## Hall B26 - Section 5. Advanced materials science

Chair: Prof. Werner Urland

Secretary: Dr. Irina Atkinson

### 14:00-14:20 Keynote lecture 9

A new generation of problems in the ligand field modelling. From phenomenology to first principles prediction of optical properties,

***Werner Urland*** and *Fanica Cimpoesu, University of Fribourg, Switzerland*

### 14:20-14:40 Keynote lecture 10

New keys for the keywords of molecular magnetism. A chemist's perspective on the magnetic anisotropy,

*Marilena Ferbințeanu and Fănică Cimpoesu, Institute of Physical Chemistry "Ilie Murgulescu", Romania*

14:40-15:00 Keynote lecture 11

Coordination polymers based on cyanido complexes,

**Maria-Gabriela Alexandru**, *Politehnica University of Bucharest, Romania*

15:00-15:20 Keynote lecture 12

Morphology and thermo-physical properties of SPS-ed SiC based ceramics and composites,

**Magdalena Galatanu**, *Monica Enculescu, Sorina Cretu and Andrei Galatanu, National Institute of Materials Physics, Romania*

15:20-15:40 **Coffee break**

**Hall B26 - Section 5. Advanced materials science**

Chair: Prof. Branko Matovic

Secretary: Dr. Dana Gingașu

15:40-16:00 Keynote lecture 13

Four different crystals and one synthesis: a case of supramolecular isomerism snapshotting a stepwise chirality transfer,

**Cristian D. Ene**, *Institute of Physical Chemistry "Ilie Murgulescu", Romania*

16:00-16:20 Keynote lecture 14

New Zn(II) coordination polymers with exo-bidentate ligands assembled in the presence of amino-alcohols,

**Carmen Paraschiv**, *Andrei Cucuș, Sergiu Shova, Cătălin Maxim and Marius Andruh, National Institute for R&D in Electrical Engineering ICPE-CA, Romania*

16:20-16:40 Keynote lecture 15

Chirality driven crystallization behavior of tridentate Schiff base complexes,

**Cătălin Maxim**, *University of Bucharest, Romania*

16:40-17:00 Keynote lecture 16

Functional material depositions inside of glass capillaries; practical aspects and applications,

**Marin Gheorghe** and *Simona Maria Gheorghe, NANOM MEMS SRL, Romania*

17:00-17:20 Keynote lecture 17

Monte Carlo simulations of magnetic ordering in  $\text{KMnF}_3$  Ising perovskite structures,

**Nicolae Stănică**, *Institute of Physical Chemistry "Ilie Murgulescu", Romania*

**Section 5. Advanced materials science**

**S05-P1** Microstructural analysis of NiCrAlY/Al<sub>2</sub>O<sub>3</sub> plasma sprayed coatings after thermal oxidation at 850°C

*Alexandra Banu, Elena Maria Anghel, Maria Marcu, Simona Petrescu and Alexandru Paraschiv*

**S05-P2** New Zn(II) coordination complexes as precursors for ZnO photocatalysts

*Carmen Paraschiv, Andrei Cuceș, Bogdan Cojocaru, Vasile I. Pârvulescu and Marius Andruh*

**S05-P3** Synthesis of Mn-doped ZnO nanostructures by chemical methods

*Susana Mihaiu, Cristina Vlăduț, Oana Cătălina Mocioiu, Irina Atkinson, Cornel Munteanu, Măriuca Gartner and Maria Zaharescu*

**S05-P4** Zinc oxide based TCO's films for solar cell applications

*Susana Mihaiu, Cristina Vlăduț, Alexandra Toader, Maria Covei, Mihai Stoica, Mihai Anastasescu, Jose Calderon-Moreno, Mariuca Gartner and Maria Zaharescu*

**S05-P5** SiO<sub>2</sub>-ZnO coatings for preservation of historical glasses

*Oana Cătălina Mocioiu, Irina Atkinson, Jeanina Pandeale Cusu, Cristina Vlăduț, Ana Maria Mocioiu, Lucica Boroica, Susana Mihaiu and Maria Zaharescu*

**S05-P6** Tailoring spray pyrolysis deposited thin films for solid state solar cells

*Maria Covei, Alexandru Enesca, Luminita Isac, Dana Perniu, Cristina Bogatu and Anca Duta*

**S05-P7** Substrate temperature effect on the structural and optical properties of ZnSe thin films

*Nicolae Țigău, Simona Condurache-Bota and Emilian Danila*

**S05-P8** The influence of the oxidation degree of bismuth oxide thin films on their optical properties

*Simona Condurache-Bota and Nicolae Țigău*

**S05-P9** 1D and 2D ZnO and Al:ZnO interconnected nanostructures for sensing applications

*Viorica Mușat, Munizer Purica, Elena Budianu, Adrian Dinescu, Florin Comănescu, Ana Filip and Nicușor Baroiu*

**S05-P10** The effect of a "seed" layer upon multi-stage Pulsed Laser Deposition of Aluminum Nitride structures at different substrate temperatures

*Liviu-Marian Duță, Hermine Maria Stroescu, George Stan, Mihai Anastasescu, Măriuca Gartner, Zsolt Fogarassy, Anna Szekeres and Ion Mihăilescu*

**S05-P11** Synthesis of thin nanostructured films by plasma polymerization for humidity sensors application

Ekaterina Radeva

**S05-P12** Optical contrast formation in ta-C films by ion implantation

*M. Berova, M. Sandulov, Tania Tsvetkova, Anna Szekeres, Penka Terziyska, Roman Boettger and Lothar Bischoff*

**S05-P13** Characterisation of phosphate glasses with magneto-optical applications

*Mihai Eftimie, Adrian Volceanov, Mihail Elisa and Bogdan Sava*

**S05-P14** Novel lipoic acid@SiO<sub>2</sub>@Ag nanocomposite: Synthesis, characterization and evaluation of antimicrobial, cytotoxic and cell cycle modulatory effects

*Mădălina Tudose, Daniela C. Culiță, Mariana C. Chifiriuc, Coralia Bleotu, Simona Șomăcescu, Adina M. Musuc and Petre Ioniță*

