

18th Romanian International Conference on Chemistry and Chemical Engineering



CONFERENCE PROGRAM

RICCCE18

September 4 – 7, 2013
Sinaia, Romania
www.riccce18.upb.ro

CONTENTS

CONFERENCE ORGANIZATION

PROGRAMME AT A GLANCE

Thursday, September 5, 2013

PLENARY LECTURES

ORAL PRESENTATION ON SECTIONS

Section 3. Physical Chemistry, Electrochemistry & Corrosion

Section 4. New concepts in Biochemical and Chemical Engineering

Section 5. Monitoring and Environmental Protection

Section 6. New Materials and Nanomaterials

Friday, September 6, 2013

PLENARY LECTURES

ORAL PRESENTATION ON SECTIONS

Section 1. New Developments in Chemical Synthesis & Catalysis

Section 2. Biochemistry, Food & Health

Section 3. Physical Chemistry, Electrochemistry & Corrosion

Section 4. New concepts in Biochemical and Chemical Engineering

Sponsors' Presentations

Section 6. New Materials and Nanomaterials

Saturday, September 7, 2013

PLENARY LECTURES

ORAL PRESENTATION ON SECTIONS

Section 1. New Developments in Chemical Synthesis & Catalysis

Section 3. Physical Chemistry, Electrochemistry & Corrosion

Section 5. Monitoring and Environmental Protection

CONFERENCE ORGANIZATION

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PREFACE

The Romanian International Conference on Chemistry and Chemical Engineering is a well-known scientific event of the Romanian and foreign chemistry specialists. The aim of RICCCE18 is to provide a forum for presentation and discussion on the main scientific achievements in chemistry and chemical engineering fields and to establish contacts between scientists and companies involved in research, development, and production activities.

The *conference topics* are:

1. New Developments in Chemical Synthesis & Catalysis
2. Biochemistry, Food & Health
3. Physical Chemistry, Electrochemistry & Corrosion
4. New Concepts in Biochemical and Chemical Engineering
5. Monitoring and Environmental Protection
6. New Materials and Nanomaterials

Participants may pick up the registration materials at the main lobby of Montana Hotel. Registration for the conference is on Wednesday, September 4th, 17:00-19:00. Participants arriving late may register on Thursday morning from 8:00.

All plenary lectures will be held in the “Symposium” room.

The Proceedings volume with the abstracts/manuscripts submitted electronically through the conference website will be distributed to the conference participants at registration. Furthermore, a special issue of *Central European Journal of Chemistry* devoted to RICCCE 18 will be published. Manuscripts for this volume should be submitted through the journal webpage (<https://www.editorialmanager.com/cejc/default.asp>) and will go through a regular peer-reviewing procedure.

Many thank to all the participants for their contributions that make the conference possible.

We hope that you will enjoy the conference and your stay in Sinaia.

The Organizing Committee

CONFERENCE PROGRAM

Wednesday, September 4, 2013

17:00 – 19:45 REGISTRATION

20:00 – WELCOME COCKTAIL

Thursday, September 5, 2013

“SYMPOSIUM” HALL

8:30 – 8:50

OPENING CEREMONY

Ecaterina Andronescu, University Politehnica of Bucharest, Romania, Senat President

Horia Iovu, University Politehnica of Bucharest, Romania, Vice Rector

Ioan Călinescu, University Politehnica of Bucharest, Romania, Conference Chairman

PLENARY LECTURES

Session Chairs: Ioan Călinescu, University Politehnica of Bucharest, Romania / Catinca Secuianu, University Politehnica of Bucharest, Romania

8:50 – 9:30

Challenges and opportunities for chemistry in a changing world

Sorin Roșca, University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

9:30 – 10:10

Development of the E-PPR78 model to simultaneously predict the phase equilibria and the heat of mixing of complex systems over wide ranges of temperature and pressure

Jean-Noël Jaubert, Romain Privat, Université de Lorraine, Nancy, France

10:10 – 10:50

Towards new approach in synthesis of polybenzoxazine-based nanocomposites

Horia Iovu, University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

10:50 – 11:10

COFFEE BREAK

PLENARY LECTURES

Session Chairs: Cristina Costache, University Politehnica of Bucharest, Romania / Cristian Pîrvu, University Politehnica of Bucharest, Romania

11:10 – 11:50

Self-organizing electrochemistry: formation and use of TiO₂ nanotube arrays

Patrik Schmuki, University of Erlangen-Nürnberg, Germania

11:50 – 12:30

Carbon nanotubes and carbon nanoions: synthesis, characterization and applications

Prof. Dr.rer.nat. Marius ENACHESCU, Center for Surface Science and Nanotechnology

University POLITEHNICA of Bucharest, Romania

12:30 – 13:10

Recycling of valuable waste streams by membrane technology: progress in membrane distillation, membrane crystallisation and fractionation by nanofiltration

Bart Van der Bruggen, Katholieke Universiteit Leuven, Belgium

13:10 – 14:50 LUNCH

Presentations Schedule

**“Prometheus”
Hall**

3. Physical Chemistry, Electrochemistry & Corrosion

Session Chairs: Jean-Nöel Jaubert, Université de Lorraine, Nancy, France / Catinca Secuianu, University Politehnica of Bucharest, Romania

KEYNOTE LECTURES

14:50 – 15:10

Novel e-paper technology with electrochemistry

Norihisa Kobayashi, Graduate School of Advanced Integration Science, Chiba University, Japan

15:10 – 15:30

Application of spectroelectrochemical methods for analysis of conjugated oligomers and polymers

Mieczyslaw Lapkowski, Faculty of Chemistry, The Silesian University of Technology, Gliwice, Poland

15:30 – 15:50

Evaluation of the nitro/chlorine interaction parameters in nitroalkane + 1-chloroalkane or + α,ω -dichloroalkane systems using DISQUAC group contribution model

Mariana Teodorescu¹, Bruno Marongiu²

¹Department of Chemical Thermodynamics, “Ilie Murgulescu” Institute of Physical Chemistry of the Romanian Academy, Bucharest, Romania

²Department of Chemical Sciences, University of Studies from Cagliari, Italy

ORAL PRESENTATIONS

15:50 – 16:00

High pressure phase equilibria in carbon dioxide + branched alkanes mixtures

Sergiu Sima¹, Julia Cruz-Doblas², Martin Cisondi², Catinca Secuianu^{1,3}

¹University Politehnica of Bucharest, Department of Inorganic Chemistry, Physical Chemistry & Electrochemistry, Romania

²PLAPIQUI Universidad Nacional del Sur, CONICET, Argentina

³Department of Chemical Engineering, Imperial College London, United Kingdom

16:00 – 16:10

Physico-chemical properties of mixtures of ionic liquids with organic solvents used as reaction media for synthesis of ZnO nanostructures

Oana Ciocîrlan, Ovidiu Oprea

University Politehnica of Bucharest, Department of Inorganic Chemistry, Physical Chemistry & Electrochemistry Romania

16:10 – 16:20

High-pressure phase equilibria in the carbon dioxide + 1-undecanol system

Simona Ioniță¹, Catinca Secuianu^{1,2}, Viorel Feroiu¹, Dan Geană¹

¹University Politehnica of Bucharest, Department of Inorganic Chemistry, Physical Chemistry & Electrochemistry, Romania

²Department of Chemical Engineering, Imperial College London, United Kingdom

16:20 – 16:30

Physical properties for binary and ternary mixtures of SDS with water and different alcohols

Sergiu Sima¹, Adrian Crișciu¹, Viorel Feroiu¹, Catinca Secuianu^{1,2}

¹University Politehnica of Bucharest, Department of Inorganic Chemistry, Physical Chemistry & Electrochemistry, Romania

²*Department of Chemical Engineering, Imperial College London, United Kingdom*

16:30 – 16:40

Phase equilibria of CO₂ + systems of interest for CO₂ capture

Cristian Dincă¹, Catinca Secuianu^{2,3}

¹*University Politehnica of Bucharest, Department of Production and Use of Energy Romania*

²*University Politehnica of Bucharest, Department of Inorganic Chemistry, Physical Chemistry & Electrochemistry, Romania*

³*Department of Chemical Engineering, Imperial College London, United Kingdom*

16:40 – 16:50

Phase behaviour in carbon dioxide + butanol isomers

Sergiu Sima¹, Catinca Secuianu^{1,2}, Viorel Feroiu¹, Dan Geană¹

¹*University Politehnica of Bucharest, Department of Inorganic Chemistry, Physical Chemistry & Electrochemistry Romania*

²*Department of Chemical Engineering, Imperial College London, United Kingdom*

16:50 – 17:00

Density- refractive index new correlations for biodiesel blends

Irina Niță¹, Sibel Geacai¹, Olga Iulian², Elis Geacai²

¹*Ovidius University of Constanta, Department of Technology and Chemical Engineering, Romania*

²*University Politehnica of Bucharest, Department of Inorganic Chemistry, Physical Chemistry & Electrochemistry, Romania*

17:00 – 17:10

Impact of poyvinyl alcohol additive on the conformational properties of functionalized polysulfone

Anca Filimon, Ecaterina Avram, Silvia Ioan

Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania

17:10 – 17:30

COFFEE BREAK

Session Chairs: Mieczyslaw Lapkowski, The Silesian University of Technology, Gliwice, Poland / Ileana Rău, University Politehnica of Bucharest, Romania

KEYNOTE LECTURES

17:30 – 17:50

Molecular engineering and biocompatibilisation of chromophores with nonlinear optical properties for biophotonic

Chantal Andraud, *Ecole National Supérieure-Lyon, CNRS-UMR 5182, Université Claude Bernard, Lyon, France*

17:50 – 18:10

Dye doped biopolymeric matrix as a medium for lasing and random lasing

Jaroslav Mysliwiec^{1,2}, Konrad Cyprych², Lech Sznitko², Andrzej Miniewicz², Francois Kajzar^{1,3}, Ileana Rau¹

¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*

²*Wroclaw University of Technology, Wroclaw, Poland*

³*Université Angers, Institut des Sciences et Technologies Moléculaires d'Angers, MOLTECH Anjou –UMR CNRS 6200, France*

ORAL PRESENTATIONS

18:10 – 18:17

Synergistic effects of some semi-alicyclic polyimide on the work of liquid adhesion/cohesion

