Innovative Materials and Processes

2nd International Conference on Chemical Engineering
România, Iași, November 5 - 8, 2014

Organized by:

“GHEORGHE ASACHI” TECHNICAL UNIVERSITY OF IASI, FACULTY OF CHEMICAL ENGINEERING AND ENVIRONMENTAL PROTECTION

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Prof. Carmen Teodosiu, “Gheorghe Asachi” Technical University of Iași
Prof. Nicolae Vaszilcsin, University Politechnica of Timișoara
Prof. Colin Webb, University of Manchester
GENERAL PROGRAMME

Wednesday, 05.11.2014
8.30 - 10.00 Registration, “Orizont Room”, Hall Faculty of Chemical Engineering and Environmental Protection
10.00 - 10.30 Opening Ceremony, CH II hall
10.30 - 11.10 Plenary Lecture - Prof. Ecaterina Andronescu
11.10 - 11.20 Coffee Break
11.20 - 12.00 Plenary Lecture - Prof. Jozef Drabowicz
12.00 - 12.40 Plenary Lecture - Prof. Acad. Bogdan Simionescu
16.00 - 18.30 Organic and Inorganic Chemistry and Advanced Materials and Polymers Sessions (S1, S3)
16.00 - 18.30 Processes and Innovative Technologies Session (S2)
16.00 - 18.30 Poster Session (S1, S4)
Organic and Inorganic Chemistry
Bioproceses, Biocatalysis, Biotechnologies

Thursday, 06.11.2014
9.30 - 10.10 Plenary Lecture - Prof. Valeriu Cotea
10.10 - 10.50 Plenary Lecture - Prof. Nicolas Szita
10.50 - 11.00 Coffee Break
11.00 - 11.40 Plenary Lecture - Prof. Horia Iovu
11.40 - 12.00 Agilrom Presentation
9.30 - 12.00 Tempus Meeting
14.00 - 16.30 Bioproceses, Biocatalysis, Biotechnologies Session (S4)
14.00 - 16.30 Environmental Management, Sustainable Development Session (S5)
14.00 - 18.00 Tempus Meeting
15.00 - 18.00 Workshop Paphercon
15.00 - 18.00 Poster Session (S2, S3)
Innovative Processes and Technologies
Advanced Materials and Polymers
19.00 Official conference dinner, Ramada Hotel

Friday 07.11.2014
9.30 - 10.10 Plenary Lecture - Prof. Ionel Mangalagiu
10.10 - 10.50 Plenary Lecture - Prof. Shin’ichi Nakatsuji
10.50 - 11.00 Coffee Break
11.00 - 13.00 Poster Session (S5)
Environmental Management, Sustainable Development
10.00 - 13.00 Tempus Meeting
13.00 Conference Closing
Dear Guests and Colleagues,

Welcome to the Second International Conference on Chemical Engineering, organized by our faculty, with the support of “Gheorghe Asachi” Technical University of Iași!

Thank you for join us again these days dedicated to Chemical Engineering.

As many of us know, ten years ago we started to organize the Days of Faculty of Chemical Engineering and Environmental Protection, event focused especially on the scientific results of the Ph.D.-students and master students. Every year this initiative has grown and got more and more consistency. Thus, as a consequence of our faculty’s position in the national top of scientific research, this conference became of international reference since 2012. In fact, the first edition of this international event has been dedicated to the celebration of 100 years of chemical engineering education in Iași, and, I dare to affirm that we represent the promoters of the “oldest” school on chemical engineering in Romania. Just considering the age.

The International Conference on Chemical Engineering completes successfully the second traditional international event of the faculty, more experienced and recognized, the International Conference on Environmental Engineering and Management, which will be at the 8th edition next year, being organized every two years. The continuous alternation of these two important scientific events underlines the attractiveness of the scientific areas that are found in the activity of our faculty members.

This year, we were happy to consider over 150 papers included in the conference program, an increased number from the previous edition. The authors of these communications or posters are
from 13 countries. We will be also pleased to attend to eight plenary conferences and six key-lectures, presented by scientific personalities in the field, from Romania or abroad.