**S05-P15** Citrate-stabilized Prussian blue nanoparticles for biomedical applications

*Mariana Marin, Roxana Jijie, Cecilia Lete, Stelian Lupu and Rabah Boukherroub*

**S05-P16** Synthesis of CeO<sub>2</sub>- SiO<sub>2</sub> mesoporous materials for CH<sub>4</sub>total oxidation

*Jeanina Pandele Cusu, Cristina Stan, Cornel Munteanu, Daniela Culiță, Irina Atkinson, Viorica Parvulescu, Florica Papa, Victor Fruth and Zoran Popovic*

**S05-P17** Studies on SrO mesoporous silica for drug delivery

*Cristina Stan, Jeanina Pandele Cușu, Irina Atkinson, Raul-Augustin Mitran, Daniela Culiță, Cornel Munteanu, Zoran Popovic and Victor Fruth*

**S05-P18** Synthesis and characterization of Cerium-doped mesoporous bioactive glasses

*Irina Atkinson, Luminița Predoană, Elena Maria Anghel, Oana Cătălina Mocioiu, Mariana Voicescu, Jeanina Pandele Cușu, Daniela Cristina Culiță, Simona Petrescu, Cornel Munteanu and Maria Zaharescu*

**S05-P19** Synthesis, characterization, antimicrobial and cytotoxic activity of lanthanide(III) complexes containing the anti-inflammatory drugs isoxicam and tenoxicam

*Gabriela Marinescu, Daniela Cristina Culiță, Luminița Patron, Sultana Niță, Mariana Carmen Chifiriuc, Coralia Bleotu, Nicolae Stănică and Ovidiu Oprea*

**S05-P20** Polyamine functionalized magnetic nanoparticles for Cu(II) removal from aqueous solutions

*Daniela Cristina Culiță, Gabriela Marinescu, Claudia Maria Simonescu, Rodica Elena Pătescu, Silviu Preda, Nicolae Stănică and Ovidiu Oprea*

**S05-P21** Nanosized cobalt ferrite synthesis by two soft chemistry methods using Hibiscus extract

*Dana Gingasu, Ioana Mindru, Luminița Patron, Jose Maria Calderon Moreno, Nicolae Stănică, Oana Cătălina Mocioiu, Silviu Preda, Claudia Maria Simonescu, Rodica Elena Pătescu, Cristian Onose and Sultana Niță*

**S05-P22** Chitosan coated-cobalt ferrite nanocomposite for wastewater treatment applications

*Dana Gingasu, Ioana Mindru, Luminița Patron, Daniela Cristina Culiță, Nicolae Stănică, Silviu Preda, Adelina Ianculescu, Ovidiu Oprea, Claudia Maria Simonescu, Rodica Elena Pătescu and Cristian Onose*

**S05-P23** New precursor method for  $\text{CoFe}_{2-x}\text{Cr}_x\text{O}_4$  spinel oxides

*Ioana Mindru, Dana Gingasu, Luminița Patron, Gabriela Marinescu, Jose Maria Calderon Moreno, Silviu Preda, Nicolae Stănică, Ovidiu Oprea and Lucian Diamandescu*

**S05-P24** Heterotrimetallic ferrimagnetic chains assembled from  $\{\text{CuIIMnII}\}$  binuclear complexes and cyanido metalloligands

*Maria-Gabriela Alexandru, Diana Vișinescu, Marius Andruh, Sergiu Shova, Augustin Mădălan, Rodolphe Clerac, Miguel Julve and Francesc Lloret*

**S05-P25** Morphological and structural characterization of oxidic nanopowders

*Adriana-Gabriela Plăiașu and Daniela-Monica Iordache*

**S05-P26** Study of tricalcium silicate (alite) as solid solution with  $\text{SnO}_2$

*Luminița Predoană, Daniela Cristina Nastac, Irina Atkinson, Jeanina Pandele Cusu, Cornel Munteanu and Victor Fruth*

**S05-P27** Synthesis of pure-phase  $\text{W}_2\text{C-Pd(0)}$  nanocomposites as potential electrocatalysts for formic acid oxidation

*Raul-Augustin Mitran, Maria-Cristina Rădulescu, Lucian Buhălțeanu, Liviu Cristian Tănase, Dan George Dumitrescu and Cristian Matei*

**S05-P28** Global models for optical properties dependence by temperature using Chebyshev first order polynomials. Case study of  $\text{Bi}_2\text{O}_3$

*Gabriel Murariu, Adrian Dinescu, Adrian Gabriel Murariu, Lucian Georgescu and Simona Condurache-Bota*

**S05-P29** Graphene hybrids designed for energy storage applications

*Gabriela Hristea, Carmen Paraschiv and Mihai Iordoc*

**S05-P30** On exchange coupling and bonding in the  $\text{Gd}_2@\text{C}_{80}$  and  $\text{Gd}_2@\text{C}_{79\text{N}}$  endohedral dimetallo-fullerenes

*Corneliu Oprea, Fanica Cimpoesu and Werner Umland*

**S05-P31** On the density functional theory treatment of lanthanide coordination compounds. Challenging the limits with relevant computational experiments

*Ionel Humelnicu, Doina Maftai, Bogdan Frecus, Fanica Cimpoesu and Alessandro Stroppa*

**S05-P32** Pyrene behavior in hydrophobically modified sodium polyacrylates without and with surfactants systems

*Ludmila Aricov, Adriana Băran, Elena Livia Simion, Ioana Cătălina Gîfu and Dan Florin Anghel*

**S05-P33** Self-association of some hydrophobically modified sodium polyacrylates in aqueous solution

*Adriana Băran, Ludmila Aricov, Elena-Livia Simion and Dan-Florin Anghel*

**S05-P34** Synthesis and properties of fluorescent 4'-azulenyl functionalized 2,2':6',2''- terpyridines

*Adrian Ion, Mariana Voicescu, Augustin Mădălan, Daniela Bala, Constantin Mihailciuc and Simona Nica*