Silvia Ioan, Anca Filimon, Camelia Hulubei, Emil Ghiocel Ioanid

Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania

- 18:17 – 18:24** **Obtaining and characterization of modified tannins by physico-chemical methods**
Alexandru Gontă¹, Tudor Lupascu¹, Nina Timbaliuc¹, Aurelia Meghea²
¹*Institute of Chemistry, Academy of Sciences of Moldova, Chisinau, Republic of Moldova*
²*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
- 18:24 – 18:31** **Functionalized bioderived thin films for application in phototonics**
Ana-Maria Manea¹, Ileana Rau¹, Francois Kajzar^{1,2}, Aurelia Meghea¹
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*Université Angers, Institut des Sciences et Technologies Moléculaires d'Angers, MOLTECH Anjou –UMR CNRS 6200, France*
- 18:31 – 18:38** **Factors controlling the transport phenomena in quaternized polysulfones/polyvinyl alcohol solutions**
Adina Maria Dobos, Anca Filimon, Ecaterina Avram, Silvia Ioan
Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania
- 18:38 – 18:45** **Electrochemical CO₂ reduction in room temperature ionic liquids (RTILS) preliminary studies**
Florin Alin Hanc-Scherer¹, Carlos M. Sánchez Sánchez², Enrique Herrero Rodríguez², Petru Ilea¹
¹*"Babes-Bolyai" University, Cluj-Napoca, Romania.*
²*Universidad de Alicante, Instituto Universitario de Electroquímica, Spain*
- 18:45 – 18:52** **Electrochemical characterization and anti-corrosion properties of sol-gel silane-based coatings on mild steel**
Oana Fronoiu¹, Ioana Maior¹, Georgiana Negru¹, Simona Căprărescu¹, Violeta Purcar²
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania*
- 18:52 – 19:00** **Production of active chlorine species in an undivided cell using platinised platinum electrodes**
Irina-Elena Ciobotaru, Dănuț-Ionel Văireanu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 19:00 – 19:07** **The evaluation of a solar power module used in conjunction with autonomous monitoring systems**
Florin Nenciu, Dănuț-Ionel Văireanu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 19:07 – 19:14** **A novel method for studying the interactions between foods, food additives and packaging materials**
Andreea Ioana Enache (Bontos)¹, Dănuț-Ionel Văireanu¹, Marius Daniel Bontos²
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*University Politehnica of Bucharest, Faculty of Power Engineering, Romania*
- 19:14 – 19:21** **Electrocatalytic studies on hybrid films of polyaniline in presence of**

cobalt phtalocyanine

Ioana Maior¹, Șerban F. Peteu², Valentin Rădițoiu², Anca Cojocaru¹

¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*

²*National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania*

19:21 – 19:30

Preparation of polyaniline modified electrode in ionic liquid and its applications in ascorbic acid detection

Anca Cojocaru, Ioana Maior, Simona Căprărescu, Florin Nicolae Bîldea, Dănut-Ionel Văireanu

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

20:00 –

CHAIRMEN'S BANQUET @ AZUGA WINERIES

Presentations Schedule

**“Symposium”
Hall**

4. New Concepts in Biochemical and Chemical Engineering

Session Chairs: Pietro Altimari, Sapienza University of Rome, Italy / Gheorghe Maria, University Politehnica of Bucharest, Romania

KEYNOTE LECTURES

14:50 – 15:10

A compartmented kinetic model used to characterize and *in-silico* design controlled drug release systems

Ionela Luță, Gheorghe Maria, Daniela Berger, Silviu Nastase, Anca-Iulia Stoica, Daniela Stirbet, Gabriel Lucian Radu

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

15:10 – 15:30

An analysis of unsteady state autothermal catalytic fixed bed reactors

Ioana Stoica, Ionuț Banu, Grigore Bozga

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

ORAL PRESENTATIONS

15:30 – 15:40

Influence of metal poisoning on the performance of FCC catalysts

Anca Iuliana Dumitru, Claudia Irina Koncsag, Ancaelena-Eliza Sterpu

“Ovidius” University of Constanța, Romania

15:40 – 15:50

Controlled release of rifampicin and isoniazid from oral dosage forms

Paula Postelnicescu, Anca Mădălina Dumitrescu, Ana Maria Josceanu, Evelina Dragomir

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

15:50 – 16:00

Uranium (VI) adsorption equilibrium on purolite resin SGA 600 U/3472

Adriana Botez¹, Tănase Dobre², Eugenia Panțuru¹, Antoaneta Filcenco-Olteanu¹

¹*Research & Development National Institute for Metals and Radioactive Resources – ICPMRR, Bucharest, Romania*

²*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*

- 16:00 – 16:10** **Controlled release of amoxicillin from bacterial cellulose membranes**
Ramona-Daniela Păvăloiu, Anicuța Stoica, Marta Stroescu, Tănase Dobre
University Politehnica of Bucharest, Department of Chemical and Biochemical Engineering, Romania
- 16:10 – 16:20** **Use of fixed bed percolation at oil separation from grinded rapeseed**
Mălina Avram^{1,2}, Gheorghe Raceanu¹, Marta Stroescu², Anicuța Stoica², Tănase Dobre², Octavian Floarea²
¹ *National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania*
² *University Politehnica of Bucharest, Department of Chemical and Biochemical Engineering, Romania*
- 16:20 – 16:30** **Prediction of regulated and non-regulated disinfection by-products formation in water**
Yassine Kadmi^{1,2}, Lidia Favier^{1,2}, Ecaterina Matei³, Cristian Predescu³, Dominique Wolbert^{1,2}
¹ *Ecole Nationale Supérieure de Chimie de Rennes, France*
² *Université Européenne de Bretagne, Brest, France*
³ *University Politehnica of Bucharest, Faculty of Materials Science and Engineering Romania*
- 16:30 – 16:40** **Size-dependent effective physical properties of suspension and the thermal behaviour of the discontinuous polymerization reactor**
Georgiana-Ruxandra Palău, Vasile Lavric
University Politehnica of Bucharest, Department of Chemical and Biochemical Engineering, Romania
- 16:40 – 16:50** **Simulations of C5/C6 isomerization process with a new kinetic model**
Claudia Irina Koncsag, Anca Elena Eliza Sterpu, Anca Iuliana Dumitru
“Ovidius” University of Constanța, Romania
- 17:10 – 17:30** **COFFEE BREAK**
- Session Chairs: Joan Mata Alvarez, University of Barcelona, Spain / Dan Cașcaval, „Gheorghe Asachi” Technical University of Iasi, Romania*
- KEYNOTE LECTURES**
- 17:30 – 17:50** **Biodiesel synthesis on solid catalysts**
Alexandru Tuluc¹, Valentin Pleșu¹, Jordi Bonet-Ruiz², Gheorghe Bumbac¹, Petrica Iancu¹, Grigore Bozga¹
¹ *University Politehnica of Bucharest, Centre for Technology Transfer in the Process Industries, Romania*
² *University of Barcelona, Department of Chemical Engineering, Spain*
- 17:50 – 18:10** **In silico modeling and metabolic engineering of Escherichia Coli to succinic acid production**
Zsolt Bodor¹, Andrea (Iuhasz) Fazakas¹, Erika Kovács², Szabolcs Lányi², Beáta Ábrahám²
¹ *University Politehnica of Bucharest, Department of Analytical Chemistry and Environment Engineering, Romania*
² *Sapientia Hungarian University of Transylvania, Department of Bioengineering, Miercurea Ciuc, Romania*
- ORAL PRESENTATIONS**
- 18:10 – 18:20** **Valorisation of glycerol from biodiesel synthesis**
Alexandru Tuluc¹, Constantin Neamțu², Emil Stepan², Valentin Pleșu¹, Petrica Iancu¹

- ¹ *University Politehnica of Bucharest, Centre for Technology Transfer in the Process Industries, Romania*
² *National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania*
- 18:20– 18:30** **Direct extraction of propionic acid from *P. Acidipropionici* cells suspensions**
Alexandra Carlescu¹, Alexandra Cristina Blaga¹, Dan Cașcaval¹, Anca Irina Galaction²
¹ *"Gheorghe Asachi" Technical University of Iasi, Department of Organic, Biochemical and Food Engineering, Iasi, Romania*
² *"Gr. T. Popa" University of Medicine and Pharmacy of Iasi, Department of Biomedical Science, Iasi, Romania*
- 18:30 – 18:40** **Selective pertraction of succinic acid from mixed acids fermentation broths**
Mădălina Postaru¹, Lenuta Kloetzer¹, Anca Irina Galaction², Dan Cașcaval¹
¹ *"Gheorghe Asachi" Technical University of Iasi, Department of Organic, Biochemical and Food Engineering, Iasi, Romania*
² *"Gr. T. Popa" University of Medicine and Pharmacy of Iasi, Department of Biomedical Science, Iasi, Romania*
- 18:40 – 18:50** **Improvement of oxygen transfer in bacterial and yeasts cultures using oxygen-vectors**
Ramona Mihaela Matran¹, Maria Filibiu¹, Alexandra Cristina Blaga¹, Anca Irina Galaction², Dan Cașcaval¹
¹ *"Gheorghe Asachi" Technical University of Iasi, Department of Organic, Biochemical and Food Engineering, Iasi, Romania*
² *"Gr. T. Popa" University of Medicine and Pharmacy of Iasi, Department of Biomedical Science, Iasi, Romania*
- 18:50 – 19:00** **Cultural conditions optimization of the anaerobic digestion of corn ethanol distillery residuals using response surface methodology**
László Gyenge¹, Botond Ráduly², Silvia Crognale³, Szabolcs Lányi², Beáta Ábrahám²
¹ *University Politehnica of Bucharest, Department of Analytical Chemistry and Environmental Engineering, Romania*
² *Sapientia Hungarian University of Transylvania, Department of Bioengineering, Miercurea Ciuc, Romania*
³ *Tuscia University, DIBAF, Viterbo, Italy*
- 19:00 – 19:10** **Defining the role of cysteine-containing c-terminal region of enhanced green fluorescent protein in fluorescence quenching**
Judit Petres^{1,2}, Emese-Év Bálint², László Szilágyi^{2,3}, Szabolcs Lányi², Beáta Ábrahám²
¹ *University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
² *Sapientia Hungarian University of Transylvania, Department of Bioengineering, Miercurea Ciuc, Romania*
³ *Eötvös Lóránd University, Department of Biochemistry, Budapest, Hungary*
- 19:10 – 19:20** **Advanced oxidation of dye mixture, surfactants and polyalcholos in the process of textile wastewater treatment**
Maria Gonța¹, Vera Matveevici¹, Gheorghe Duca², Larisa Mocanu¹, Viorica Iambartev¹
¹ *State University of Moldova, Chișinău, Moldova*
² *Academy of Sciences of Moldova, Chișinău, Moldova*
- 19:20 – 19:30** **New smart chitosan hydrogels designed for soft tissue engineering**
Doina Dimonie¹, Marius Petrache¹, Raluca Gabor¹, Inna Trandafir¹, Mihai Dimonie¹, Eugeniu Vasile², Sorina Dinescu³
¹ *National Research and Development Institute for Chemistry and Petrochemistry,*