At few days after Halloween, with any association with, only by coincidence, we celebrate during these three days the chemical engineering, which, together with the chemistry, is considered a "horror" science for someones, an inaccessible area for others, a not at all easy profession which apparently loses its attractiveness by many people. This is the trend observed with various magnitudes in different developed geographic regions of the world. However, it is really an artificial trend. We, all the participants to this conference, through which we will present and expose, we have to show that chemical engineering is too far from losing even a bit of its creative and practical potential. And we have also to underline that the development of human society depends essentially and dramatically on the development of chemistry and chemical engineering. Because, if something could give color, flavor, fascination, and trust to such technical field as engineering is, if something can create and perpetuate life, if something can give value and brightness to an universe and can improve our universe, that "something" is the chemistry and chemical engineering.

I wish success to all the participants to the conference and I wish to all of you to enjoy these days in Iași and I hope that you will return anytime with pleasure in our faculty, university, and city.

Professor Dan Cașcaval,
Dean,
Faculty of Chemical Engineering and Environmental Protection
ORGANIZING COMMITTEE

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Lect. Gabriela Soreanu
(Section 5: gsor@tuiasi.ro)

Website design and administration:

Lecturer Nicolae Apostolescu
napostol@tuiasi.ro
Scientific and general information:

Official opening of the Conference will be held in CH II at the Faculty of Chemical Engineering and Environmental Protection, Dimitrie Mangeron Bd., No. 71, Iași.

The scientific communications will be presented Wednesday, 05<sup>th</sup> of November 2014 in CH III and in the Faculty Council Room into the Faculty of Chemical Engineering and Environmental Protection Building, Dimitrie Mangeron Bd., No. 71, Iași and Thursday, 06<sup>th</sup> of November in the Faculty Council Room of Faculty of Chemical Engineering and Environmental Protection Building, Dimitrie Mangeron Bd., No. 71, Iași and for Section S5 in Technical University Main Building (Rectorate) Dimitrie Mangeron Bd. No. 67, Iași.

Posters will be displayed during full time of the Conference in the Main Hall of the Chemical Engineering and Environmental Protection Faculty. Abstracts have been published on the Conference volume (CD).
Programme

Wednesday, 05 November 2014

Venue: CH II, Faculty of Chemical Engineering and Environmental Protection

10:00 - 10:30 Opening Ceremony

Chairmen:
Prof. Dan Cașcaval, “Gheorghe Asachi” Technical University of Iași
Prof. Teodor Măluțan, “Gheorghe Asachi” Technical University of Iași

10:30 - 11:10 Plenary Lecture: Prof. Ecaterina Andronescu, University Politechnica of Bucharest

MULTIFUNCTIONAL MATERIALS FOR BONE CANCER TREATMENT

Chairman: Prof. Dan Cașcaval, “Gheorghe Asachi” Technical University of Iași

11:10 - 11:20 Coffee Break

11:20 - 12:00 Plenary Lecture: Prof. Jozef Drabowicz, Dlugosz University in Częstochowa

SUBSTITUENTS WITH A STEREOGENIC HETEROATOM AS A TOOL TO INDUCE CHIRALITY IN THE DERIVATIVES WITH THE POTENTIAL APPLICATIONS IN THE CHEMISTRY OF NEW MATERIALS OR AS CHIRAL AUXILIARIES

12:00 - 12:40 Plenary Lecture: Prof. Acad. Bogdan Simionescu, “Gheorghe Asachi” Technical University of Iași

POLYMER ENGINEERING IN MACROMOLEULAR, SUPRAMOLECULAR AND BIOLOGICAL SCIENCES

Chairman: Prof. Teodor Măluțan, “Gheorghe Asachi” Technical University of Iași
16:00 - 18:30  Topic: Organic and Inorganic Chemistry (S1) and Advanced Materials and Polymers Sessions (S3)

Lecture room: Faculty Council Room, Faculty of Chemical Engineering and Environmental Protection

Chairmen:
Prof. Ioan Mamaligă, “Gheorghe Asachi” Technical University of Iași
Prof. Lucian Gavrilă, “V. Alecsandri” University of Bacău

S3-C01. Towards limitations of Li-Ion battery electrodes process technologies
W. Schabel
Karlsruhe Institute of Technology, Karlsruhe, Germany

S3-C02. Fluorescent carbon dots embedded in chitosan nanoparticles for medical imaging
L. Alupei, C. S. Stan, M. Popa, C. A. Peptu
“Gheorghe Asachi” Technical University of Iași, Iași, Romania