**S05-P35** Influence of hydrophilic polymer on polysulfonic membrane properties: Rheological and microstructural aspects

*Mihaela-Dorina Onofrei, Anca Filimon and Iuliana Stoica*

**S05-P36** Using dye solutions for studying the wicking in monocomponent textile fabrics

*Maria Birzu, Valeriu Florin Cotorobai, Stefan Frunza, Irina Zgura, Constantin Paul Ganea and Ligia Frunza*

**S05-P37** The effect of borax upon Sodium dodecyl sulfate - Poly(acrylic acid) Association

*Elena Livia Simion, Gabriela Stîngă, Adriana Băran, Ludmila Aricov, Ioana Cătălina Gîfu and Dan Florin Anghel*

**S05-P38** Characterization of the pure halogenated thiourea derivatives and their host-guest interactions with 2-hydroxypropyl- $\beta$ -cyclodextrin in solid state and in aqueous solution

*Andreea Dana Neacșu, Ancuța Sofronia, Cristina Silvia Stoicescu, Carmellina Badiceanu and Cornelia Marinescu*

**S05-P39** Ceramic materials based on doped barium strontium titanate

*Alexandru Ionuț Voicu, Cristina Vlăduț, Cristi Hornoii, Silviu Preda, Adelina Carmen Ianculescu and Maria Zaharescu*

## **Section 6. Biophysical, environmental and green chemistry**

**S06-P1** Characterization by Fourier transform infrared spectroscopy (FTIR) and elemental analysis (EA) of the products obtained from biomass gasification

*Sanda Maria Doncea, Fănica Bacalum, Cosmin Mărculescu, Iulian Minca and Irina Ciobanu*

**S06-P2** Novel aminopyrazole derivatives biologically active. Structural analysis

*Cristina Buta, Maria Turcu, Marinela Iote, Mihai Radu, Marilena Ferbinteanu, Florea Dumitrascu, Constantin Draghici, Rodica Tatia, Lucia Moldovan, Ioan Ardelean and Christina Zalaru*

**S06-P3** Polyampholyte complexes with variable copolymer architecture examined by Monte Carlo simulations



*Dan Caragheorgheopol and Daniel Angelescu*

**S06-P4** KIT-6 mesoporous silica nanoparticles as support for enzyme immobilisation

*Madalina Ciobanu, Mihaela Filip, Gabriela Paun and Viorica Parvulescu*

**S06-P5** Thermal stability of two PEG-epoxy composites as candidates for thermal energy storage materials in buildings

*Mariella Constantinescu, Simona Petrescu, Vlad Tudor Popa, Daniela Gheorghe, Elena Buixaderas and Elena Maria Anghel*

**S06-P6** Novel ZnO composites synthesized via polysaccharides-assisted methods

*Paula Cucos, Alina Stan, Cristian Ene, Andrei Cucos, Jose Calderon-Moreno, Daniela Culita, Ruxandra Birjega, Carmen Chifiriuc and Oana Carp*

**S06-P7** ZnO and ZnO-carbon composites obtained through alginate gel template methods

*Paula Cucos, Cristian Ene, Jose Calderon-Moreno, Andrei Cucos, Daniela Culiță and Oana Carp*

**S06-P8** Polyol-assisted synthesis of spherical zinc oxide aggregates with multifunctional properties

*Diana Vişinescu, Oana Carp, Raluca Negrea, Ruxandra Birjega, Carmen Chifiriuc and Ioan Balint*

**S06-P9** NPK analysis of the thermal degradation of selected brominated flame retardants

*Mihai Dumitraş, Dan Maştei, Anton Airinei and Alin-Constantin Dîrţu*

**S06-P10** Spectrophotometric studies of new chromenopyridines

*Fatiha Nouali, Bianca Furdui, Zahira Kibou, Rodica Mihaela Dinica and Nouredine Choukchou-Braham*

**S06-P11** Synthesis and electrochemical studies of some indolizine derivatives

*Rodica Dinica and Geta Carac*

**S06-P12** The effect of soil burial degradation on cellulose fiber-filled polypropylene composites

*Iuliana Răut, Mihaela Doni, Mariana Călin, Zina Vuluga, Gelu Vasilescu, Adina Magdalena Muşuc, Violeta Purcar, Melania-Liliana Arsene, Elvira Alecsandrescu and Maria-Luiza Jecu*

**S06-P13** Investigation of microbial degradation of keratin substrates with optical and electron microscopy

*Mariana Călin, Mihaela Doni, Iuliana Răut, Gelu Vasilescu, Diana Constantinescu-Aruxandei, Melania-Liliana Arsene, Elvira Alecsandrescu, Maria-Luiza Jecu and Veronica Lazăr*

**S06-P14** Evaluation of drinking water quality in Galati county achieved by monitoring some physical and chemical parameters

*Romana Drasovean, Mihaela Timofti and Steluta Gosav*

**S06-P15** Mitoxantrone - surfactants interaction: a physicochemical overview

*Mirela Enache and Ana Maria Toader, Institute of Physical Chemistry, Romania*

**S06-P16** Dopamine effects on self-assembled monolayers of L-cysteine on GaAs (100) electrodes

*Mirela Enache, Mihai Anastasescu, Cătălin Negrilă, Mihai Florin Lăzărescu and Valentina Lăzărescu*

**S06-P17** Design, modelling and optimization of a MEMS gas sensors

*Bogdan Firtat, Carmen Moldovan, Costin Brasoveanu, George Muscalu and Ion Stan*

**S06-P18** Bimetallic nanoparticles use as signal amplifiers for biosensors construction

*Ioana Vasilescu, Simona Carmen Litescu, Sandra Eremia and Gabriel Lucian Radu*

**S06-P19** Design and technology of micromachined gas sensors

*Carmen Moldovan, Costin Brasoveanu, George Muscalu, Bogdan Firtat, Mariuca Gartner, Maria Zaharescu, Paul Chesler, Cristian Hornoiiu, Susana Mihaiu, Cristina Vladut, Izabella Dascalu, Ion Stan and Vlad Georgescu*