Bucharest, Romania

²*SC Metav-CD SA, Bucharest, Romania*

³*University of Bucharest, Faculty of Biology, Romania*

20:00 – CHAIRMEN'S BANQUET @ AZUGA WINERIES

Presentations Schedule

“Apollo”Hall 5. Monitoring & Environmental Protection
Session Chair: Elena Diacu, University Politehnica of Bucharest, Romania

KEYNOTE LECTURE

14:50 – 15:10 Binding and transport of calixarene-biomolecule supramolecular complexes
Lucia Mutihac
University of Bucharest, Faculty of Chemistry, Romania

ORAL PRESENTATIONS

- 15:10 – 15:20 The use of polymeric membranes in decontamination techniques**
Stefan Ioan Voicu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 15:20 – 15:30 Amperometric detection of phenol at conducting polymer-tyrosinase based biosensor**
Cecilia Lete, Paul Cătălin Balaure, Stelian Lupu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 15:30 – 15:40 Sensitivity of flue gas cleaning by high energy electron beam to the main operating parameters**
Valentina Gogulancea, Vasile Lavric
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 15:40 – 15:50 The GC-ECD method development for analysis of polychlorinated biphenyl compounds for environmental quality monitoring**
Petra Ionescu, Violeta-Monica Radu, Deak György, Elena Diacu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 15:50 – 16:00 Determination of NDMA and NMOR in water samples**
Yassine Kadmi, Lidia Favier, Ecaterina Matei, Cristian Predescu, Dominique Wolbert
Ecole Nationale Supérieure de Chimie de Rennes, CNRS, France
- 16:00 – 16:10 Levigates ions separation by sorbtion-flotation**
Carolina Constantin, Ligia Stoica
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 16:10 – 16:20 Validation of Ion Chromatographic Method For Determination of Heavy Metals In Water**
Irina Bajenaru (Ciobanu), Ana Maria Josceanu, Cornelia Guran, Iulian Minca
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science,

Romania

16:20 – 16:30 Voltammetric study for Ponceau 4R analysis in wastewaters and soft drinks samples

Maria Mădălina Jurcovan, Elena Diacu, Eleonora Mihaela Ungureanu, Magdalena Rodica Bujduveanu

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

16:30 – 16:40 Recovering separation of uranium and of accompanying heavy metals from aqueous systems

Ligia Stoica, Ioana-Carmen Popescu (Hostuc), Viorica Ciocan, Carolina Constantin

National Research and Development Institute of Radioactive Metals and Resources, Bucharest, Romania

16:40 – 16:50 The aluminium ion controlling concentration in acidic soils by hydroxy aluminium sulphate minerals

Igor Povar, Oxana Spinu

Institute of Chemistry, Academy of Sciences, Chisinau, Republic of Moldova

16:50 – 17:00 Removal of Ca²⁺, Ni²⁺, Pb²⁺ and Al³⁺ IONS from aqueous solutions on S 930 ion exchange resin

Daniela Simina Stefan, Irina Meghea

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

17:00 – 17:10 The influence of the oxalic acid addition on the structure, texture and morphology desulfurization sorbents of type ZnO-TiO₂-Al₂O₃

Madelene Dăncilă, Cristian Onose, Georgeta Voicu, Eugeniu Vasile

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

17:10 – 17:30 COFFEE BREAK

Session Chair: Stelian Lupu, University Politehnica of Bucharest, Romania

17:30 – 17:40 Reducing N₂O emissions from urban WWTP by means of decentralized automatic control

Anca Gál, George Simion Ostace, Vasile Mircea Cristea

“Babes-Bolyai” University, Cluj-Napoca, Romania

17:40– 17:50 Risk assessment in oil refineries

Giani Apostol, Florina Vigheci, Mariana Georgescu, Georgiana Anghelache

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials science, Romania

17:50 – 18:00 Assesment of mercury pollution on ecosystems water / sediment from olt river basin and soil near industrial sources of pollution

Luisa-Roxana Popescu, Eleonora Mihaela Ungureanu, Mihaela Iordache, George-Octavian Buica, Georgiana-Anca Inel, Petronela Pavel, Cristina Dinu

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials science, Romania

18:00 – 18:10 The transport of Cu²⁺, Zn²⁺, Fe²⁺ through bulk liquid membrane

Ioana Diaconu, Ionut Zaharia, Alina Munteanu, Elena Ruse

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

- 18:10 – 18:20** **Biosorption of heavy metals ions from aqueous solution into novel, cost-effective bioMaterials**
Ana-Maria Stănescu, Ligia Stoica, Carolina Constantin
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 18:20 – 18:30** **Bacterial decomposition of organic matter**
Éva Tamás, Éva Laslo, Gyöngyvér Mara, Szabolcs Lányi
Sapientia – Hungarian University of Transylvania, Cluj-Napoca, Romania
- 18:30 – 18:40** **Polyaluminum chloride as a coagulation agent in drinking water treatment**
Mircea Mecea, Elena Cical, *Cristina Mihali*, Anca Dumuța, Gabriela Oprea, Claudia Butean, Makarand M. Ghangrekar, Narcis Duțeanu
Technical University of Cluj-Napoca, North University of Baia Mare, Romania
- 18:40 – 18:50** **Removal of zinc ions from aqueous solution by ion exchange**
Emilia Gilcă, Andrada Măicăneanu, Petru Ilea
„Babeș-Bolyai” University, Cluj-Napoca, Romania
- 18:50 – 19:00** **Studies on coagulant dosage in a water treatment plant**
Cristina Modrogan, Alexandra Raluca Miron, Oanamari Daniela Butucea, Cristina Costache
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 19:00 – 19:10** **Bioactive adsorber industrial wastewater treatment**
Cristina Modrogan, *Alexandra Raluca Miron*, Oanamari Daniela Butucea, Cristina Costache
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

20:00 – CHAIRMEN’S BANQUET @ AZUGA WINERIES

Presentations Schedule

“Phoenix” Hall **6. New materials and nanomaterials**
Session Chairs: Ecaterina Andronescu, University Politehnica of Bucharest, Romania / Alina Bădănoiu, University Politehnica of Bucharest, Romania

ORAL PRESENTATIONS

- 14:50 – 15:00** **Recycling of used concrete in value added products**
Alina Bădănoiu, Florentina Mustățea, Georgeta Voicu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 15:00 – 15:10** **Cement with advanced fineness used for gamma radiations shielding**
*Ionela Petre*¹, Adriana Moanță¹, Viorel Fugaru²
¹*S.C. CEPROCIM S.A., Bucharest, Romania*
²*“Horia Hulubei” National Institute of Physics and Nuclear Engineering - IFIN HH, Romania*
- 15:10 – 15:20** **New vitreous matrix for the chromium wastes immobilization**
Ioan Lazău, Cosmin Vancea
University Politehnica of Timisoara, Romania

- 15:20 – 15:30** **Glass foam from window panes and bottle glass wastes**
Cosmin Vancea, Ioan Lazău
University Politehnica of Timisoara, Romania
- 15:30 – 15:40** **Zirconia-alumina composites for solide oxide fuel cells application**
Vasile Adrian Surdu¹, Cristina Ghițulică¹, Ecaterina Andronescu¹, Bogdan Ștefan Vasile¹, Cristian Hornoiu²
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*Romanian Academy, „Ilie Murgulescu” Institute of Physical Chemistry, Bucharest, Romania*
- 15:40 – 15:50** **Sensors in SnO₂ - ZrO₂ system**
Anamaria Puia, Ștefania Stoleriu, Ecaterina Andronescu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 15:50 – 16:00** **Quantum optical nanolithography by direct laser writing on different materials**
Sorin Jinga¹, Eugen Pavel², Bogdan S. Vasile¹, Nicoleta Tosa³, Roxana Trusca⁴
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*Storex Technologies SRL, Bucharest, Romania*
³*National Institute for R&D of Isotopic and Molecular Technologies, Cluj-Napoca, Romania*
⁴*METAV R&D SRL, Bucharest, Romania*
- 16:00 – 16:10** **New ordered functional iridium(III)-based materials for electrooptical devices**
Elisbeta I. Szerb¹, Mauro Ghedini¹, Matei D. Raicopol², Raluca Stan², Anca L. Alexe-Ionescu³
¹*Università della Calabria, Centro di Eccellenza CEMIF.CAL, LASCAMM CR-INSTM Unità della Calabria, Dipartimento di Chimica e Tecnologie Chimiche - DiCTeC, , Italy*
²*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
³*University Politehnica of Bucharest, Faculty of Applied Sciences, Romania*
- 16:10 – 16:20** **Grain size effect on photocatalytic properties of nanocrystalline ZnO**
Otilia-Ruxandra Vasile¹, Ecaterina Andronescu¹, Cristina Ghițulică¹, Bogdan Ș. Vasile¹, Eugeniu Vasile¹, Roxana Trusca²
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*METAV R&D SRL, Bucharest, Romania*
- 16:20 – 16:30** **Weatherproof coatings based on ZnO nanoparticles**
Florica Vaja (Dumitru)^{1,2}, Denisa Ficai¹, Anton Ficai¹, Ovidiu Oprea¹, Cornelia Guran¹
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*Research Institute for Advanced Coatings-ICAA, Bucharest, Romania*
- 16:30 – 16:40** **MgO whiskers prepared by vapor deposition**
Dan Batalu¹, Florin Miculescu¹, Petre Badica²
¹*University Politehnica of Bucharest, Faculty of Materials Science and Engineering, Romania*
²*National Institute of Materials Physics, Magurele, Romania*
- 16:40 – 16:50** **Improved stability of ecological alkyd resin by modification with TiO₂ nanoparticles**
Sorina Mitrea¹, Traian Zaharescu¹, Alina Caramitu¹, Ilona Pleșa¹, Istvan Borbath²

¹INCDIE ICPE CA, Bucharest, Romania

²ROSEAL SA, Odorheiu Secuiesc, Romania

16:50 – 17:00 Mixed oxides derived from chromium substituted hydrotalcites like clays: studies on their specific structural properties

Sofronia Bouariu, Magda Puscașu, Gabriela Carja

“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

17:00 – 17:10 Nickel substituted hydrotalcite like clays: studies on their structural evolution to mixed oxides

Sofronia Bouariu, Gabriela Carja

“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Romania

17:10 – 17:20 Synthesis and characterisation of composite materials based on polypropylene and glass fibers

Maria Sonmez¹, Maria Georgescu¹, M. Nituica¹, Laura Alexandrescu¹, Denisa Ficai², Anton Ficai², Daniel-Florin Sava²

¹National Research & Development Institute for Textiles and Leather, Bucharest, Romania

²University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

17:20 – 17:30 COFFEE BREAK

Session Chairs: Ioan Călinescu, University Politehnica of Bucharest, Romania/Zina Vuluga, National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania

ORAL PRESENTATIONS

17:30 – 17:40 Microwave assisted synthesis of silver nanoparticles in a continuous reactor

Ioan Calinescu¹, Mariana Patrascu², Adrian Trifan¹, Adina Ionuta Gavrila¹

¹University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

²S.C. CHEMSPEED S.R.L. member of PRIMOSAL Group, Romania

17:40– 17:50 Rapid and green synthesis of silver nanoparticles by strawberry callus extract

Monica Elena Mitoi¹, Gabriela Hristea², Gina Cogalniceanu¹

¹Institute of Biology of Romanian Academy, Bucharest, Romania

²National Research & Development Institute for Electrical Engineering, INCDIE ICPE-S.A., Bucharest, Romania

17:50 – 18:00 Photoinduced synthesis of silver/polymer nanocomposites

Gabriel Mustatea^{1,3}, Ioan Calinescu¹, Alina Dobre³ and Lavinia Balan²

¹University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

²Institut de Science des Matériaux de Mulhouse, France

³National Institute of Research and Development for Food Bioresources, Bucharest, Romania

18:00 – 18:10 Quaternary ammonium salts of oligoterephthalates from PET waste as organomodification agents for layered sillicates

Stela Iancu¹, Monica Duldner¹, Zina Vuluga¹, Cristian Nicolae¹, Emeric Bartha²

¹ National Research and Development Institute for Chemistry and Petrochemistry,

Bucharest, Romania

²*Romanian Academy, Center of Organic Chemistry "C.D.Enitescu", Bucharest, Romania*

- 18:10 – 18:20** **Dye sensitized solar cells based on conductive porous layer substrate**
Maria Colie, Vanessa Traistaru, Dragos Tamas, Dan Eduard Mihaiescu, Ecaterina Andronescu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 18:20 – 18:30** **Functionalized polyhedral oligomeric silsesquioxanes: synthesis and structural characterization**
Ana-Maria Corina Dumitriu, Maria Cazacu, Sergiu Shova
Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania
- 18:30 – 18:40** **New irq(ppy)₂ organometallic compound for oled applications**
I.C. Ciobotaru¹, S. Polosan¹, C.C.Ciobotaru², H. Iovu²
¹*National Institute for Materials Physics, Magurele, Romania*
²*University Politehnica of Bucharest, Advanced Polymer Materials Group, Bucharest, Romania*
- 18:40 – 18:50** **Simultaneous two and three photon resonant enhancement of third-order NLO susceptibility in azo-dye polymer film**
Florica Adriana Jerca^{1,2}, Valentin Victor Jerca¹, Ileana Rau³, Ana Maria Manea³, Francois Kajzar³, Dumitru Mircea Vuluga¹
¹*Romanian Academy, Center of Organic Chemistry "C.D.Enitescu", Bucharest, Romania*
²*Romanian Academy, "Ilie Murgulescu" Institute of Physical Chemistry, Colloid Department, Bucharest, Romania*
³*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
- 18:50 – 19:00** **Photonic crystals obtained by soap-free emulsion terpolymerization**
Edina Rusen, Aurel Diacon, Alexandra Mocanu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 19:00 – 19:10** **Factors controlling the transport phenomena in quaternized polysulfones/polyvinyl alcohol solutions**
Adina Maria Dobos, Anca Filimon, Ecaterina Avram, Silvia Ioan
Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania
- 19:10 – 19:20** **Novel poly (methyl methacrylate)s bearing a push-pull azo-moiety**
Mitica Cezar Spiridon^{1,3}, Florica Adriana Jerca^{1,2}, Valentin Victor Jerca¹, Dumitru Mircea Vuluga¹ And Dan Sorin Vasilescu³
¹*Romanian Academy, Center of Organic Chemistry "C.D.Enitescu", Bucharest, Romania*
²*Romanian Academy, "Ilie Murgulescu" Institute of Physical Chemistry, Colloid Department, Bucharest, Romania*
³*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*

20:00 –

CHAIRMEN'S BANQUET @ AZUGA WINERIES

Friday, September 6, 2013

“SYMPOSIUM” Hall

PLENARY LECTURES

Session Chairs: Horia Iovu, University Politehnica of Bucharest, Romania / Raluca Stan, University Politehnica of Bucharest, Romania

8:30 – 9:10 **New synthetic approaches in the crystal engineering of multimetallic molecular systems. Molecular nanomagnets and luminescent materials**
Marius Andruh, *University of Bucharest, Romania*

9:10 – 9:50 **Separation by pertraction - the challenge for downstream processes in biotechnology**
Dan Cașcaval, „Gheorghe Asachi” Technical University of Iași, Romania, Anca Irina Galaction, „Gr. T. Popa” University of Medicine and Pharmacy of Iasi, Romania

9:50 – 10:30 **Improving digester performance by anaerobic codigestion: Process and modelling aspects**
Joan Mata-Alvarez, University of Barcelona, Spain

10:30 – 11:10 **Membranes for CO₂ capture- the road from laboratory to pilot scale**
Marius Șandru, Polymer Particles and Surface Chemistry Group, SINTEF Materials and Chemistry, Norway

11:10 – 11:30 **COFFEE BREAK**

PLENARY LECTURES

Session Chairs: Cristina Costache, University Politehnica of Bucharest, Romania / Valentin Pleșu, University Politehnica of Bucharest, Romania

11:30 – 12:10 **Sol-gel and layer by layer treatments for enhancing flame retardancy of textiles**
Giulio Malucelli, Politecnico di Torino, Italy

12:10 – 12:50 **Advanced distillation technologies – New concepts and applications**
Anton Alexandru Kiss, AkzoNobel, Netherlands

12:50 – 13:30 **Science and Engineering - Interdisciplinary approaches to Environmental Problems**
Richard W. Lo Pinto, Fairleigh Dickinson University, School of Natural Sciences, USA

13:30 – 14:50 **LUNCH**

Presentations Schedule

**“Prometheus”
Hall**

1. New Developments in Chemical Synthesis & Catalysis

Session Chair: Cristian Matei, University Politehnica of Bucharest, Romania

KEYNOTE LECTURES

- 14:50 – 15:10** **O suta de ani de la aparitia cartii lui Constantin I. Istrati: "Studiu relativ la o nomenclatură generală în chimia organică"**
Mircea Iovu
University of Medicine and Pharmacy "Carol Davila" of Bucharest, Romania
- 15:10 – 15:30** **Towards heterotrimetallic nanomagnets**
Diana Visinescu¹, Maria-Gabriela Alexandru^{2,3}, Augustin Madalan², Marius Andruh²
¹*Romanian Academy, "Ilie Murgulescu" Institute of Physical Chemistry, Coordination and Supramolecular Chemistry Laboratory, Bucharest, Romania*
²*University of Bucharest, Faculty of Chemistry, Romania*
³*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Bucharest, Romania*
- 15:30 – 15:50** **Mesoporous materials. Synthesis, characterization and properties**
Daniela Berger, Silviu Nastase, Raul Mitran, Laura Bajenaru, Cristian Matei
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Bucharest, Romania

ORAL PRESENTATIONS

- 15:50 – 16:00** **Rational design, synthesis, and structural characterization of novel copper(II) extended structures**
Delia-Laura Popescu, Mihaela Mocanu, Cătălin Maxim, Augustin M. Mădălan, Marius Andruh
University of Bucharest, Faculty of Chemistry, Romania
- 16:00 – 16:10** **New polymetallic systems obtained using anions of organic acids as spacers**
Traian D. Pasatoiu, Augustin M. Madalan, Marius Andruh
University of Bucharest, Faculty of Chemistry, Romania
- 16:10 – 16:20** **Cu(II) complexes based on a new ditopic azomethine ligand containing trimethylsilyl groups**
Mirela-Fernanda Zaltariov, Sergiu Shova, Maria Cazacu, Angelica Vlad
Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania
- 16:20 – 16:30** **Magnetic and structural properties of new binuclear helicates**
Paula Cucos, Marius Andruh
University of Bucharest, Faculty of Chemistry, Inorganic Chemistry Laboratory, Bucharest, Romania
- 16:30– 16:40** **Studies on antibacterial and antifungal activity of new Cu(II) and Zn(II) heteroleptic complexes containing heterocyclic ligands**
Luminița Crăciun, Laura Alexandrescu, Ovidiu Oprea, Ioana Jitaru
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 16:40 – 16:50** **Synthesis and properties of pure and doped bismuth ferrite obtained**

by soft chemistry routes

Andreea - Iulia Iorgu^{1,2}, Florentina Maxim², Cristian Matei¹, Nicolae Stanica², Daniela Berger¹

¹University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Bucharest, Romania

²Academia Romana, "Ilie Murgulescu" Institute of Physical Chemistry, Bucharest, Romania

16:50 – 17:00 Transparent SnO₂ quantum dots obtained by sol-gel method and their photochemical properties

Ana-Maria Ungureanu, Ovidiu Oprea, Bogdan Stefan Vasile, Corina Andronesco, Ioana Jitaru

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Bucharest, Romania

17:00 – 17:10 Aminoglycoside delivery systems based on ordered mesoporous silica

Laura Bajenaru, Silviu Nastase, Cristian Matei, Raul-Augustin Mitran, Daniela Berger

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

17:10 – 17:30 COFFEE BREAK

Session Chair: Cristian Matei, University Politehnica of Bucharest, Romania

ORAL PRESENTATIONS

17:30 – 17:40 Mesostructured silica matrix for irinotecan delivery systems

Silviu Nastase, Laura Bajenaru, Cristian Matei, Daniela Berger

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Bucharest, Romania

17:40– 17:50 Azobenzene functionalized mesostructured aluminosilicate for drug release applications

Raul – Augustin Mitran^{1,2}, Silviu Năstase¹, Laura Băjenaru¹, Cristian Matei¹, Daniela Berger¹

¹University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Bucharest, Romania

²SARA Pharm Solutions, Bucharest, Romania

20:30 – GALA DINNER

Presentations Schedule

“Apollo” Hall 2. Biochemistry, Food & Health

Session Chair: Raluca Stan, University Politehnica of Bucharest, Romania

ORAL PRESENTATIONS

14:50 – 15:00 Role of organic acids washing solutions on shelf life extension of fresh-cut lettuce (*Lactuca sativa* L.)