S3-C03. Collagen immobilization on UV-treated PET
M. Drobota¹,², M. Aflori¹, L. M. Gradinaru¹, D. S. Vasilescu²
¹Petru Poni Institute of Macromolecular Chemistry, Iași, Romania
²University POLITEHNICA of Bucharest, Bucharest, Romania

S3-C04. Design of porous microparticles for biomedical applications
M. A. Lungan¹, M. Popa¹, S. Racovita², S. Vasiliu², M. Drobota²,³
¹“Gheorghe Asachi” Technical University of Iași, Iași, Romania
²“Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania
³University POLITEHNICA of Bucharest, Bucharest, Romania

S3-C05. Removal of textile dyes from wastewater (direct brown, bright direct red, bright direct blue) in the presence of surfactants and ethyleneglycol by coagulation and catalytic /photocatalytic oxidations methods
M. Gonta, V. Mateevici, V. Iambartev
State University of Moldova, Chisinau, Republic of Moldova
S3-C06. Self–assembling behaviour of amphiphilic azopolysiloxanes modified with quaternary ammonium groups
L. Epure, S. Ciubotarescu, N. Hurduc
"Gheorghe Asachi" Technical University of Iași, Iași, Romania

S1-C01. Study of the synthesis and degradation of 4.4’-dipyridine derivatives
A. Chira¹, B. Bucur¹, T. Galaon², G.L. Radu¹
¹National Institute of Research and Development for Biological Sciences, Centre of Bioanalysis, Bucharest, Romania
²National Research and Development Institute for Industrial Ecology – ECOIND, Bucharest, Romania

S1-C02. New complexes of 2-(1H-1,2,4-triazol-3-yl) pyridine with Co(II), Rh(III) and Cd(II) ions: Synthesis, structure and magnetic properties
P. Gospei (Horlescu)¹, D. Sutiman¹, C. Mită², M. Fortună³, C. Peptu³, C. Stan¹
¹“Gheorghe Asachi” Technical University of Iași, Iași, Romania
²“Alexandru Ioan Cuza” University of Iași, Iași, Romania
³“Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania
1600 - 1830  Topic: Processes and Innovative Technologies (S2)

Lecture room: CH III, Faculty of Chemical Engineering and Environmental Protection

Chairmen:
Prof. Daniel Sutiman, “Gheorghe Asachi” Technical University of Iași
Prof. Alexandru Szep, “Sapientia” University Cluj-Napoca

S2-C01. Simulation and performance evaluation of a plant for glycerol conversion to acrolein
G. Guta, I. Banu, C.S. Bîldea, G. Bozga
University Politehnica Bucharest, Bucharest, Romania

S2-C02. Integrated design and control of 1,1-dietoxy-butane production process
A. Smochină, A. Javaid, C.S. Bîldea
University Politehnica of Bucharest, Bucharest, Romania

S2-C03. Catalytic cyclic distillation – A novel process intensification approach in reactive separations
C.S. Bîldea1, C. Pătruț1, A.A. Kiss2
1University Politehnica of Bucharest, Bucharest, Romania
2AkzoNobel – Research, Development & Innovation, Deventer, The Netherlands

S2-C04. Water vapor equilibrium and kinetics onto cylindrical alumina composite materials
E. David, M. S. Secula, I. Mamaligă
“Gheorghe Asachi” Technical University of Iași, Iași, Romania

S2-C05. TAME process PFD evaluation
O. Perederic1, V. Pleșu1, P. Iancu1, G. Bumbac1, A. Bonet-Ruiz1, J. Bonet-Ruiz2, B. Muchan3
1University Politehnica of Bucharest, Bucharest, Romania
2University of Barcelona, Barcelona, Spain
3OMV Petrom, Petrobrazi Refinery, Brazi, Prahova, Romania

S2-C06. NPs of Fe₂O₃ on ZnCr₂O₄ matrices as wide spectrums photocatalysts for light energy conversion
M. Puşcasu1, K.I. Katsumata2, S. Boariu1, G. Carja1
1“Gheorghe Asachi” Technical University of Iași, Iași, Romania
2Tokyo Institute of Technology, Yokohama, Japan
S2-C07. Hybrid nanoarchitectures based on polymers/layered double hydroxides for applications in innovative technologies