**S06-P20** Physicochemical characterization of inclusion complexes formed by captopril and beta-cyclodextrin

*Adina Magdalena Muşuc, Irina Atkinson, Cornel Munteanu, Ghaleb Abdalameer Abdalrb, Mirela Adriana Mitu and Emma Adriana Budura*

**S06-P21** Thermal behaviour of some M<sup>2+</sup> - hydrothermal carbon composites

*Adina Magdalena Muşuc, Greta Pătrinoiu, Jose Calderon - Moreno, Simona Şomăcescu, Ruxandra Bârjega and Oana Carp*

**S06-P22** New substituted aminopyrazole with potential antitumor activity

*Bianca Patrascu, Florea Dumitrascu, Constantin Draghici, Rodica Tatia, Lucia Moldovan, Maria Marinescu and Christina Zalaru*

**S06-P23** *Althaea officinalis* L. supported on SBA-15 MSN as new biohybrid delivery vehicle

*Madalina Ciobanu, Lucia Parvu, Bujor-Gabriel Albu, Jeanina Pandele Cusu, Irina Atkinson, Cornel Munteanu and Viorica Parvulescu*

**S06-P24** Structural variety of polynuclear copper complexes based on new pyrazoles derivatives

*Mihai Radu, Marilena Ferbinteanu and Christina Zalaru*

**S06-P25** Spatial and temporal correlation of water quality parameters of water from wells on the western part of Galati county

*Mihaela Timofti, Ionelia Savinută, Gabriel Murariu, Lucian Georgescu, Valentin Hahuie and Catalina Iticescu*

**S06-P26** Cytotoxicity of *Sorbus domestica* L. extracts on animal and plant cells

*Cristina-Silvia Stoicescu, Cornel Munteanu, Mihaela Dinu, Robert Ancuceanu and Adriana-Iuliana Anghel*

**S06-P27** Evaluation of the Danube water quality near Galati City using WQI and multivariate analysis

*Mihaela Timofti, Cătălina Iticescu, Gabriel Murariu, Lucian Georgescu, Maria Cătălina Țopa and Adrian Burada*

**S06-P28** Eco-friendly synthesis and molecular modeling of some benzimidazole compounds

*Diana-Gabriela Tudorache, Maria Marinescu, George Marton, Cristina Stavarache and Christina Marie Zălaru*

**S06-P29** La<sub>2</sub>O<sub>3</sub> influence on physico-chemical properties of some silicate sealants for SOFCs

*Simona Petrescu, Elena Maria Anghel, Mohammed Malki, Mariella Constantinescu, Irina Atkinson, Elena Buixaderas and Ecaterina Țenea*

**S06-P30** Interaction between new mononuclear lanthanide(III) complexes of symmetrical tripodal ligands and *Saccharomyces cerevisiae* cells

*Cristian D. Ene*

## **Section 7. Catalysis and chemical engineering**

**S07-P1** Morphology-dependent photocatalytic and antimicrobial activity of SiO<sub>2</sub> and SiO<sub>2</sub>-TiO<sub>2</sub> composites

*Crina Anastasescu, Irina Atkinson, Veronica Bratan, Cornel Munteanu, Daniela Culita, Mihai Anastasescu, Carmen Chifiriuc, Maria Zaharescu and Ioan Balint*

**S07-P2** Selective reduction of nitrate from water using Pd-Cu catalysts supported on anion exchange resins

*Corina Bradu, Constantin Căpăț, Florica Papa, Elena Alina Olaru, Cătălin Negrilă, Razvan State, Ligia Frunză and Ioan Balint*

**S07-P3** Electrical properties and gas sensor performance for Zinc-Titanium-Iron mixed oxides

*Cristian Hornoiiu, Isabella Dascălu, Simona Șomăcescu and Măriuca Gartner*

**S07-P4** Complete oxidation of aromatic hydrocarbons on Cu-Mn mixed oxides catalysts

*Vasile Georgescu, Cristian Hornoiiu, Dorin Bomboș and Gabriel Vasilievici*

**S07-P5** CO oxidation on Pd/TiO<sub>2</sub> and Pd/SnO<sub>2</sub>/TiO<sub>2</sub>

*Veronica Brătan, Cornel Munteanu, Anca Vasile, Cristian Hornoiiu, Răzvan State, Daniela Culiță, Irina Atkinson and Nicolae I. Ionescu*

**S07-P6** Heterogeneous activation of Oxone using cobalt phthalocyanine-supported reduced graphene oxide: Application for rhodamine B degradation

*Cornelia Alina Marinescu, Alexandre Barras, Yannick Coffinier, Simona Somacescu, Valentin Raditoiu, Sabine Szunerits and Rabah Boukherroub*

**S07-P7** Effect of monometallic (Au and Pd) and bimetallic (Pd-Au) loading on the complete oxidation activity of Y-doped ceria catalysts

*Lyuba Ilieva, Petya Petrova, Giuseppe Pantaleo, Leonarda Liotta, Ana Maria Venezia, Zbigniew Kaszukur, Gabriel Munteanu and Tatiana Tabakova*

**S07-P8** Support effect of nano dispersed Rh-Cu bimetallic catalyst on catalytic denitration for water cleaning

*Florica Papa, Razvan State, Corina Bradu, Anca Vasile, Daniela Culița, Cornel Munteanu, Gianina Dobrescu and Ioan Balint*

**S07-P9** Enhanced photocatalytic activity of ZnO nanoparticles obtained by “green” synthesis with well dispersed Pd-Au bimetallic nanoparticles

*Mariana Chelu, Cornel Munteanu, Razvan State, Irina Atkinson, Adriana Rusu, Veronica Bratan, Adina Musuc, Ioan Balint and Florica Papa*

**S07-P10** Solid-state reaction of Ta-based perovskite and its photocatalytic performance in the degradation of trichloroethylene

*Monica Pavel, Florica Papa, Irina Atkinson, Veronica Brătan, Cornel Munteanu, Daniela C Culiță, Jeanina Pandele-Cușu and Ioan Balint*