Irina Smeu^{1,2}, Anca Ioana Nicolau¹

¹“Dunarea de Jos” University of Galati, Faculty of Food Science and Engineering, Romania

²National R&D Institute for Food Bioresources, Bucharest, Romania

15:00 – 15:10 5-Hydroxymethylfurfural (HMF) analysis in honey

- Ioana Cristina Cojocaru, Mihaela Emanuela Craciun, Gabriel Lucian Radu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 15:10 – 15:20** **The mineral contents of the certain soils and cultured plants and fruits**
Mariana Popescu, Natalita Bordei, Gabriel Ivopol, Maria Ivopol, Mihaela Neagu
S.C. Hofigal Export Import S.A., Bucharest, Romania
- 15:20 – 15:30** **Polyunsaturated fatty acids in vegetal oils. A comparative study**
Natalita Bordei, Gabriel Ivopol, Maria Ivopol, Mariana Popescu
S.C. Hofigal Export Import S.A., Bucharest, Romania
- 15:30 – 15:40** **Compositional study of oils from different varieties of romanian apricots**
Cristina Todasca¹, Aurelia Bratu¹, Mihaela Mihalache¹, Cristina Petrisor², Raluca Stan¹, Sorin Rosca¹
¹*University Politehnica of Bucharest, "Costin D. Nenițescu" Organic Chemistry Department, Romania*
²*Research & Development Station for Fruit Tree Growing Baneasa, Bucharest, Romania*
- 15:40 – 15:50** **Enzymatically preteated microwave assisted extraction of hemp (*Cannabis sativa* L.) seed oil**
Ioan Calinescu¹, Gabriel Calin Ivopol², Maria Ivopol², Adina Ionuta Gavrila¹
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*S.C. Hofigal Export Import S.A., Bucharest, Romania*
- 15:50 – 16:00** **Chemiluminometric fia method for the determination of antioxidant capacity of fruit extracts and juices**
Andrei Florin Danet, Claudia-Valentina Popa, Ileana Cornelia Farcasanu
University of Bucharest, Faculty of Chemistry, Romania
- 16:00 – 16:10** **Polyphenols in coreopsis tinctoria nutt. Fruits and the plant extracts antioxidant capacity evaluation**
Claudia Corina Crișan¹, Ioan Călinescu¹, Christina Zălaru², Rodica Tatia³, Lucia Moldovan³
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*University of Bucharest, Faculty of Chemistry, Romania*
³*National Institute for Research and Development of Biological Science, Bucharest, Romania*
- 16:10 – 16:20** **Microwave assisted extraction of essential oils from spearmint (*Mentha spicata* L.)**
Ioan Calinescu¹, Maria Ivopol², Gabriel Calin Ivopol², Adina Ionuta Gavrila¹
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*S.C. Hofigal Export Import S.A., Bucharest, Romania*
- 16:20 – 16:30** **Novel substituted aminopyrazole biologically active. Structural analysis**
A. Iordache¹, C. Martac¹, M. Iote¹, M. Ferbinteanu¹, M. Iovu², F. Dumitrascu³, C. Draghici³, Ch. Zalaru¹
¹*University of Bucharest, Faculty of Chemistry, Romania*
³*University of Medicine and Pharmaceutics "Carol Davila", Center Research Synthesis and Organic Chemistry, Bucharest, Romania*
⁴*Romanian Academy, Institute of Organic Chemistry "C.D. Enitescu", Bucharest, Romania*

- 16:30 – 16:40** **Biosensor based on tyrosinase immobilized in single-walled carbon nanotubes screen-printed electrode for tyramine detection**
Irina Mirela Apetrei¹, Constantin Apetrei²
¹University “Dunarea de Jos” of Galati, Faculty of Medicine and Pharmacy, Romania
²University “Dunarea de Jos” of Galati, Faculty of Sciences and Environment, Romania
- 16:40 – 16:50** **Hydrogen/ deuterium exchange – mass spectrometry for molecular characterization of neuronal protein aggregates**
Brîndușa Alina Petre^{1,2}, Laura Ion¹, Claudia Andries¹, Brian Gau², Gabi Drochioiu¹, Michael Gross
¹The Al. I. Cuza University of Iasi, Faculty of Chemistry, Group of Biochemistry, Romania
²University of Konstanz, Laboratory of Analytical Chemistry and Biopolymer Analysis, Germany
- 16:50 – 17:00** **Studies regarding cleaner extraction techniques used for potato’s viruses identification**
Carmen Liliana Bădărău¹, Florentina Damșa², S. N. Rusu²
¹Transylvania University of Brașov, Faculty of Food and Tourism, Romania
²National Institute of Research and Development for Potato and Sugar Beet Brașov, Romania
- 17:00 – 17:10** **Azo-polymers modified with nucleobases for cell culture applications**
Cristina-Maria Păiuș¹, Norica Nichita², Licinio Rocha³, Nicolae Hurduc¹
¹“Gheorghe Asachi” Technical University of Iasi, Department of Natural and Synthetic Polymers, Romania
²Romanian Academy, Institute of Biochemistry, Department of Viral Glycoproteins, Bucharest, Romania
³CEA, LIST Saclay, Laboratoire Capteurs et Architectures Électroniques, Gif-sur-Yvette, Cedex, France
- 17:10 – 17:30** **COFFEE BREAK**
- Session Chair: Raluca Stan, University Politehnica of Bucharest, Romania*
- ORAL PRESENTATIONS**
- 17:30 – 17:40** **Influence of incubation time upon microbial degradation of poly(hydroxybutyrate)/poly(vinyl alcohol) blends evaluated by thermal analysis**
Adina Magdalena Musuc¹, Mihaela Badea-Doni², Luiza Jecu², Melania Liliana Arsene² And Vlad Tudor Popa¹
¹Romanian Academy, „Ilie Murgulescu” Institute of Physical Chemistry, Bucharest, Romania
²National Research & Development Institute for Chemistry and Petrochemistry, Bucharest, Romania
- 17:40 – 17:50** **Saccharomyces Cerevisiae yeast immobilized on modified polyacrylamide hydrogels**
Ioan Calinescu, Petre Chipurici, Adrian Trifan
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 17:50 – 18:00** **Mass spectrometric based methods for rigorous characterization of antibody-antigen interaction**
Claudia Andries^{1,2}, Mihaela Stumbaum², Michael Przybylski², Gabi Drochioiu² And Brîndușa-Alina Petre^{1,2}

¹Faculty of Chemistry, Group of Biochemistry, Al. I. Cuza University, Iași, Romania

²Laboratory of Analytical Chemistry and Biopolymer Analysis, University of Konstanz, Germany

18:00 – 18:10

Lysosomal storage disease. Characterization and diagnostics

Laura Ion^{1,2}, Claudia Cozma², Michael Przybylski², Gabi Drochioiu¹, Brîndusa-Alina Petre^{1,2}

¹ The Al. I. Cuza University of Iași, Faculty of Chemistry, Group of Biochemistry, Romania

² University of Konstanz, Laboratory of Analytical Chemistry and Biopolymer Analysis, Germany

18:10 – 18:20

Metal binding to β -amyloid peptides associated with Alzheimer disease: MS, SEM, AFM and CD investigation

Adina Alexandra Mitel^{1,2}, Marilena Manea³, Manuela Murariu², Gabi Drochioiu⁴

¹ "Gh. Asachi" Technical University, Faculty of Chemical Engineering and Environmental Protection, Iași, Romania

² Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania

³ University of Konstanz, Laboratory of Analytical Chemistry and Biopolymer Analysis, Germany

⁴ The Al. I. Cuza University of Iași, Faculty of Chemistry, Romania

18:20 – 18:30

MS and CD investigations of amyloid beta (1-16) mutant peptides associated with Alzheimer's disease

Laura Habasescu¹, Manuela Murariu², Brîndusa Alina Petre¹, Claudia Cozma³, Michael Przybylski³, Gabi Drochioiu¹

¹ The Al. I. Cuza University of Iași, Faculty of Chemistry, Group of Biochemistry, Romania

² Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania

³ University of Konstanz, Laboratory of Analytical Chemistry and Biopolymer Analysis, Germany

20:30 –

GALA DINNER

Presentations Schedule

"Apollo" Hall

Sponsors' Presentation

Session Chair: Alina Bădănoiu, University Politehnica of Bucharest, Romania

18:30 – 18:45

Health Herbal Therapies for the Modern Man

Anca Daniela Raiciu

S.C. Hofigal Export Import S.A., Bucharest, Romania

18:45 – 19:00

Modern techniques of analysis of Agilent Technologies

Alin Mogos

SC AGILROM SCIENTIFIC SRL

19:00 – 19:15

Analytik Jena

Erdin FEIZULA

Analytik Jena Romania, Bucharest, Romania

19:15 – 19:30 **Microwave equipments for chemical synthesis**

Mariana Patrascu
Primosal Group

19:30 – 19:45 **Metrohm Analytics Romania**

Daniel Schäfer
Metrohm Analytics Romania, Bucharest, Romania

20:30 – **GALA DINNER**

Presentations Schedule

**“Prometheus”
Hall**

3. Physical Chemistry, Electrochemistry & Corrosion

Session Chairs: *Patrik Schmuki, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany/Ioana Demetrescu, University Politehnica of Bucharest, Romania*

KEYNOTE LECTURES

17:50 – 18:10

Fluorescent molecular reporters in soft matter

Albert M. Brouwer¹, Tomislav Suhina¹, Chantal Carpentier¹, Marthe Schut², Bart Weber², Daniel Bonn², And Peter Schall²

¹*University of Amsterdam, van 't Hoff Institute for Molecular Sciences, The Netherlands*

²*University of Amsterdam, Institute of Physics, The Netherlands*

18:10 – 18:30

Grating inscription in DR1:DNA-CTMA thin films: experiment, MONTE CARLO simulation and theory

Antoni C. Mitus^{1,2}, Grzegorz Pawlik², Wojciech Radosz², Jaroslaw Mysliwiec^{1,2}, Andrzej Miniewicz³, Francois Kajzar^{1,4}, Ileana Rau¹

¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Bucharest, Romania*

²*Wroclaw University of Technology, Institute of Physics, Poland*

³*Wroclaw University of Technology, Institute of Theoretical and Physical Chemistry, Poland*

⁴*Université Angers, Institut des Sciences et Technologies Moléculaires d'Angers, MOLTECH Anjou –UMR CNRS 6200, France*

ORAL PRESENTATIONS

18:30 – 18:40

Advanced biomaterials for photonics and electronics

Ileana Rău¹, Mihaela Mîndroiu¹, Alexandrina Țane¹, Roxana Zgârian¹, Grațiela Tihan¹, Francois Kajzar^{1,2}, Aurelia Meghea¹

¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*

²*Université Angers, Institut des Sciences et Technologies Moléculaires d'Angers, MOLTECH Anjou –UMR CNRS 6200, France*

18:40 – 18:50

On deoxyribonucleic acid (DNA) based bioleds

R. Grykien¹, B. Luszczynska¹, I. Glowacki¹, J. Ulanski¹, I. Rau², R. Zgarian², F. Kajzar^{2,3}

¹*Department of Molecular Physics, Lodz University of Technology, Lodz, Poland*

²*University Politehnica Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*

³*Université Angers, Institut des Sciences et Technologies Moléculaires d'Angers, MOLTECH Anjou –UMR CNRS 6200, France*

