

**INTERNATIONAL CONFERENCE**

**CHIMIA 2014**

**“NEW TRENDS IN APPLIED CHEMISTRY”**



**PROGRAM**

*May 23 – 24, 2014*  
Constanta, ROMANIA

**SPONSOR:**

**S.C. OIL DEPOL SERVICE SRL. CONSTANTA**

## **Foreword for the 6<sup>th</sup> Conference “Chimia” 2014**

*The sixth in the cycle “Chimia”, this conference was organized by our department starting with 2000 every three years until 2012, since it is organized every two years.*

*Chimia 2014 is part of an on-going Conference series which focuses on applied chemistry problems. The conference’s proceedings were and continue to be published in Ovidius University Annals of Chemistry, which is indexed in Chemical Abstracts, in Index Copernicus starting with 2009 and in Polymer Library, Pirabase, and Paperbase starting with 2013. From 2012 the journal is published in Versita OPEN system with de Gruyter partner.*

*At this meeting you can present your most recent research achievements and ideas. The organizers intend to create a warm and friendly atmosphere for stimulate the scientific discussions and confrontations.*

*Chimia 2014 is conducted at the University Ovidius of Constanta and Royal Hotel. Conveniently located, Royal Hotel offers excellent facilities for conferences. The meeting halls and poster area are designed to facilitate interactions among Conference participants.*

*Constanta is the second largest city in Romania and the biggest port at the Black Sea, an important cultural and economic centre, worth exploring for its archaeological treasures and the atmosphere of the old town centre. The name of Constanta dates from the Byzantine ruling when Tomis appears in Byzantine and later Italian documents, as Constantia, after an important imperial Roman family.*

*We wish you all a fruitful conference in Constanta with many new ideas and contacts all over Europe. We look forward to meet each of you at the Chimia 2014!*

*Sincerely,  
Viorica Popescu  
Conference Chairperson  
Chimia 2014 Organizing Committee*



## **CONFERENCE PROGRAM**

**Friday, May 23, 2014**

- 8<sup>00</sup> – 9<sup>15</sup>**      **Registration, Royal Hotel, Central Hall**
- 9<sup>15</sup> – 10<sup>00</sup>**      **Opening ceremony, Royal Hotel, Conference Room**  
Welcome addresses  
**Viorica Popescu**, *Chairperson of Chimia 2014 Conference*  
**Sorin Graure**, *S.C. Rompetrol Rafinare S.A.*
- 10<sup>00</sup> – 11<sup>10</sup>**      **Plenary session, Royal Hotel, Conference Room**  
**PL1. Jacobus Frederick Van Staden**, *INCDEMC, RO*  
**PL2. Joop Schoonman**, *Delft University of Technology, NL*  
  
11<sup>10</sup> – 11<sup>30</sup> *Coffee break*
- 11<sup>30</sup> – 12<sup>40</sup>**      **Plenary session, Royal Hotel, Conference Room**  
**PL3. Andrei Medvedovici**, *University of Bucharest, RO*  
**PL4. Andrew Clark**, *University of Warwick, UK*  
  
13<sup>00</sup> – 14<sup>30</sup> *Lunch*
- 14<sup>30</sup> – 15<sup>20</sup>**      **Keynotes, Royal Hotel, Conference Room**  
**KN1. Raluca-Ioana STEFAN-van STADEN**, *INCDEMC, RO*  
**KN2. Claudia Koncsag**, *“Ovidius” University Constanta, RO*
- 15<sup>20</sup> – 16<sup>45</sup>**      **Oral sessions, Royal Hotel, Conference Room**  
  
16<sup>45</sup> – 17<sup>00</sup> *Coffee break*
- 17<sup>00</sup> – 18<sup>30</sup>**      **Posters session, “Ovidius” University Constanta, Central Hall**
- 19<sup>00</sup> –**              **Gala Dinner, Royal Hotel Restaurant**

**Saturday, May 24, 2014**

**9<sup>30</sup> – 10<sup>40</sup>**      **Plenary session, Royal Hotel, Conference Room**  
**PL5. Stefano Girotti, University of Bologna, IT**  
**PL6. Sorin Rosca, Politehnica University of Bucharest, RO**