**S07-P11** Photocatalytic degradation of Brilliant Blue dye in aqueous phase by supported titanium on KIT6 mesoporous silica. Effects of reaction pH and synthesis method on kinetics and mechanism

*Daniela Negoescu, Madalina Ciobanu, Veronica Bratan, Irina Atkinson, Razvan State and Viorica Parvulescu*

**S07-P12** Kinetics study of graphene-assisted hydrogen storage and scavenging

*Efrat Ruse, Svetlana Pevzner, Ilan Pri Bar, Vladimir Skripnyuk, Eugen Rabkin and Oren Regev*

**S07-P13** Photocatalytic degradation of trichloroethylene on nanostructured Pt/TiO<sub>2</sub> catalysts: Effect of thermoresponsive polymers

*Anca Vasile, Florica Papa, Mariana Scurtu, Cornel Munteanu, Veronica Brătan, Irina Atkinson, Gianina Dobrescu, Simona Șomăcescu, Mihai Anastasescu, Mircea Teodorescu and Ioan Balint*

**Section 1. Theoretical chemistry. Molecular spectroscopy**

**S01-P1** Heterotopic luminescent sensors to alkali metals in aqueous media

*Andrey Chernyadyev, Alexey Averin and Aslan Tsivadze*

**S01-P2** Properties of the blue dye 1-picryl-2-phenyl-2-(4-picrylamidophenyl)-diazonium betaine

*Rodica Daniela Bărățoiu-Carpen, Marioara Bem, Ana-Cristina Răduțiu, Mariana Voicescu, Mihai Radu, Petre Ioniță, Nicolae Stănică, Titus Constantinescu and Alexandru Balaban*

**S01-P3** Antioxidant property of some arylthio derivatives and their reaction with the stable free radical 2,2-diphenyl-1-picrylhydrazyl, DPPH

*Elena-Nușă Hristea, Maria-Victoria Neacșu, Gabriela Ioniță, Miron Teodor Căproiu and Titus Constantinescu*

**S01-P4** The effect of non-gelator species on supramolecular assembly of low molecular weight gelator – the case of 12-hydroxystearic acid/ 16-hexadecanoic acid

*Aurica Precupaș, Vlad Tudor Popa, Gabriela Ioniță, Marin Micutz and Teodora Staicu*

**S01-P5** Designing and programming of artificial neural network model for the modeling/discrimination of amphetamines

*Steluța Gosav and Romana Drașovean*

**S01-P6** Thermal degradation pathways of selected brominated flame retardants from first principles

*Dan Maștei, Mihai Dumitraș, Dragoș Isac and Alin-Constantin Dîrțu*

**S01-P7** Improved chemometric evaluation of the chromatographic columns with respect to the separation of chemical classes

*Alice Mischie, Felicia Spafiu and Adrian Beteringhe*

**S01-P8** Co(II) and Ni(II) complexes with ligands having antibacterial activity

*Aurora Reiss, Anca Gănescu and Gabriel Munteanu*

**S01-P9** Computed molecular descriptors and QSAR properties prediction on N-(p-iodophenyl)-N'-(2-tenoil)-thiourea

*Amalia Stefaniu, Florinela Sirbu, Cristina Stoicescu, Ioana Gheorghe and Lucia Pintilie*

**S01-P10** Conformational studies of some new thiourea derivatives

*Cristina Stoicescu, Carmellina Bădiceanu, Andreea Neacșu and Gabriel Munteanu*

## Section 2. Chemical kinetics and thermodynamics

**S02-P1** Physicochemical properties for some heavy alkane with alkylbenzenes binary mixtures at different temperatures up to 318.15 K

*Dana Drăgoescu, Florinela Sîrbu, Ana Maria Popescu, Virgil Constantin, Alexander Shchamialiou and Talgat Khasanshin*

**S02-P2** Quaternized polysulfone/polyvinyl alcohol multicomponent system: computational modeling of hydrogen bonding and electrostatic interactions

*Anca Filimon and Ecaterina Avram*

**S02-P3** Modeling the conformational characteristics of ionic polymers in solution induced by the presence of polyvinyl alcohol

*Adina Maria Dobos, Anca Filimon and Ecaterina Avram*

**S02-P4** Thermodynamics of nanoparticles-protein interaction: the effect of TiO<sub>2</sub> and ZnO nanoparticles on the thermodynamic stability of bovine serum albumin

*Speranța Tănăsescu, Aurica Precupaș, Alina Botea-Petcu, Daniela Gheorghe, Romică Sandu, Ana Maria Toader and Vlad Tudor Popa*

**S02-P5** The calorimetric study of L-, D- and DL histidine isomers

*Daniela Gheorghe, Ana Neacșu, Iulia Contineanu and Ștefan Perișanu*

**S02-P6** Structure and kinetics of *Candida Rugosa* lipase encapsulated in reverse micelles

*Anca Ruxandra Leontieș, Gabriela Stângă, Adina Răducan and Dan Florin Anghel*

**S02-P7** The effect of calcium fructoborate on some organic components of human cerebrospinal fluid

*Andreea Neacsu, Alina Botea-Petcu and Speranta Tanasescu*

**S02-P8** Thermodynamic study on host-guest interaction of doxorubicin with  $\beta$ -cyclodextrin and  $\gamma$ -cyclodextrin

*Andreea Neacsu, Romica Sandu, Cristina Stoicescu and Gabriel Munteanu*

**S02-P9** Effect of macromolecules on the aggregation of nano-sized rutile-titanium dioxide

*Andreea Neacsu and Speranta Tanasescu*

**S02-P10** Experimental approaches to evaluate the interaction of cinchonine with  $\beta$ - and 2-hydroxypropyl- $\beta$ - cyclodextrins

*Andreea Neacsu and Romica Sandu*

**S02-P11** Simulations of experimental methane-air explosions

*Nicolae Vlasin, Maria Prodan, Emilian Ghicioi and Danut Chirila*

**S02-P12** Ignition and propagation properties of coal dust-methane-air hybrid mixtures,

*Maria Prodan, Emilian Ghicioi, Adrian Jurca and Dumitru Oancea, National Institute for Mine Safety and Protection to Explozion, INCD INSEMEX, Petrosani, Romania*