18:50 – 19:00

Electrochemical characterisation of some DNA based biomaterials

with high potential applications

Mihaela Mîndroiu¹, Gratiela Tihan¹, Roxana Zgârian¹, Ileana Rău¹, Francois Kajzar^{1,2},
Hyrly Cunha Leite de Oliveira³

¹ *University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*

² *Université Angers, Institut des Sciences et Technologies Moléculaires d'Angers, MOLTECH Anjou –UMR CNRS 6200, France*

³ *University of Sao Paulo, Institute of Chemistry of Sao Carlos, Brazil*

19:00 – 19:10

New DNA based biomaterials for applications in biophotonics

Gratiela Teodora Tihan¹, Mihaela Mîndroiu¹, Alexandrina Țane¹, Roxana Gabriela Zgârian¹, Francois Kajzar^{1,2}, Hyrly Cunha Leite de Oliveira³, Ileana Rău¹

¹ *University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*

² *Université Angers, Institut des Sciences et Technologies Moléculaires d'Angers, MOLTECH Anjou –UMR CNRS 6200, France*

³ *University of Sao Paulo, Institut of Chemistry of Sao Carlos, Brazil*

19:10 – 19:20

Functionalization and characterization of DNA based materials in view of their application in electrooptics

Roxana Gabriela Zgârian¹, Alexandrina Țane¹, Gratiela Tihan¹, Aurelia Meghea¹, Francois Kajzar^{1,2}, Ileana Rau¹

¹ *University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*

² *Université Angers, Institut des Sciences et Technologies Moléculaires d'Angers, MOLTECH Anjou –UMR CNRS 6200, France*

19:20 – 19:30

Electrospun Titanium Dioxide nanofibers on glass electrodes

Cristina Dumitriu^{1,2}, Rose-Marie Latonen¹, Johan Bobacka¹, Ioana Demetrescu²

¹ *Åbo Akademi University, Process Chemistry Centre, Laboratory of Analytical Chemistry, Turku/Åbo, Finland*

² *University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*

19:30 – 19:40

Spin coating vs. electrodeposition for PEDOT: PSS conductive films. An electrochemical approach

Andrei Bogdan Stoian, Cristian Pirvu, Ioana Demetrescu

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Bucharest, Romania

19:40 – 19:50

Improving the adherence properties of PPY films via self polymerized dopamine thin layer

Simona Popescu, Camelia Ungureanu, Cristian Pirvu

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

20:30 –

GALA DINNER

Presentations Schedule

**“Symposium”
Hall**

4. New Concepts in Biochemical and Chemical Engineering

Session Chairs: Petru Ilea, “Babeş-Bolyai” University, Romania / Tanase Dobre, University Politehnica of Bucharest, Romania

KEYNOTE LECTURES

14:50 – 15:10

Mass transfer and mathematical modelling in molecularly imprinted polymers with Sclareol

Ştefan-Ovidiu Dima¹, Tănase Dobre², Olga Chetaru³, Andrei Sârbu¹

¹National Research and Development Institute for Chemistry and Petrochemistry ICECHIM, Bucharest, Romania

²University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

³Institute of Chemistry of the Academy of Sciences of Moldova, Chişinău, Republic of Moldova

15:10 – 15:30

Kinetic modelling and optimisation of copper leaching process from waste electrical and electronic equipments

Ioana-Alina Popescu¹, Attila Egedy², Szabolcs Fogarasi¹, Tamás Varga², Petru Ilea¹

¹“Babeş-Bolyai” University, Faculty of Chemistry and Chemical Engineering, Cluj-Napoca, Romania

²University of Pannonia, Department of Process Engineering, Veszprém, Hungary

ORAL PRESENTATIONS

15:30 – 15:40

Mass transfer coefficients in dissolution processes using the rotating disc technique

Cristian Andrei Horoba, Ioan Mămăligă

“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

15:40 – 15:50

Polymer membranes-based enzymatic composites: synthesis and characterization

Teodor Sandu¹, Andrei Sârbu¹, Celina Maria Damian², Ana Mihaela Florea^{1,2}, Silviu Vulpe³, Horia Iovu²

¹National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania

²University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

³University of Bucharest, Faculty of Physics, Magurele, Romania

15:50 – 16:00

Study of dynamic parameters in a multi-layer fluidized bed stabilized in a coaxial magnetic field

Gabriela Munţianu¹, Gholamreza Djelveh², Denisa Ileana Nistor¹, Alina Violeta Ursu^{1,2}, Nicoleta Platon¹, Gabriela Isopencu³, Alina Monica Mareş³, Gheorghita Jinescu³

¹“Vasile Alecsandri” University of Bacău, Romania

²Clermont Université, ENSCCF, Clermont-Ferrand, France

³University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

16:00 – 16:10

Gold recovery from the secondary streams resulted in the recycling process of waste printed circuit boards

Szabolcs Fogarasi¹, Florica Imre-Lucaci², Árpád Imre-Lucaci¹, Tibor Chován³, Petru Ilea¹

¹"Babes-Bolyai" University, Faculty of Chemistry and Chemical Engineering, Cluj-Napoca, Romania

²"Babeş-Bolyai", University, Interdisciplinary Research Institute on Bio-Nano-Sciences, Cluj-Napoca, Romania

³University of Pannonia, Department of Process Engineering, Veszprém, Hungary

16:10 – 16:20 Bacterial cellulose composites used as superabsorbent materials for arid areas

Anicuța Stoica, Marta Stroescu, Tănase Dobre, Oana Pârvulescu

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

16:20 – 16:30 TAME synthesis plant simulation

Olivia Ana Perederic¹, Valentin Pleșu¹, Petrica Iancu¹, Alexandra Elena Bonet Ruiz¹, Gheorghe Bumbac¹, Jordi Bonet Ruiz²

¹ University Politehnica of Bucharest, Centre for Technology Transfer in the Process Industries, Romania

²University of Barcelona, Department of Chemical Engineering, Spain

16:30 – 16:40 High vacuum distillation for ω -3 fatty acids esters separation

Nicoleta Gabriela Stefan¹, Cristina Enăscuță^{1,2}, Emil Stepan², Alexandru Tuluc¹, Valentin Pleșu¹, Jordi Bonet Ruiz³, Petrica Iancu¹

¹ University Politehnica of Bucharest, Centre for Technology Transfer in the Process Industries, Romania

²National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania

³University of Barcelona, Department of Chemical, Spain

16:40 – 16:50 Hybrid systems for light hydrocarbons mixture separation

Raluca Isopescu, Cristiana Luminița Gițiu, Daniel Dumitru Dinculescu

University Politehnica of Bucharest, Department of Chemical and Biochemical Engineering, Romania

16:50 – 17:00 Slow-release fertilisers obtained through microencapsulation techniques

Constantin Neamtu¹, Gheorghe Raceanu¹, Emil Stepan¹, Florin Oancea¹, Valentin Pleșu², Alexandra Elena Bonet-Ruiz², Petrica Iancu²

¹National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania

²University Politehnica of Bucharest, Centre for Technology Transfer in the Process Industries, Romania

17:10 – 17:30 COFFEE BREAK

Session Chairs: Anton Alexandru Kiss, AkzoNobel, Netherlands / Costin Sorin Bîldea, University Politehnica of Bucharest, Romania

KEYNOTE LECTURES

17:30 – 17:50 Control of thermal wave trains of the loop reactor

Pietro Altamari¹, Erasmo Mancusi²

¹"Sapienza" Università del Rome Dipartimento di Chimica, Italia

²Università del Sannio, Facoltà d'Ingegneria, Benevento, Italia

17:50 – 18:10 Modeling and design of catalytic cyclic distillation

Cătălin Pătruț¹, Costin Sorin Bîldea¹, Anton Alexandru Kiss²

¹University Politehnica of Bucharest, Department of Chemical & Biochemical Engineering, Romania

²*Alumnus of University of Amsterdam, The Netherlands*

ORAL PRESENTATIONS

- 18:10 – 18:20** **Improving distillation performance by cyclic operation**
Ionela Liță¹, Costin Sorin Bildea¹, Anton Alexandru Kiss²
¹*University Politehnica of Bucharest, Department of Chemical & Biochemical Engineering, Romania*
²*Alumnus of University of Amsterdam, The Netherlands*
- 18:20– 18:30** **Radioactive soils decontamination by washing method**
Aura Daniela Radu^{1,2}, Alexandru Woinaroschy¹, Eugenia Panțuru², Antoneta Filcenco-Olteanu²
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*National Research and Development Institute of Radioactive Metals and Resources, Bucharest, Romania*
- 18:30 – 18:40** **The optimal conditions for anthocyanin extraction and evaluation of antioxidant capacity**
Florentina Damșa^{1,2}, Alexandru Woinaroschy¹, Carmen Liliana Bădărău³
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*National Institute of Research and Development for Potato and Sugar Beet of Brașov, Romania*
³*Transylvania University of Brașov, Faculty of Food and Tourism, Romania*
- 18:40 – 18:50** **The slope angle determination as measure of interparticular forces for powdery materials**
Gabriela Isopencu, Monica Mareș, Gheorghita Jinescu
University Politehnica of Bucharest, Department of Chemical and Biochemical Engineering, Romania
- 18:50 – 19:00** **Production of γ -butyrolactone by hydrogenation of maleic anhydride and dehydrogenation of 1, 4-butanediol**
Ahtesham Javaid, Costin Sorin Bildea
University Politehnica of Bucharest, Department of Chemical and Biochemical Engineering, Romania
- 19:00 – 19:10** **Studies of VOCs adsorption onto activated carbon in a fixed bed**
Oana Cristina Pârvolescu¹, Laurențiu Cetră², Marta Stroescu¹, Anicuța Stoica¹, Tănase Dobre¹, Gustav Iavorschi¹
¹*University Politehnica of Bucharest, Department of Chemical and Biochemical Engineering, Romania*
²*ARENA Group S.A., Bucharest, Romania*
- 19:10 – 19:20** **Processes involving a high biocompatibility of cellulose acetate phthalate/hydroxypropyl cellulose films**
Mihaela Dorina Onofrei, Adina Maria Dobos, Niculae Olaru, Liliana Olaru, Silvia Ioan
Romanian Academy, Institute of Macromolecular Chemistry “Petru Poni”, Iasi, Romania
- 19:20 – 19:30** **Structure/antithrombogenic properties relationship of new phosphorus-modified polysulfones**
Luminita-Ioana Buruiana¹, Ecaterina Avram¹, Oana Petreus¹, Adriana Popa², Silvia Ioan¹
¹*Romanian Academy, Institute of Macromolecular Chemistry “Petru Poni”, Iasi, Romania*
²*Romanian Academy, Institute of Chemistry Timisoara, Timisoara, Romania*