10<sup>40</sup> – 11<sup>00</sup> *Coffee break*

**11<sup>00</sup> – 11<sup>50</sup>**      **Keynotes, Royal Hotel, Conference Room**

**KN3. Eleonora-Mihaela Ungureanu, Politehnica University of Bucharest, RO**

**KN4. Călin Deleanu, “Petru Poni” Institute of Macromolecular Chemistry, Iași, RO**

**11<sup>50</sup> – 13<sup>20</sup>**      **Oral sessions, Royal Hotel, Conference Room**

13<sup>20</sup> – 15<sup>00</sup> *Lunch*

**15<sup>00</sup> – 15<sup>30</sup>**      **Closing ceremony, Royal Hotel, Conference Room**

**Social Program**

**May 23, 2014**

10<sup>00</sup> – 11<sup>10</sup>, Royal Hotel, Conference Room

**Chairpersons:**

**Viorica Popescu**, *Ovidius University of Constanta, RO*  
**Simona Dobrinaș**, *Ovidius University of Constanta, RO*  
**Yedil Utekov**, *S.C. Rompetrol Rafinare S.A.*

**PLENARY LECTURES**

- PL1.** **Van Staden Jacobus Frederick**  
The potential of sensors and biosensors for integrated process control in real-time. Can they survive the environment?
- PL2.** **Joop Schoonman, Dana Perniu**  
Nanostructured Materials for Solar Hydrogen Production

*11<sup>10</sup> – 11<sup>30</sup> Coffee break*

11<sup>30</sup> – 12<sup>40</sup>, Royal Hotel, Conference Room

- PL3.** **A. Medvedovici, P. Lazar**  
On-line reversed phase supported liquid extraction (RP-SLE) as a basic scenario for explaining large volume injection (LVI) of immiscible diluents in RPLC
- PL4.** **A. J. Clark, S-S. Hoong, A. Sellars, A. Ross**  
Novel materials from triglycerides and fatty acids: Synthesis and Materials properties

*13<sup>00</sup> – 14<sup>30</sup> Lunch, Royal Hotel Restaurant*

**KEYNOTES**

14<sup>30</sup> – 15<sup>20</sup>, Royal Hotel, Conference Room

**Chairpersons:**

**Andrew Clark**, *University of Warwick, UK*  
**Gabriel Lucian Radu**, *Politehnica University of Bucharest, RO*

- KN1.** **Raluca-Ioana STEFAN-van STADEN**  
Stochastic sensors – new tools for biomedical analysis
- KN2.** **Claudia Koncsag**  
Waste management trends in oil processing industry



**ORAL SESSIONS**

*15<sup>20</sup> – 16<sup>45</sup>, Royal Hotel, Conference Room*

- OB1. Katya Peycheva, Lubomir Makedonski, Albena Merdzhanova, Mona Stancheva**  
Evaluation of toxic metal levels in edible tissues of three wild captured freshwater fishes
- OB2. Constantin Apetrei, Irina Mirela Apetrei**  
Sensors based on carbonaceous materials for detection of biogenic amines
- OB3. Sonia Amariei, Gheorghe Gutt, Mircea Oroian, Alexandra Bodnar**  
Heavy metals in fish from Romanian market
- OB4. Ionela Comnea, Raluca-Ioana Stefan-Van Staden, Jacobus Frederick Van Staden, Camelia Stanciu Gavan**  
Stochastic microsensors as screening tools for neuron specific enolase
- OB5. Livia Alexandra Gugoasa, Raluca-Ioana Stefan-Van Staden, Frederick Jacobus Van Staden, Bogdan Calenic**  
Multimode sensors for BPA assay in childrens' saliva
- OB6. Iuliana Moldoveanu, Raluca-Ioana Stefan-Van Staden, Camelia Stanciu Gavan**  
Pattern recognition of HER-1 in biological fluids using stochastic sensing
- OB7. Sönmez Arslan, Hasan Saygılı, Ömer Erdoğan, Mehmet Çolak, Giray Topal**  
Preliminary application of novel synthesized chiral hydroxy amides as catalyst in asymmetric reduction of acetophenone