**S02-P13** Thermodynamic properties of the perovskite nanopowders obtained by hydrothermal synthesis

*Cristina Florentina Rusti, Viorel Badilita, Ancuta Mihaela Sofronia, Dragos Taloi, Elena Maria Anghel, Florentina Maxim, Cristian Hornoiu, Cornel Munteanu, Roxana Mioara Piticescu and Speranta Tanasescu*

**S02-P14** Thermal stability of some perovskite structures obtained by hydrothermal synthesis

*Cristina Florentina Rusti, Roxana Mioara Piticescu, Albert Tudor, Viorel Badilita, Andrei Berbecaru and Eugeniu Vasile*

**S02-P15** Modulation of radiation induced inactivation of catalase

*Adina Răducan, Antonia Mercan, Anca Ruxandra Leontieş and Mihaela Puiu*

**S02-P16** Overall kinetic parameters of methane oxidation in O<sub>2</sub>- or N<sub>2</sub>O-supported flames

*Domnina Răzuş, Codina Movileanu, Maria Mişu, Venera Giurcan and Dumitru Oancea*

**S02-P17** Spherical expanding flames in CH<sub>4</sub>-N<sub>2</sub>O-N<sub>2</sub> mixtures: Laminar burning velocity measurements and kinetic modeling

*Domnina Răzuş, Maria Mişu, Venera Giurcan, Codina Movileanu and Dumitru Oancea*

**S02-P18** Thermodynamic behavior at different temperatures on derived compounds from halogenated thiourea in alcoholic solutions with pharmaceutical applications

*Florinela Sirbu, Carmellina Badiceanu, Dana Dragoescu, Cristina Silvia Stoicescu, Andreea Daniela Neacsu, Anca Sofronia and Cornelia Marinescu*

**S02-P19** Thermokinetic and thermodynamic parameters of the titanium hydride dehydrogenation process

*Ancuța Sofronia, Cornelia Marinescu, Andreea Neacșu and Speranța Tănăsescu*

**S02-P20** Solid state study on inclusion complex formation of 2-hydroxypropyl-β-cyclodextrin with four new thiourea derivatives

*Andreea Neacsu, Carmellina Badiceanu, Cornel Munteanu and Cristina-Silvia Stoicescu*

**S02-P21** Effect of chain length of alcohols on physico-chemical properties of their binary mixture with halogenated thiourea derivatives

*Andreea Neacșu, Carmellina Bădiceanu, Dana Drăgoescu, Florinela Sirbu, Ancuța Sofronia, Cornelia Marinescu and Cristina-Silvia Stoicescu*

**S02-P22** Thermodynamic stability of the Ba<sub>x</sub>Sr<sub>1-x</sub>Co<sub>1-y</sub>Fe<sub>y</sub>O<sub>3-δ</sub> (x = 0.2, 0.4, 0.5, 0.6, 0.8; y = 0.2, 0.8, 1) perovskite-type oxides

*Alina Botea-Petcu, Florina Teodorescu, Zhen Yang, Julia Martynczuk and Speranța Tănăsescu*

**S02-P23** Excess thermodynamic properties for a prototype ionic liquid + 1butanol binary system at low pressures and several temperatures

*Mariana Teodorescu*

### **Section 3. Functional interfaces. Aquaculture and food applications**

**S03-P1** Water quality monitoring into a recirculating aquaculture system,

*Raluca-Cristina Andrei (Guriencu), Victor Cristea, Lorena Dediu, Mirela Cretu and Alexandru-Cristian Bandi*

**S03-P2** Novel biosensor based on L-amino-acid oxidase and polypyrrole for detection of L-tyrosine in pharmaceuticals

*Constantin Apetrei, Monica Boev, Adriana Dumitrache and Irina Mirela Apetrei*

**S03-P3** Chemical sensors applied in the analysis of pharmaceutical products

*C. Apetrei and I.M. Apetrei*

**S03-P4** Spectroelectrochemical characterization of pyrrole polymerization *in situ* with selected fungi strains

*Roxana-Mihaela Apetrei, Geta Cârâc, Gabriela Bahrim and Arunas Ramanavicius*

**S03-P5** Electrokinetic characterization of some bio dyes oil-in-water emulsions

*Romică Cretu and Rodica Dinica*

**S03-P6** The evaluation of serum electrolytes Calcium, ionic Calcium, Magnesium and hemoglobin in Sulina's patients, Danube Delta, Romania

*Georgiana Mirela Ene, Cristian Lucian Petcu, Magda Ioana Nenciu and Natalia Roşoiu*

**S03-P7** Immunobiosensors based carbon nanoparticles for detection of carbamate pesticides in horticultural products

*Gabriela Hristea, Radu Tănasă, Carmen Paraschiv and Virgil Marinescu*

**S03-P8** Ellipsometric characterization of thin surface layers for biosensor applications

*Andras Saftics, Sándor Kurunczi, Barbara Türk, Benjámín Kalas, Attila Sulyok, Szilvia Bősze, Péter Petrik, Miklós Fried and Robert Horvath*

**S03-P9** Contributions to the study on emulsions with walnut oil

*Cristina Stoian*

**S03-P10** Exploring the binding affinity between bovine  $\beta$ -lactoglobulin and  $\beta$ -carotene by using fluorescence spectroscopy and molecular modelling techniques

*Nicoleta Stănciuc, Mihaela Florentina Ursache, Iuliana Aprodu and Gabriela Râpeanu*



**S03-P11** Thermal stability of the complex formed by bovine alpha-lactalbumin and carotenoids from sea buckthorn

*Nicoleta Stănciuc, Loredana Dumitrașcu, Gabriela Râpeanu and Mihaela Florentina Ursache*