L.E. Bibire¹,², M. Bercea², M. Puşcasu¹, G. Carja¹

¹“Gheorghe Asachi” Technical University of Iaşi, Iaşi, Romania
²“Petru Poni” Institute of Macromolecular Chemistry, Iaşi, Romania

S2-C08. Antioxidant activity of bilberry extracts from different morphological parts at three vegetative stages

O.C. Bujor¹,²,³, I. Volf¹, V.I. Popa¹, C. Dufour²,³

¹“Gheorghe Asachi” Technical University of Iaşi, Iaşi, Romania
²UMR 408 Université d’Avignon, Avignon, France
³UMR 408 INRA, Avignon, France

S2-C09. Kinetic investigation of the ultrasound assisted extraction of polyphenols from spruce bark

A.I. Talmaciu, L. Lazăr, I. Volf, V.I. Popa
“Gheorghe Asachi” Technical University of Iaşi, Iaşi, Romania

S2-C11. Removal of carbamazepine by electrocoagulation: investigation of some key operational parameters

T. Yehia¹,², L. Favier³,⁴, Y. Kadmi³,⁴, M. Gavrilescu⁵, C. Vial¹,²

¹Clermont Université, Université Blaise Pascal, Aubière Cedex, France
²CNRS, UMR 6602, IP, Aubière, France
³Ecole Nationale Supérieure de Chimie de Rennes, Rennes, France
⁴Université Européenne de Bretagne, Rennes, France
⁵“Gheorghe Asachi” Technical University of Iaşi, Iaşi, Romania

S2-C12. An improved methodology for determination of radiochemical and chemical impurities in the synthesis process of ¹⁸F-FDG

M. Mihon¹,², C. Tuta¹, R. Leonte¹,², A.C. Ion², V. Lavric², D. Niculae¹

¹National Institute for Physics and Nuclear Engineering “Horia Hulubei”, Magurele Ilfov, Romania
²University Politehnica of Bucharest, Bucharest, Romania

S2-C13. Characterization of dyes PVA based hydrogels through CIELAB method

A.S. Papancea, R. Dobritoiu, S. Patachia
Transilvania University of Brasov, Romania

S2-C14. Electron beam flue gas treatment: State of the art and personal contributions

V. Gogulancea, I. Călinescu, V. Lavric
University Politehnica of Bucharest, Bucharest, Romania
S2-C15. Innovative process for expandable polystyrene
A.E. Coman, P. Iancu, I. Banu, V. Pleșu, M. Teodorescu
University Politehnica of Bucharest, Bucharest, Romania

S2-C16. Flow cytometry – technique used for live/dead cells discrimination in batch growth of a bacterial population
A. Tănase, V. Gogulancea, G. Isopencu, V. Lavric
Politehnica University of Bucharest, Bucharest, Romania
Poster Session

Hall of Faculty of Chemical Engineering and Environmental Protection

S1. Organic and Inorganic Chemistry

S1-P01 The effect of the biofertilizer based on potassium humates and galactomannans extracted from seeds of *Gleditsia triacanthos* used in extraroot plant fertilization
I. Dăbuleanu, M.G. Dumitru, A. Reiss
University of Craiova, Craiova, Romania

S1-P02. Study regarding influence of alternative (staves) and traditional (barrels) process of red wines aged on the antioxidant activity
G.D. Dumitriu¹, V.V. Cotea¹, R.A. Peinado², N. Lopez de Lerma², C. Zamfir¹, M. Niculaua¹, C. Colibaba¹, C. Luchian¹
¹University of Agricultural Sciences and Veterinary Medicine, Iaşi, Romania
²University of Cordoba, Spain

S1-P03. Synthesis and electron transport properties of some new 4,7-phenanthroline derivatives in thin films
C. Al. Matarneh, R. Danac, L. Leontie, F. Tudorache
I. Petrila, I. Mangalagiu
"Alexandru Ioan Cuza" University of Iaşi, Iaşi, Romania

S1-P04. Synthesis and characterisation of aluminium complex dyes with Alizaringelb R as ligand
D. Sibiescu, M. Vizitiu
"Gheorghe Asachi" Technical University of Iaşi, Iaşi, Romania