*16<sup>45</sup> – 17<sup>00</sup> Coffee break*

**POSTERS (I)**

17<sup>00</sup> – 18<sup>30</sup>, “Ovidius” University Constanta, Central Hall

**Chairpersons:**

**Andrei Medvedovici**, *University of Bucharest, RO*

**Jacobus Frederick Van Staden**, *INCDEMC, RO*

**Ionela Popovici**, “Ovidius” University Constanta, RO

**Section A: Natural and Synthetic Compounds**

- PA1.** **Loredana Lăchioiu, Oana Stoica, Anca Dumbravă, Rodica Olar, Mihaela Badea**  
Physico-chemical and biologic characterisation of some Cu(II) complexes bearing bioactive ligands
- PA2.** **Ileana Nuță, Anca Dumbravă, Rodica Olar, Mihaela Badea**  
Physico-chemical and biologic characterisation of some Ni(II), Pd(II) and Pt(II) complexes with o-tolylbiguanide
- PA3.** **Ioana M.C. Ienașcu, Adina Căta, Mariana N. Ștefănuț, Cristian Tănăsie, Ionel Balcu**  
Antioxidant activity evaluation of some novel salicylamide derivatives
- PA4.** **Adina Căta, Ioana M.C. Ienașcu, Mariana N. Ștefănuț, Cristian Tănăsie, Ioan Țăranu**  
Electrochemical behavior of some new 2-hydroxy-benzamide derivatives
- PA5.** **Claudia-Valentina Popa, Ruxandra Sava, Victorita Tecuceanu, Andrei Florin Danet, Maria Marinescu, Lungu Liliana**  
*Agrimonia eupatoria* L. – Good source of antioxidants
- PA6.** **Ana Leahu, Sonia Amariei, Cristina Damian, Mircea Oroian, Sorina Ropciuc**  
Evaluation of antioxidant ability of some types of red and white wine
- PA7.** **Victoria Artem, Elisabeta-Irina Geană, Arina Oana Antoce**  
Study of phenolic compounds in red grapes and obtained wines from Murfatlar wine center

- PA8.** Ticuța Negreanu-Pîrjol, Florentina Roncea, Antoanela Popescu, Bogdan-Ștefan Negreanu-Pîrjol, Rodica Sîrbu, Radu Cazacincu, Horațiu Mireșan  
Nutritional supplements type syrups based on mixed extracts of some indigenous fruits species with antioxidative activity
- PA9.** Florentina Roncea, Radu George Cazacincu, Cristina Danaila, Valeriu Iancu, Horațiu Mireșan, Cosmin Roșca  
Co-processed excipients used in NSAIDs orally disintegrating tablets development
- PA10.** Florentina Roncea, Ticuța Negreanu-Pîrjol, Antoanela Popescu, Bogdan-Ștefan Negreanu-Pîrjol, Mihaela Mirela Bratu, Carmen Elena Lupu, Horațiu Mireșan  
Pharmaceutical forms type creams and gels based on some vegetal fluid extracts with antioxidative activity
- PA11.** Alina Nicolescu, Natalia Ușurelu, Mihaela Balan, Mihaela Ciobanu, Ana-Maria Macsim, Lorena Ștefan, Călin Deleanu  
Influence of geographic region on natural occurring metabolites as revealed by NMR spectroscopy
- PA12.** Natalia Ușurelu, Alina Nicolescu, Victoria Sacară, Chiril Boiciuc, Svetlana Garaeva, Laszlo Szönyi, Călin Deleanu  
Fast NMR detection of urinary 2-oxoglutaric acid
- PA13.** Lucica Barbeș, Camelia Ontica  
The influence of some enzymatic mixtures on dough rheology and bread quality
- PA14.** Tomescu Aneta, Stanciu Gabriela, Lupsor Simona, Zaharia Elidia Carmen  
Evolution of Total Phenolic Content during Storage for some alcoholic plants extracts
- PA15.** Lupsor Simona, Stanciu Gabriela, Dobrinaș Simona  
Comparative studies of antioxidant activity of some aromatic plants extracts

### **Section B: Analytical and Environmental Chemistry**

- PB1.** Albena Merdzhanova, Dobрева A. Diana, Stancheva Mona, Makedonski Lubomir  
Fat soluble vitamins and fatty acid composition of wild black mussel, rapana and shrimp