#### **Section 4. Electrochemistry. Corrosion. Ionic liquids**

**S04-P1** Electrochemical study of the lanthanides coordination with pyridine heterocycles

*Ioana Otilia Ghinea, Rodica Mihaela Dinica and Geta Cârâc*

**S04-P2** Electrochemistry of photoswitching systems based on fluorescent azulenyl-substituted dithienylcyclopentenes

*Mihai Răducă, Izabela Jinga, Eugenia Andreea Dragu, Adrian Ion, Daniela Bala, Constantin Mihailciuc, Sorana Ionescu, Mariana Voicescu and Simona Nica*

**S04-P3** Improvement of supported Platinum particles resistance to fouling by appropriate selection of the substrate

*Nicolae Spătaru, Petre Osiceanu, Maria Marcu, Cornel Munteanu, Tanța Spătaru and Loredana Preda*

**S04-P4** Role of iridium oxide in the reactivation of platinum nanoparticles electrodeposited at BDD powder

*Tanța Spătaru, Loredana Preda, Cornel Munteanu, Mariana Marin and Nicolae Spătaru*

**S04-P5** Interactional effect of the titanium substrate on photo-electrochemical behavior of TiO<sub>2</sub> nanotubes

*Maria Marcu, Alexandra Banu, Simona Petrescu and Diana Portan*

**S04-P6** Control of the electronic properties of p-GaAs(111)B surface by using aliphatic and aromatic dithiols

*Loredana Preda, Mihai Anastasescu, Cătălin Negrilă and Valentina Lăzărescu*

**S04-P7** Electron Structure Effects in Boron Doped Diamond

*Ana Maria Toader, Tanța Spătaru, Nicolae Spătaru and Fănică Cimpoeșu*

**S04-P8** The fractal analysis of self-assembled monolayers of L-cysteine on GaAs (100) electrodes

*Gianina Dobrescu, Mihai Anastasescu, Iudit Fangli and Valentina Lăzărescu*

**S04-P9** Peroxynitrite sensor based on a modified screen printed carbon electrode

*Mihaela Doni, Ioana Silva Hosu, Diana Constantinescu-Aruxandei, Melania-Liliana Arsene, Maria-Luiza Jecu and Florin Oancea*

**S04-P10** Electrochemical biosensors based on microelectrode arrays for phenol electroanalysis

*Cecilia Lete, Stelian Lupu, Paul Catalin Balaure, Dan Ion Caval, Y Coffinier, Rabah Boukherroub and Francisc Javier del Campo*

**S04-P11** Multianalyte detection of dopamine and hydroquinone at electrochemical microbiosensors  
*Stelian Lupu, Cecilia Lete, Boris Lakard, Jean-Yves Hihn and Francisco Javier del Campo*

**S04-P12** Sonogel-carbon based biosensors prepared using sinusoidal voltages method  
*Juan José García Guzmán, Jose María Palacios Santander, Laura Cubillana Aguilera, Dolores Bellido Milla, Ignacio Naranjo Rodríguez, Cecilia Lete and Stelian Lupu*

**S04-P13** Electrochemical monitoring of oxidative stress-related biomarkers  
*Mariana Marin, Cecilia Lete, Simona Petrescu and Stelian Lupu*

**S04-P14** Electrochemical degradation of coloring food Brilliant Blue FCF from simulated wastewaters  
*Bogdan Tutunaru, Adriana Samide, Cristian Tigae, Petru Ilea and Ana Cristina Vladu*

**S04-P15** The study of nystatin drug stability by electrochemical and thermal analyses  
*Bogdan Tutunaru, Adriana Samide, Cătălina Ionescu, Cezar Spînu and Roxana Ghiță*

**S04-P16** Characterization of a new Ti-Zr-Nb alloy for implant applications  
*Jose M. Calderon-Moreno, Cora Vasilescu, Silviu I. Drob, Steliana Ivanescu, Petre Osiceanu, Monica Popa, Silviu Preda and Ecaterina Vasilescu*

**S04-P17** Characterization of a biomimetic coating applied on surface of new ternary Ti-Ta-Zr alloy  
*Monica Popa, Cora Vasilescu, Silviu I. Drob, Jose M. Calderon-Moreno, Mihai Anastasescu and Maria Marcu*

**S04-P18** Passive film behavior of new quaternary Ti based alloy  
*Cora Vasilescu, Silviu Iulian Drob, Petre Osiceanu, Jose Maria Calderon Moreno and Ecaterina Vasilescu*

**S04-P19** Corrosion resistance of a new dental CoCrNbMoZr alloy in comparison with commercial one  
*Silviu Iulian Drob, Cora Vasilescu, Jose Maria Calderon Moreno and Ecaterina Vasilescu*

**S04-P20** Inhibition effect some nonionic surfactants of carbon steel in various aggressive media  
*Florina Branzoi, Viorel Branzoi, Catalina Pacuretu, Iulia Harabor and Angela Stanca*

**S04-P21** The inhibiting effect of Tris (hydroxymethyl) aminomethane (TRIS) on the corrosion of metal iron  
*Madalina I. Duinea, Mihaela A. Petcu, Lucian M. Birsa and Paul Chirita*

**S04-P22** Electrochemical synthesis and characterization on new polymer composite for OLC 45 corrosion protection  
*Florina Branzoi, Viorel Branzoi, Catalina Pacuretu and Zoia Pahom*

**S04-P23** Corrosion of some steels and aluminium alloys in the foam concentrate used as fire-extinguishing medium

*Andrei Dan Busuioc, Anca Cojocaru, Adina Cotarta and Teodor Visan*

**S04-P24** Study of the crystal structure of the surface, the magnetic properties and corrosion resistance of the modified steel for special applications

*Elena Ionela Neacșu, Kazimir Yanushkevich, Virgil Constantin, Cristina Donath, Anatoli Galyas, Aliona Zhyvulka, Olga Demidenko and Ana-Maria Popescu*

**S04-P25** The oxidative dissolution of pyrite (FeS<sub>2</sub>) in the presence of sodium carbonate. The use of carbon paste electrodes (CPE)

*Mihaela A. Petcu, Madalina I. Duinea and Paul Chirita*

**S04-P26** The application of deep eutectic solvent ionic liquids for electrocatalytic dissolution and recovery of metals from WEEE