S1-P05. Synthesis and investigation of the physico-chemical properties of Ce-Zn composite oxide catalysts
G. Apostolescu, C. Cernatescu, N. Apostolescu, R. E. Tataru-Farmus
"Gheorghe Asachi" Technical University of Iaşi, Iaşi, Romania

S1-P06. Physico-chemical characterization of chamomile
C. Cernatescu, C. Cobzaru, G. Apostolescu
"Gheorghe Asachi" Technical University of Iaşi, Iaşi, Romania

S1-P07. Fluorescent Carbon-Dots embedded in monolithic silica matrix
Cristina Albu, Corneliu S. Stan, Daniel Sutiman
"Gheorghe Asachi" Technical University of Iaşi, Iaşi, Romania
S1-P08. Synthesis of some azomethine compounds from o-aminophenol
A. A. Ursu, R. E. Tataru-Fârmuş, C. Cernătescu
"Gheorghe Asachi" Technical University of Iaşi, Iaşi, Romania

S1-P09. Copper nanoparticles supported on polyether-functionalized mesoporous silica. Synthesis and application as catalysts for cinnamaldehyde hydrogenation
C. Rudolf, I. Mazilu, A. Chirieac, B. Drăgoi, A. Ungureanu, A. Mehdi, E. Dumitriu
"Gheorghe Asachi" Technical University of Iaşi, Iaşi, Romania,
Université Montpellier II, Montpellier, France

S1-P10. Structure and catalytic performance of ordered mesoporous silica-supported copper–cobalt nanoparticles for hydrogenation reactions
"Gheorghe Asachi" Technical University of Iaşi
Université de Poitiers, CNRS UMR 7285, France

S1-P11. Synthesis, characterization and evaluation of antibacterial activity of new azomethines and diazoaminoderivatives
A. M. Mocanu, C. Luca, V.A. Simion
"Gheorghe Asachi" Technical University of Iaşi, Iaşi, Romania

S1-P12. Wettability modifications of birch veneer treated with lignins of different origins and its copper complexes
T. Todorciuc, S. Grama, A.M. Rezmerita, V. I.Popă
"Gheorghe Asachi" Technical University of Iaşi, Iaşi, Romania

S1-P13. Supramolecular magnetic interactions in mononuclear copper(II) complexes with thiosemicarbazone Schiff bases derived from 2–hidroxy–3-carboxy-naphthaldehyde
A.Lazarescu, N. Nedelko, A. Ślawska-Waniewska, N.Terenti, C.Turta
Academy of Sciences of Moldova, Chisinau, Republic of Moldavia
Polish Academy of Sciences, Warszawa, Poland
S1-P14. “Green synthesis” and characterization of gold nanoparticles obtained by a direct reduction method
R. State\textsuperscript{1,2}, F. Papa\textsuperscript{1}, G. Dobrescu\textsuperscript{1}, C. Munteanu\textsuperscript{1}, A. Volceanov\textsuperscript{2}, I. Balint\textsuperscript{1}
\textsuperscript{1}”Ilie Murgulescu” Institute of Physical Chemistry of the Romanian Academy, Bucharest, Romania
\textsuperscript{2}University “Politehnica” of Bucharest, Bucharest, Romania

S1-P15. Mesostructured catalysts for oligomerization and metathesis reactions
R.D. Andrei\textsuperscript{1,2}, I.M. Popa\textsuperscript{2}, A. Finiels\textsuperscript{1}, F. Fajula\textsuperscript{1}, V. Hulea\textsuperscript{1}
\textsuperscript{1}Institut Charles Gerhardt, Montpellier, France
\textsuperscript{2}“Gheorghe Asachi” Technical University of Iași, Iași, Romania
S4. Bioprocesses, Biocatalysis, Biotechnologies

S4-P01. Barium toxicity against yeast during fermentation
I.M. Risca¹, V. Vasilache¹, M.A. Crețu²
¹“Stefan cel Mare” University of Suceava, Suceava, Romania
²“Alexandru Ioan Cuza” University, Iași, Romania

S4-P02. Study on chemical inactivation of pantothenic acid
M. Poștaru¹, I.B. Mihășan², L. Kloetzer², A.C. Blaga², M. Turnea¹, D. Cașcaval², A.I. Galaction¹
¹“Grigore T. Popa” University of Medicine and Pharmacy, Iași, Romania
²“Gheorghe Asachi” Technical University of Iași, Iași, Romania