- PB2. Julijana Tomovska, Mitre Stojanovski, Elena Miloshevska, Gordana Dimitrovska**  
Examining the impact of meat on lipid status in different ages of people
- PB3. Nicoleta Matei, Gabriel-Lucian Radu, Antoanela Popescu, Victoria Artem, Ticuța-Negreanu Pîrjol**  
HPLC/DAD analysis of vitamin C and antioxidant capacity determination of *Vitis vinifera* l. grapes during ripening
- PB4. Antoanela Popescu, Nicoleta Matei, Ticuța Negreanu-Pîrjol, Corina Prajitura, Horațiu Mireșan, Mihaela Mirela Bratu**  
Evaluation of the polyphenol content and antioxidant activity of wine macerates (medicinal wines) with sage (*Salvia officinalis* l. *Lamiaceae*) and sea rush (*Juncus maritimus* lam. *Juncaceae*) obtained through traditional technology
- PB5. Ioana Silvia Banu**  
Fragmentations in mass spectrometer as a tool for pesticides analyses
- PB6. Valentin Cristian Ivanciu, Olga Iulian**  
Dynamics of water quality specific parameters in lower danube sector in 2011 and 2012
- PB7. Ioana Stanciu**  
Application of new relationship temperature dependence of dynamic viscosity in the study of the rheological of sunflower oil
- PB8. Cristina Damian, Ana Leahu, Sorina Ropciuc**  
Evaluation of some quality characteristics of some apple juices
- PB9. Ramona Georgescu, Jacobus Frederick Van Staden, Raluca-Ioana Stefan-Van Staden, Ioan Calinescu**  
Evaluation of amperometric dot microsensors for the analysis of folic acid in urine sample, pharmaceutical tablets and fruits juice
- PB10. Elisabeta Chirilă, Elena Oancea, Ioana Adina Oancea**  
Physico chemical characterisation of seabuckthorn extracts for cosmetic use

*The posters will be displayed on May 23, between 12:00 – 16:00, before the posters session.*

## **POSTERS (II)**

17<sup>00</sup> – 18<sup>30</sup>, “Ovidius” University Constanta, Central Hall

### **Chairpersons:**

**Claudia Koncsag**, “Ovidius” University Constanta, RO  
**Sonia Amariei**, Ștefan cel Mare University of Suceava, RO  
**Sönmez Arslan**, Batman University, TR

### **Section C: Physical Chemistry**

- PC1.** **Albana Jano**, **Alketa Lame (Galo)**, **Efrosini Kokalari (Teli)**  
The inhibition effects of methionine on mild steel in acidic media
- PC2.** **Anișoara-Arleziana Neagu**, **Irina Niță**, **Elisabeta Botez**  
Study of physico-chemical properties of sunflower oil
- PC3.** **Viorica Popescu**, **Alina Soceanu**, **Simona Dobrinaș**  
Hydrocolloids used in food emulsions
- PC4.** **Irina Niță**, **Anișoara-Arleziana Neagu**, **Elisabeta Botez**, **Sibel Geacai**  
Correlations for refractive index of vegetable oils
- PC5.** **Alina Soceanu**, **Viorica Popescu**, **Simona Dobrinaș**, **I.M.Oancea-Stanescu**  
Influence of factors on aluminum anodizing
- PC6.** **Ionela Carazeanu Popovici**, **Ichinur Omer**, **Semaghiul Birghilă**, **Georgeta Voicu**  
Kinetic study for removing Cr(VI) from water and wastewater using metallurgical coke

### **Section D: Chemical Engineering, Petroleum Technology and Management**

- PD1.** **Ionescu Viorel**  
Comsol multiphysics modelling and analysis of a high temperature PEM fuel cell
- PD2.** **Liliana Lazar**, **Ramona-Elena Tataru-Fărmuș**, **Ioan Mămăligă**  
Ion-exchange kinetics and equilibrium studies of water demineralization process using mixed bed resin purolite MB400
- PD3.** **Chis Timur**  
Modeling the chemical and physical analysis properties of blend oil

- PD4. Chis Timur**  
Heavy crude oil demulsifying through blending with diluent
- PD5. Traian Dordea, Gheorghe Bobescu**  
Research on the addition cellulose properties in improving alcohols used in operation spark-ignition engines
- PD6. Sibel Geacai, Olga Iulian, Irina Nita, Elis Geacai**  
Ternary blends with biodiesel
- PD7. Sanda Geambasu, Gheorghe Bobescu**  
Property features biofuels obtained in specific zones
- PD8. Alina Soceanu, Viorica Popescu, Simona Dobrinas, Silviu Pascu**  
Effect of additives on the antiknock properties of gasoline
- PD9. Ancaelena-Eliza Sterpu, Claudia Irina Koncsag, Anca Iuliana Dumitru, Alina Daniela Mihalcea**  
Petroleum recovery from slime by solvent extraction