20:30 –

GALA DINNER

Presentations Schedule

“Phoenix” Hall	6. New materials and nanomaterials <i>Session Chairs: Giulio Malucelli, Politecnico di Torino, Italia/Horia Iovu, University Politehnica of Bucharest, Romania</i>
	ORAL PRESENTATIONS
14:50 – 15:00	Functionalized single walled carbon nanotubes with doxorubicin for controlled drug delivery systems <i>Constantin Claudiu Ciobotaru, Celina Maria Damian, Horia Iovu</i> <i>University Politehnica of Bucharest, Advanced Polymer Materials Group, Romania</i>
15:00 – 15:10	Bacterial cellulose/ collagen composites <i>Madalina Georgiana Albu¹, Zina Vuluga², Denis Mihaela Panaitescu², Dumitru Mircea Vuluga³, Angela Casarica⁴</i> <i>¹National R&D Institute for Textile and Leather – ICPI Division, Bucharest, Romania</i> <i>² National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania</i> <i>³ Romanian Academy, Center for Organic Chemistry “C.D. Nenitescu” of, Bucharest, Romania</i> <i>⁴National Institute for Chemical - Pharmaceutical Research and Development Bucharest, Romania</i>
15:10 – 15:20	Biodegradable composite materials based on natural bacterial cellulose and polyesters for tissue bioengineering <i>Paul Octavian Stănescu¹, Cătălin Zaharia¹, Veronica Frățilă¹, Bianca Gălățeanu², Eugeniu Vasile¹</i> <i>¹University Politehnica of Bucharest, Advanced Polymer Materials Group, Romania</i> <i>²University of Bucharest, Department of Biochemistry and Molecular Biology, Romania</i>
15:20 – 15:30	New smart chitosan hydrogels designed for soft tissue engineering <i>Doina Dimonie¹, Marius Petrache¹, Raluca Gabor¹, Inna Trandafir¹, Mihai Dimonie¹, Eugeniu Vasile²</i> <i>¹National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania</i> <i>²University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania</i>
15:30 – 15:40	Biomaterials based on bacterial cellulose grafted with synthetic polymers for tissue bioengineering applications <i>Cătălin Zaharia¹, Paul Octavian Stănescu¹, Bianca Gălățeanu², Eugeniu Vasile¹</i> <i>¹University Politehnica of Bucharest, Advanced Polymer Materials Group, Romania</i> <i>²University of Bucharest, Department of Biochemistry and Molecular Biology, Bucharest, Romania</i>
15:40 – 15:50	Water dispersible ferromagnetic nanostructures for tumoral treatments <i>Vladimir-Lucian Ene¹, Ecaterina Andronescu¹, Alexandru Mihai Grumezescu¹, Georgeta Voicu¹, Coralia Bleotu²</i> <i>¹University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania</i> <i>²“Stefan Nicolau” Institute of Virology, Bucharest, Romania</i>
15:50 – 16:00	In vitro haemocompatibility evaluation of new Zr alloys using whole human blood

Georgeta Totea¹, Ioan Viorel Branzoi¹, Mihaela Magdalena Mitache^{2,3}, Mariana Carmen Chifiriuc⁴, Mihaela Iordache¹, Nicoleta Dobre¹, Marius Duta¹

¹University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

²Public Health Direction Bucharest, Romania

³University Titu Maiorescu of Bucharest, Faculty of medicine, Romania

⁴University of Bucharest, Romania

16:00 – 16:10 New composite materials based on poly(methacrylic acid) and hydroxyapatite for dental applications

Andrei Cucuruz, Ecaterina Andronescu, Anton Ficai, Andreia Ilie

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

16:10 – 16:20 Hydroxyapatite in drug release

Andreia Ilie, Ecaterina Andronescu, Anton Ficai, Andrei Cucuruz

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

16:20 – 16:30 A comparative study on the antibacterial activity of silver doped and undoped calcium phosphate ceramics and bioactive glass

Ionela Andreea Neacșu¹, Cristina Ghițulică¹, Bogdan Ș. Vasile¹, Roxana Trușcă²

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

²METAV R&D SRL, Bucharest, Romania

16:30 – 16:40 Irinotecan-collagen hybrid materials as a potential drug delivery system

Ruxandra Elena Geanaliu, Georgeta Voicu, Cristina Ghițulică, Ecaterina Andronescu

University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

16:40 – 16:50 Influence of the Fe₃O₄@ATB nanoparticles on enterococcus faecalis cells

Ani Ioana Cotar¹, Alexandru Mihai Grumezescu², Ecaterina Andronescu², Anton Ficai², Valentina Grumezescu^{1,2}, Veronica Lazar¹, Mariana Carmen Chifiriuc¹

¹University of Bucharest, Faculty of Biology, Romania

²University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

16:50 – 17:00 Phytonanofluid coating agent to prevent fungal colonization

Lia-Mara Ditu¹, Alexandru Mihai Grumezescu², Ecaterina Andronescu², Anton Ficai², Valentina Grumezescu², Grigore Mihaescu¹, Mariana Carmen Chifiriuc¹

¹University of Bucharest, Faculty of Biology, Romania

²University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

17:00 – 17:10 Bio-based nanocomposites from modified vegetable oil and three-dimensional inorganic/organic hybrids

Brîndușa Bălănuță¹, Raluca Stan¹, Adriana Lungu¹, Izabela-Cristina Stancu¹, Anamaria Hanganu², Horia Iovu¹

¹University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

²Romanian Academy, Center for Organic Chemistry "C.D. Nenitescu" of, Bucharest, Romania

17:10 – 17:30 COFFEE BREAK

Session Chairs: Giulio Malucelli, Politecnico di Torino, Italy/Izabela Stancu, University Politehnica of Bucharest, Romania

ORAL PRESENTATIONS

- 17:30 – 17:40** **Comparative studies regarding the performance of pressure-sensitive adhesive systems based on polychloroprene rubber and hybrid acrylic adhesive**
Ioana Dutescu¹, Roxana Popescu², Alina Iovescu³, Camelia Bichir⁴, Gheorghe Hubca²
¹*S.C. Haas-C-Impex S.R.L., Ploiești, Prahova, Romania*
²*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
³*National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania*
⁴*Academy of Agricultural and Forestry Studies, Bucharest, Romania*
- 17:40– 17:50** **New blends based on starch moldable by thermoforming**
Doina Dimonie¹, Marius Petrache¹, Celina Damian², Madalina Pandele², Maria Rapa³, Eugeniu Vasile²
¹*National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania*
²*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
³*S.C. ICPAO S.A., Mediaș, Romania*
- 17:50 – 18:00** **Behavior of some thermochromic systems based on spirolactone dyes embedded in epoxy resins**
Valentin Raditoiu, Alina Raditoiu, Cristian-Andi Nicolae, Raluca Gabor, Marius Ghiurea, Viorica Amariutei, Luminita Eugenia Wagner
National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania
- 18:00 – 18:10** **Hydrogel nanocomposites based on cross-linked poly(acrylic acid) and kaolin modified with polyacrylamide**
Anamaria Lungu¹, Andrei Sarbu¹, Anita-Laura Ciripoiu¹, Katja Jankova Atanasova², Xavier-Francois Perrin³, Mircea Teodorescu⁴, Silviu Vulpe⁵
¹*National Research-Development Institute for Chemistry and Petrochemistry, Bucharest, Romania*
²*Technical University of Denmark, Department of Chemical and Biochemical Engineering, Lyngby, Denmark*
³*University of South Toulon-Var, Laboratoire Matériaux Polymères Interfaces et Environnement Marin, La Garde Cedex, France*
⁴*University Politehnica of Bucharest, Department of Bioresources and Polymer Science, Romania*
⁵*University of Bucharest, Faculty of Physics, Magurele, Romania*
- 18:10 – 18:20** **Effect of carbonic reinforcing agents in thermoplastic composites**
Cristina-Elisabeta Ban^{1,2}, Adriana Ștefan¹, Ion Dincă¹, Anton Ficăi², George Pelin¹, Ecaterina Andronescu²
National Institute for Aerospace Research and Development “Elie Carafoli”, Bucharest, Romania
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 18:20 – 18:30** **Characteristics of polymer composites reinforced with glass fibers to fatigue**
Mirela NĂSTASE

Building School Group "N. Mihaescu" Târgoviște, Romania

- 18:30 – 18:40** **Synthesis of benzoxazine monomers in the presence of montmorillonite**
Corina Andronescu¹, Sorina Alexandra Garea¹, Mihaela Tudoran¹ Calin Deleanu², Alina Nicolescu³, Horia Iovu¹
¹ *University Politehnica of Bucharest, Advanced Polymer Materials Group, Romania*
² *Romanian Academy, Center for Organic Chemistry "C.D. Nenitescu" of, Bucharest, Romania*
³ *Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry , Iași, Romania*
- 18:40 – 18:50** **The effect of graphene oxide on thermal and mechanical properties of chitosan-poly(vinyl alcohol) blend**
Andreea Madalina Pandeale, Livia Crica, Mariana Ioniță, Horia Iovu
University Politehnica of Bucharest, Advanced Polymer Materials Group, Romania
- 18:50 – 19:00** **Electrochemical detection of glucose based on prussian blue modified screen printed electrode**
Florentina Hutanu, Gheorghe Gutt
"Ștefan cel Mare" University of Suceava, Romania

20:30 – GALA DINNER

Saturday, September 7, 2013

“SYMPOSIUM” HALL

PLENARY LECTURES

Session Chairs: Ioan Călinescu, University Politehnica of Bucharest, Romania/ Richard W. Lo Pinto, School of Natural Sciences, Fairleigh Dickinson University, USA

- 8:30 – 9:10** **Cyclophanes, Cryptands and H-bonding Self-assembled Aggregates: Synthesis, Structure and Molecular Machines**
Ion Grosu, “Babeş-Bolyai” University, Cluj-Napoca, Romania
- 9:10 – 9:50** **Unique microwave-plasma interactions for various industrial applications**
Ahmed Al-Shamma’a, , Liverpool John Moores University, BEST Research Institute, United Kingdom
- 9:50 – 10:30** **Microwave-assisted chemical synthesis. From laboratory to industry**
Marilena Rădoiu, SAIREM SAS, France
- 10:30 – 11:10** **Electrosynthesis of various cyclo[n]pyrroles and new expanded porphyrins**
Eric Saint-Aman, Université Joseph Fourier Grenoble, France
- 11:10 – 11:50** **On the transport processes in ion-exchange membranes**
Stanislaw Koter, Nicolaus Copernicus University, Torun, Poland