S4-P03. Methylbenzylamine – applications, production, separation
M. Poștaru¹, C. Cheptea¹, G. Andruseac¹, D. Cașcaval², A.I. Galaction¹
¹“Grigore T. Popa” University of Medicine and Pharmacy, Iași, Romania
²“Gheorghe Asachi” Technical University of Iași, Iași, Romania

S4-P04. Acetophenone - applications, production, separation
L. Kloetzer¹, A.C. Blaga¹, C. Cernatescu¹, A.I. Galaction², D. Cașcaval¹
¹“Gheorghe Asachi” Technical University of Iași, Iași, Romania
²“Grigore T. Popa” University of Medicine and Pharmacy, Iași, Romania

S4-P05. Engineering aspects of degradation of lipids from olive oil mill wastewaters in a stationary basket bioreactor with immobilized Bacillus spp.
A. Tucaliuc¹, A.C. Blaga¹, M. Turnea², A.I. Galaction², D. Cașcaval¹
¹“Gheorghe Asachi” Technical University of Iași, Iași, Romania
²“Grigore T. Popa” University of Medicine and Pharmacy, Iași, Romania

S4-P06. Development and validation of UV spectrophotometric method for determining the degradation of molinate by a free and microencapsulated enzyme
A.M. Paiva¹, B.N. Estevinho¹, J.P. Leite², F. Ferreira-da-Silva², L.M. Gales², F. Rocha¹, O.C. Nunes¹
¹LEPABE, Universidade do Porto, Porto, Portugal
²IBMC, Universidade do Porto, Porto, Portugal

S4-P07. Lysozyme microencapsulated by a spray-drying process
B. N. Estevinho¹, A. M. Damas², P. M. Martins¹, F. Rocha¹
¹LEPABE, Universidade do Porto, Porto, Portugal
²ICBAS, Universidade do Porto, Porto, Portugal
S4-P08. Study of phenolic compounds in Merlot red wines obtained in Iași vineyard by different technologies
S. Tudose-Sandu-Ville, C. Colibaba, V.V. Cotea
“Ion Ionescu de la Brad” University of Agricultural Sciences and Veterinary Medicine, Iași, Romania

S4-P09. Distribution of oxygen transfer rate in polyphasic system gas-liquid-liquid-solid containing simulated and real fermentation broths
A.C. Blaga¹, C. Ciobanu¹, M. Turnea², D. Cașcaval¹, A.I. Galaction²
¹“Gheorghe Asachi” Technical University of Iași, Iași, Romania
²“Grigore T. Popa” University of Medicine and Pharmacy, Iași, Romania

S4-P10. Reactive Blue 19 dye adsorption on hydroxyapatite
S. Barna, G. Ciobanu, C. Luca
“Gheorghe Asachi” Technical University of Iași, Iași, Romania

S4-P11. Enzyme approach in hybrid catalysis for obtaining 5-hydroxymethylfurfural from glucose
University of Lille1, Villeneuve d’Ascq, France

S4-P12. Kinetic selectivity modulation of bioactive peptide appearance in the course of enzymatic proteolysis in microreactor
A. Elagli, S. Laurette, A. Treizebre, B. Bocquet, P. Dhulster, R. Froidevaux
University of Lille1, Villeneuve d’Ascq, France

S4-P13. REALCAT: Advanced high throughput bio(chemical)technologies platform for biorefineries hybrid catalysts design
P. Dhulster, P. Jacques, R. Froidevaux, S. Paul, S. Desset, F. Dumeignil
University of Lille1, Villeneuve d’Ascq, France

S4-P14. Investigation of the chemical treatment effect on the environmental fungi
L. Oprica¹, G. Balan², C. Popescu³, R. Muresan², D. Pricop³, M. Andries³, A. Muresan³
¹“Alexandru Ioan Cuza” University, Iași, Romania
²“Gheorghe Asachi” Technical University of Iași, Iași, Romania
³“Alexandru Ioan Cuza” University, Iași, Romania
S4-P15. CELLULOSE CELLETS NEW TYPE OF ADSORBENT FOR RETAINING DYES FROM AQUEOUS MEDIA
D. Suteu¹, G. Biliuta², L. Rusu³, S. Coser³
¹“Gheorghe Asachi” Technical University of Iași, Iași, Romania
²“Petru Poni” Institute of Macromolecular Chemistry of Romanian Academy, Iași, Romania
³“Vasile Alecsandri” University of Bacău, Bacău, Romania