### **Section E: Advanced materials and nanotechnologies**

- PE1. C. Al. Matarneh, R. Danac, L. Leontie, F. Tudorache, I. Petrila, I. Mangalagiu**  
Synthesis and electron transport properties of some new 4,7-phenanthroline derivatives in thin films
- PE2. Ionela Carazeanu Popovici, Georgeta Voicu, Alina Bădănoiu, Ichinur Omer, Adriana Puhacel**  
Investigation on Cu(II) adsorption on tricalcium silicate,  $3\text{CaO}\cdot\text{SiO}_2$
- PE3. Ionela Carazeanu Popovici, Georgeta Voicu, Ștefania Stoleriu, Gabriel Prodan**  
Sol-gel synthesis and structural characterisation of Fe-doped  $\text{LaMnO}_3$  nanopowders
- PE4. I. Atkinson, L. Predoana, M.E. Anghel, O.C. Mocioiu, J.Cusu Pandeale, S. Petrescu, C. Munteanu, D. Culita, M. Zaharescu**  
Synthesis, structural and in vitro bioactivity characterization of the Zn-doped sol-gel derived  $\text{SiO}_2 - \text{CaO} - \text{P}_2\text{O}_5$  glasses
- PE5. Corina Teodorescu**  
Nondestructive examination of pressure vessels
- PE6. Corina Teodorescu**  
Dimensioning pipelines transporting compressible fluids

*The posters will be displayed on May 23, between 12:00 – 14:30, before the posters session.*

**May 24, 2014**

**PLENARY LECTURES**

*9<sup>30</sup> – 10<sup>40</sup>, Royal Hotel, Conference Room*

**Chairpersons:**

**Joop Schoonman**, *Delft University of Technology, NL*

**Camelia Drăghici**, *Transilvania University of Brasov, RO*

**PL5. S. Girotti, E. Ferri, G. Mori**

Analytical chemistry in forensic science

**PL6. Sorin Roșca**

New syntheses of useful chemicals starting from agricultural row materials

*10<sup>40</sup> – 11<sup>00</sup>, Coffee break*

**KEYNOTES**

*11<sup>00</sup> – 11<sup>50</sup>, Royal Hotel, Conference Room*

**KN3. Eleonora Mihaela Ungureanu**

Chemically modified electrodes based on polyazulene for heavy metal ions detection

**KN4. Călin Deleanu**

The chemists' NMR approach on monitoring diseases

## **ORAL COMUNICATIONS**

11<sup>50</sup> – 13<sup>20</sup>, Royal Hotel, Conference Room

### **Chairpersons:**

**Stefano Girotti**, *University of Bologna, IT*

**Eleonora-Mihaela Ungureanu**, *Politehnica University of Bucharest, RO*

### **Section C: Physical Chemistry**

- OC1. **Alexandra Oprişanu**, **Georgiana Anca Inel**, **Liviu Birzan**,  
**Eleonora-Mihaela Ungureanu**  
Electrochemical study of selenyl-azulenes

### **Section E: Advanced materials and nanotechnologies**

- OE1. **Daniela Berger**, **Laura Bajenaru**, **Silviu Nastase**, **Raul-Augustin Mitran**, **Cornel Munteanu**, **Cristian Matei**  
Mesoporous silica-type matrix for aminoglycoside delivery systems
- OE2. **Cristina Stan**, **A. Rusu**, **J. Pandele Cusu**, **C. Munteanu**, **D. Culita**, **I. Atkinson**, **V. Fruth**  
Mesoporous bioactive SrO – SiO<sub>2</sub> glasses as drug delivery
- OE3. **I. Atkinson**, **J. Pandele**, **C. Stan**, **D. Culita**, **V. Bretan**, **M. Scurtu**, **C. Munteanu**, **V. Fruth**  
Preparation and characterisation of mesoporous nitrogen-doped SrTiO<sub>3</sub>
- OE4. **V. Fruth**, **I. Atkinson**, **J. Pandele**, **V. Bretan**, **C. Munteanu**, **E.M. Anghel**, **I. Balint**  
Photocatalytic behaviour of BiFeO<sub>3</sub> nanotubes.
- OE5. **J. Pandele**, **C. Stan**, **C. Munteanu**, **D. Culita**, **I. Atkinson**, **V. Parvulescu**, **V. Fruth**  
Synthesis of CeO<sub>2</sub> – SiO<sub>2</sub> mesoporous materials and their properties.



**OE6. Anca Anastasopol, Tobias.V. Pfeiffer, Joost Middelkoop, Ugo Lafont, Rogerio J. Canalez-Perez, Andreas Schmidt-Ott, Fokko M. Mulder, Stephan W.H. Eijt**

Reduced enthalpy of formation for Mg/TiH<sub>x</sub> nanocomposites produced by spark discharge generation

*13<sup>20</sup> – 15<sup>00</sup>, Lunch, Royal Hotel Restaurant*

**15<sup>00</sup> – 15<sup>30</sup> Closing ceremony, Royal Hotel, Conference Room**