11:50 – 12:10 COFFEE BREAK

Presentations Schedule

“Apollo” Hall

1. New Developments in Chemical Synthesis & Catalysis

Session Chair: Daniela Istrati, University Politehnica of Bucharest, Romania

KEYNOTE LECTURES

- 12:10 – 12:30** **Basic Radiation Chemistry of Polymers for Industrial Applications**
Traian Zaharescu
INCDIE ICPE CA, Bucharest, Romania

ORAL PRESENTATIONS

- 12:30 – 12:40** **Flash plasma reactions of pyridine-based compounds**
Dragos Tamas, Daniela Istrati, Iulia Gudovan, Dan Eduard Mihaiescu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 12:40 – 12:50** **Microwave assisted synthesis of phenothiazine based fluorophores**
Castelia Cristea, Luiza Găină, Ioana Torje, Gal Emese, Luminița Silaghi-Dumitrescu
“Babes Bolyai” University, Faculty of Chemistry and Chemical Engineering, Cluj-Napoca, Romania
- 12:50 – 13:00** **Nanoparticles synthesis by electron beam radiolysis**
Ioan Călinescu¹, Diana Martin², Daniel Ighigeanu², Adina Gavrilă¹, Adrian Trifan¹,

- Mariana Patrascu¹, Elena Manaila², Gabriela Craciun²
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*National Institute for Lasers, Plasma and Radiation Physics, Măgurele, Romania*
- 13:00 – 13:10 Thermal stability of magnetic fluids: Components and systems**
Traian Zaharescu¹, Radu Setnescu^{1,2}
¹*INCDIE ICPE CA, Bucharest, Romania*
²*University VALAHIA of Târgoviște, Faculty of Sciences and Arts, Romania*
- 13:10 – 13:20 Nucleobases decorated tetrapodands for H-bond supramolecular architectures**
Lidia Pop, Crina Socaci, Niculina Hadade, Ion Grosu
“Babes-Bolyai” University, Department of Chemistry, Cluj-Napoca, Romania
- 13:20 – 13:30 Synthesis of tripodands with terminal nucleobases in the pendant arms**
Mirabela Ligia Golban, Vlad Pașcanu, Crina Socaci, Niculina Hădăde, Ion Grosu
“Babes-Bolyai” University, Department of Chemistry, Cluj-Napoca, Romania
- 13:30 – 13:40 Copolyimides containing alicyclic groups for advanced applications**
Camelia Hulubei, Dumitru Popovici, Cristina Doina Vlad, Silvia Ioan
Romanian Academy, “Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania
- 13:40 – 13:50 Research on the selection of matrix copolymers suitable for the molecular imprinting of hypericin**
Ana-Mihaela Florea^{1,2}, Andrei Sarbu¹, Stela Iancu¹, Monica Duldner¹, Steluta Apostol¹, Ovidiu Dima¹, Liliana Sarbu¹, Teodor Sandu¹, Gheorghe Hubca²
¹ *National Research and Development Institute for Chemistry and Petrochemistry, Bucharest, Romania*
²*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
- 13:50– 14:00 Nanocosmetic formulations based on bioactive squalene isolated from various vegetable sources**
Ioana Lacatusu¹, Gabriela Niculae¹, Nicoleta Badea¹, Ovidiu Popa², Raluca Stan¹, Aurelia Meghea¹
¹*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania*
²*University of Agronomic Sciences and Veterinary Medicine, Bucharest, Romania*
- 14:00 – 14:10 Improvement of photoprotection by using pomegranate seed oil-lipid nanocarriers**
Gabriela Niculae, Virginia Dobrescu, Raluca Stan, Ioana Lacatusu, Aurelia Meghea
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

14:10 – 15:30 LUNCH

Presentations Schedule

**“Prometheus”
Hall**

3. Physical Chemistry, Electrochemistry & Corrosion

Session Chairs: Éric Saint-Aman, Université Joseph Fourier Grenoble, France/Eleonora M. Ungureanu, University Politehnica of Bucharest, Romania

ORAL PRESENTATIONS

- 12:10 – 12:20** **Study on some azulene malonamide derivatives by electrochemical methods**
Eleonora-Mihaela Ungureanu¹, George-Octavian Buica¹, Cristina Andreea Amarandei¹, Liviu Birzan²
¹University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
²Romanian Academy, Center for Organic Chemistry “C.D. Nenitescu” of, Bucharest, Romania
- 12:20 – 12:30** **Thermodynamic study of the complexation of lead ions using modified electrodes**
George-Octavian Buica, Eleonora-Mihaela Ungureanu, Magdalena-Rodica Bujduveanu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 12:30 – 12:40** **Electrochemical properties of azulene-1-yl selanes**
Maria-Laura Soare¹, Alexandra Oprisanu², Georgiana Anca Inel², Cristina Andreea Amarandei², George-Octavian Buica², Eleonora-Mihaela Ungureanu²
¹SC METAV-Cercetare Dezvoltare SA, Bucharest, Romania
²University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 12:40 – 12:50** **Platinum ion release from nanocomposites with cisplatin, cisplatin-docetaxel and cisplatin-zometa**
Adriana Voiculescu, Mariana Prodana, Ioana Demetrescu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Bucharest, Romania
- 12:50 – 13:00** **Electrodeposition of lead and its compounds with selenium and tellurium from ionic liquids based on choline chloride**
Ion Sin, Anca Cojocaru, Adina Cotârță, Teodor Vișan
University Politehnica of Bucharest, Department of Inorganic Chemistry, Physical Chemistry and Electrochemistry, Romania
- 13:00 – 13:10** **Studies of electrode processes during deposition of cobalt from ionic liquids based on choline chloride**
Mariana Badea¹, Anca Cojocaru¹, Liana Anicai², Paula Prioteasa³, Alexandru Lixandru³, Teodor Vișan¹
¹University Politehnica Bucharest, Department of Inorganic Chemistry, Physical Chemistry and Electrochemistry, Romania
²University Politehnica Bucharest, Center of Surface Science and Nanotechnology, Romania
³INCDIE ICPE-Advanced Research, Bucharest, Romania

- 13:10 – 13:20** **Effect of passivation on the electrochemical behaviour of a Zr – Nb alloy for dental applications**
Anca Maria Martinof, Daniela Ionita, Ioana Demetrescu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 13:20 – 13:30** **Characterisation of nanotubes formed on TiAlZr**
Sabina Grigorescu, Andrei Bogdan Stoian, Ioana Demetrescu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science
- 13:30 – 13:40** **Inhibition effect of lysine for low alloy carbon steel in acidic media**
Albana Jano, Alketa Lame (Galo), Efrosini Kokalari (Teli)
Tirana University, Natural Sciences Faculty, Albania
- 13:40 – 13:50** **Quinine: a pharmaceutical product as effective corrosion inhibitor for carbon steel in hydrochloric acid solution**
Adriana Samide, Bogdan Tutunaru
University of Craiova, Faculty of Sciences, Romania
- 13:50 – 14:00** **Au/ZnO nanoparticles embedded in silica matrix with high photocatalytic activity as tunable system for dyes degradation**
Nicoleta-Liliana Olteanu, Elena Adina Rogozea, Maria Mihaly
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 14:00 – 14:10** **New method for the synthesis of gold nanoparticles with controlled size**
Cosmina Andreea Lazăr, Adina Roxana Petcu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 14:10 – 14:20** **Oxide-doped silica materials with synergistic adsorption and photocatalytic properties**
Adina Roxana Petcu, Cosmina Andreea Lazăr
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 14:20 – 14:30** **Food safety-essential element in safeguarding the consumer's health**
Anisoara Olmazu, Ionela Cosmina Zaicănu, Doina Dragoi, Nicoleta Gabriela Petrescu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

14:30 – 15:30 **LUNCH**

Presentations Schedule

**“Symposium”
Hall**

5. Monitoring & Environmental Protection

Session Chair: Claudia Maria Simonescu, University Politehnica of Bucharest, Romania

ORAL PRESENTATIONS

- 12:10 – 12:20** **Comparative study on biosorption of Pb(II) ions by chitosan and chitosan cross-linked with glutaraldehyde microparticles**
Claudia Maria Simonescu, Irina Marin, Carmen Deleanu, Mioara Dragne, Virgil

- Marinescu, Christu Țârdei, Ovidiu Oprea
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 12:20 – 12:30** **Carbon nanotube-based membranes: fabrication and application to removal of copper ions from electroplating wastewater using electro dialysis**
Simona Căprărescu, Ștefan Ioan Voicu, Violeta Purcar, Ioana Maior, Anca Cojocaru
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 12:30 – 12:40** **Performance materials and methods for wastewater treatment**
Cristina ORBECI
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 12:40 – 12:50** **Statistical analysis of biotic and abiotic factors and the status matrix of aquatic ecosystems in the forking region of Bala branch and the old Danube**
Maria Cristina Ene, Valentin Cristian Ivanciu, Olga Iulian
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 12:50 – 13:00** **Characterization of spatio-temporal evolution of nutrient pollution in Danube river on the Calarasi-Braila section**
Violeta-Monica Radu, Petra Ionescu, Deak György, Elena Diacu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 13:00 – 13:10** **Effect of bottom sediments re-suspension on phosphorus dynamics for the Prut river**
Larisa Postolachi, Vasile Rusu, Tudor Lupascu
Institute of Chemistry of Academy of Sciences of Moldova, Chișinău, Republic of Moldova
- 13:10 – 13:20** **Assesment of priority hazardous substances in water and sediments of Olt river**
Mihaela Iordache, Ioan Viorel Branzoi, Georgeta Totea, Nicoleta Georgeta Dobre, Luisa Roxana Popescu, Ioan Iordache
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 13:20 – 13:30** **Fractionation of heavy metals in soil and the uptake and translocation in miscanthus sinensis giganteus cultivated on contaminated soils from Copșa Mică - România**
Petronela-Bianca Pavel, Constantin Horia Barbu, Markus Puschenreiter, Elena Diacu
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 13:30 – 13:40** **The environmental impact of gold ore mining**
Corina Mihalache, Cristina Orbeci
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania
- 13:40 – 13:50** **Integrated systems of monitoring environmental quality**
Cristina Elena Paduraru, Cristina Orbeci
University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Romania

14:10 – 15:30 LUNCH

“Phoenix” Hall Education and Science
Session Chair: Alina Bădănoiu, University Politehnica of Bucharest, Romania

12:10 – 12:30 Comunitate virtuală interuniversitară pentru știință, tehnologie, inovare și valorificare a proprietății intelectuale - UPB partener in rețeaua Enterprise Europe Network - EEN - <http://een.ec.europa.eu>
Alexandru Marin
University Politehnica of Bucharest, Romania