S4-P16. PAL and PAM, new promising biocatalysts for amino acids synthesis
M. I. Toșa, A. Varga, A. Radu, F. D. Irimie, C. Paizs
Babeş-Bolyai University, Cluj-Napoca, Romania

S4-P17. New chemo-enzymatic approaches for the synthesis of (R)- and (S)-bufuralol
N. Dima, B. Nagy, C. Paizs, F. D. Irimie, M. I. Toșa
Babeş-Bolyai University, Cluj-Napoca, Romania

S4-P18. CaL-A-mediated synthesis of benzofuranyl-β-amino acid derivatives
M. E. Moisă, C. Paizs, M. I. Toșa, F. D. Irimie
Babeş-Bolyai University, Cluj-Napoca, Romania

S4-P19. Synthesis of new substrates for phenylalanine ammonia-lyase
A. Filip, L. C. Bencze, C. Paizs, M. I. Toșa, F. D. Irimie
Babeş-Bolyai University, Cluj-Napoca, Romania

S4-P20. FAAS determination of cadmium, lead, copper and zinc in some teas from Iași region, Romania
C. Ciobanu, B.G. Şlencu, A. Corciova
University of Medicine and Pharmacy “Grigore T. Popa” Iași, Iași, Romania

S4-P21. Influence of hydroxypropyl-cyclodextrin on the physicochemical and biological characteristics of a flavone with important pharmacological properties
A. Corciova, B. Cioroiu, C. Mircea, C. Tuchilus, C. Ciobanu, C. Dimitriu, B. Ivanescu
University of Medicine and Pharmacy “Grigore T. Popa” Iași, Iași, Romania

S4-P22. Tamaioasa romaneasca volatiles via SFE
L.C. Colibaba¹, V.V. Cotea¹, M. Niculaue², C. Luchian¹
¹“Ion Ionescu de la Brad” University of Agricultural Sciences and Veterinary Medicine, Iași, Romania,
²Oenological Research Center – Iași Branch of the Romanian Academy, Iași, Romania
Thursday, 06 November 2014

Venue: Faculty Council Room, Faculty of Chemical Engineering and Environmental Protection

09:30 - 10:10 Plenary Lecture: Prof. Valeriu Cotea, "Ion Ionescu de la Brad" University of Agricultural Sciences and Veterinary Medicine Iaşi

INNOVATIVE MATERIALS IN WINEMAKING

Chairman: Prof. Dan Caşcaval, “Gheorghe Asachi” Technical University of Iaşi

10:10 - 10:50 Plenary Lecture: Prof. Nicolas Szita, University College London

A MULTIPLEXED MICROFLUIDIC CULTURE DEVICE FOR STEM CELL BIOPROCESSING

Chairman: Prof. Nicolae Hurduc, “Gheorghe Asachi” Technical University of Iaşi

10:50 - 11:00 Coffee Break

11:00 - 11:40 Plenary Lecture: Prof. Horia Iovu, University Politechnica of Bucharest

ADVANCED POLYMER - BASED NANOCOMPOSITES

Chairman: Prof. Nicolae Hurduc “Gheorghe Asachi” Technical University of Iaşi

11:40 - 12:00 Agilrom Presentation
1400-1630 Topic: **Bioprocesses, Biocatalysis, Biotechnologies** (S4)

Lecture room: Faculty Council Room, Faculty of Chemical Engineering and Environmental Protection

**Chairmen:**

Prof. Gabriel Lucian Radu, *University Politechnica of Bucharest*

Prof. Renato Froidevaux, *University of Science and Technology of Lille*

**S4-C01. Chiral non hydrolytic enzymatic resolutions**

*F. D. Irimie, M. I. Toșa, C. Paizs*

Babeș-Bolyai University, Cluj-Napoca, Romania

**S4-C02. Immobilization of enzyme by entrapment in polymer thin film synthesized by RPECVD**

*K. Belhacene1,2, A. Elagl1,2, C. Vivien1, P. Dhulster2, P. Supiot1, R. Froidevaux2*