*Ana Maria Popescu, Vasile Soare, Cristina Donath, Elena Ionela Neacsu, Virgil Constantin, Marian Burada and Ionuț Constantin*

**S04-P27** Electrochemical synthesis and characterization of CoSb nanowires used as anode in batteries with ionic liquid

*Mariana Prodana, Florentina Golgovici, Daniela Ionita, Dionezie Bojin and Marius Enachescu*

**S04-P28** Electrochemical Ag nanostructures involving deep eutectic solvents

*Liana Anicăi, Aurora Petică, Andreea Florea, Anca Cojocaru and Teodor Vișan*

**S04-P29** Sn binary alloy coatings involving deep eutectic solvents as nanostructured anodes for Li/Mg ion batteries

*Liana Anicăi, Aurora Petică, Florentina Golgovici, Ștefania Costovici, Adrian-Cristian Manea and Teodor Vișan*

**S04-P30** Nanostructured anode for batteries with ionic liquid based choline chloride

*Mariana Prodana, Daniela Ionita, Florentina Golgovici, Liana Anicai and Marius Enachescu*

**S04-P31** Evaluation performance La<sub>0.5</sub>Sr<sub>0.5</sub>Co<sub>0.8</sub>Fe<sub>0.2</sub>O<sub>3-δ</sub> (LSCF) and Nd<sub>0.6</sub>Sr<sub>0.4</sub>Co<sub>0.8</sub>Cu<sub>0.2</sub>O<sub>3-δ</sub> (NSCC) thin films cathodes for IT-SOFC

*Bogdana Mitu, Nicoleta Cioteră, Mihaela Florea, Rovena Pascu, George Epurescu, Ruxandra Bîrjeg and Simona Somacescu*

## Section 8. Sol-gel science and applications

**S08-P1** Iron doped TiO<sub>2</sub> films and nanopowders and their photoactivity in nitrobenzene removal from water

*Maria Crișan, Diana Mardare, Ines Nițoi, Cătălin Adomiței, Petruța Oancea, Nicolae Drăgan, Adelina Ianculescu, Dorel Crișan, Margarita Gabrovska and Ligia Todan*

**S08-P2** Sol-gel doped TiO<sub>2</sub> nanopowders with photocatalytic activity - The influence of dopants on titania structure

*Dorel Crișan, Nicolae Drăgan, Maria Crișan, Adelina Ianculescu, Ines Nițoi, Petruța Oancea, Ligia Todan, Margarita Gabrovska and Cristina Stan*

**S08-P3** Doped TiO<sub>2</sub> gels and powders: preparation, physico-chemical properties and solar-light photocatalytic activity

*Mihai Anastasescu, Luminița Predoană, Elena Craciun, Jeanina Pandele Cușu, Irina Atkinson, Adriana Rusu, Silviu Preda, Elena-Maria Anghel, Anghel Ioancea, Crina Anastasescu, Mihai Stoica, Veronica Bratan, Ioan Balint and Maria Zaharescu*

**S08-P4** Structural and optical characterization of doped TiO<sub>2</sub> films

*Madalina Nicolescu, Luminita Predoană, Mihai Anastasescu, Silviu Preda, Paul Chesler, Mariuca Gartner and Maria Zaharescu*

**S08-P5** Influence of the microwaves on the TiO<sub>2</sub> based sol-gel processes and on the properties of the resulted nanostructures

*Luminița Predoană, Irina Stanciu, Mihai Anastasescu, Jose Maria Calderon Moreno, Mihai Stoica, Silviu Preda, Mariuca Gartner and Maria Zaharescu*

**S08-P6** Ellipsometry study on TCO thin films used in optoelectronic applications

*Hermine Stroescu, Mihai Anastasescu, Susana Mihaiu, Luminița Predoană, Mircea Modreanu, Vassiliki Kampilafka, Maria Zaharescu and Măriuca Gartner*

**S08-P7** Synthesis, structural properties and photocatalytic behavior of the ZnO prepared by sol-gel method

*Mihai Stoica, Suzana Mihaiu, Oana Cătălina Mocioiu, Mihai Anastasescu, Jose Maria Calderon-Moreno, Irina Atkinson, Crina Anastasescu, Ioan Balint and Maria Zaharescu*

**S08-P8** Influence of the substrates on the sensing properties of the Zn-doped SnO<sub>2</sub> thin sol-gel films

*Ecaterina Tenea, Cristina Vladut, Paul Chesler, Silviu Preda, Jose Maria Calderon-Moreno, Mihai Anastasescu, Carmen Moldovan, Alexandru Voicu, Mariuca Gartner, Suzana Mihaiu and Maria Zaharescu*

**S08-P9** Properties of silica layers fabricated from silica sol containing silica nanoparticles

*Ivo Barton, Vlastimil Matejec, Luminita Predoana and Maria Zaharescu*

**S08-P10** Erbium doped-SiO<sub>2</sub>-TiO<sub>2</sub> or -SiO<sub>2</sub>-TiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> nanopowders prepared by sol-gel method  
*Luminița Predoană, Adriana Rusu, Mariana Voicescu, Jeanina Pandele Cușu, Silviu Preda, Cornel Munteanu and Maria Zaharescu*

**S08-P11** Structural, textural, surface chemistry and sensing properties of mesoporous Pr, Zn modified SnO<sub>2</sub>-TiO<sub>2</sub> powder composites

*Izabella Dascalu, Daniela Culita, Jose Maria Calderon Moreno, Petre Osiceanu, Cristi Hornoiu, Mihai Anastasescu, Simona Șomacescu and Mariuca Gartner*

**S08-P12** Rhodamine based fluorescent powder probes for Cu<sup>+2</sup> detection

*Ligia Todan, Cristina Stan, Mariana Voicescu, Daniela C Culita and Cornel Munteanu*

**S08-P13** Effect of chitosan on the regeneration of tooth enamel using emdogain gel bioactive template

*Agripina Zaharia, Mariana Bușilă, Irina Atkinson, Elena Maria Anghel, Oana Cătălina Mocioiu, Viorica Ghisman Pleșcan and Viorica Mușat*