1IEMN, Université Lille Nord de France - Sciences et Technologies, Villeneuve d'Ascq, France

2Institut regional de recherche Charles Viollette, Université Lille Nord de France – Sciences et Technologies, Villeneuve d’Ascq, France

**S4-C03. Development of bio-processes to increase the production of lipopeptides that can be used as biopesticides**

*F. Krier, F. Coutte, J. Deravel, P. Jacques*

Université Lille1, Villeneuve d’Ascq, France

**S4-C04. Separation of rosmarinic acid from aqueous solutions by pertraction**

*M. Poștaru1, L. Kloetzer2, D. Cașcaval2, A.I. Galaction1*

1“Grigore T. Popa” University of Medicine and Pharmacy, Iași, Romania

2“Gheorghe Asachi” Technical University of Iași, Iași, Romania.

**S4-C05. Synergic extraction of folic acid with aminic and organophosphoric extractants**

*L. Kloetzer1, A. Bompa1, A. Tucaiuc1, A.I. Galaction2, D. Cașcaval1*

1“Gheorghe Asachi” Technical University of Iași, Iași, Romania

2“Grigore T. Popa” University of Medicine and Pharmacy, Iași, Romania.
S4-C06. Vitamin B12 and vitamin C microencapsulated with different biopolymers by a spray drying process
B. N. Estevinho\textsuperscript{1}, I. Carlan\textsuperscript{1}, A.C. Blaga\textsuperscript{2}, F. Rocha\textsuperscript{1}
\textsuperscript{1}LEPABE, Universidade do Porto, Porto, Portugal
\textsuperscript{2}“Gheorghe Asachi” Technical University of Iași, Iași, Romania

S4-C07. Studies on mixing efficiency and its distribution in \textit{Yarrowia lipolytica} suspensions for a split-cylinder gas-lift bioreactor
R.M. Matran\textsuperscript{1}, A.C. Blaga\textsuperscript{1}, M. Turnea\textsuperscript{2}, A.I. Galaction\textsuperscript{2}, D. Cașcaval\textsuperscript{1}
\textsuperscript{1}“Gheorghe Asachi” Technical University of Iași, Iași, Romania,
\textsuperscript{2}“Grigore T. Popa” University of Medicine and Pharmacy, Iași, Romania

S4-C08. Succinic acid separation from fermentation broths. Modelling and optimization
E.N. Dragoi\textsuperscript{1}, S. Curteanu\textsuperscript{1}, G.D. Suditu\textsuperscript{1}, D. Cașcaval\textsuperscript{1}, A.I. Galaction\textsuperscript{2}
\textsuperscript{1}“Gheorghe Asachi” Technical University of Iași, Iași, Romania,
\textsuperscript{2}“Grigore T. Popa” University of Medicine and Pharmacy, Iași, Romania

S4-C09. Experimental study on the impact of engineered particles on environmental microflora
L. Oprica\textsuperscript{1}, C. Nadejde\textsuperscript{2}, M. Andries\textsuperscript{2}, E. Puscasu\textsuperscript{2}, D. Creanga\textsuperscript{2}, M. Balasoiu\textsuperscript{3}
\textsuperscript{1}“Alexandru Ioan Cuza” University, Faculty of Biology, Iași, Romania
\textsuperscript{2}“Alexandru Ioan Cuza” University, Faculty of Physics, Iași, Romania
\textsuperscript{3}Institute of Nuclear Research, Dubna, Russia
14\textsuperscript{00} - 16\textsuperscript{30}  \textbf{Topic: Environmental Management, Sustainable Development (S5)}

Lecture room: Senate Room, Technical University Main Building (Rectorate)

Chairmen:
\textbf{Prof. Igor Cretescu, “Gheorghe Asachi” Technical University of Iași}
\textbf{Lecturer Cristina Modrogan, University Politehnica of Bucharest}

\textbf{S5-C01. Separation of biological interest aromatic intermediates using emulsion liquid membranes}
\textit{A.R. Miron\textsuperscript{1}, A.C. Nechifor\textsuperscript{1}, A.A.K.K. Rikabi\textsuperscript{1,2}, S.K. Tanczos\textsuperscript{1,3}}
\textsuperscript{1}University Politehnica of Bucharest, Bucharest, Romania
\textsuperscript{2}Foundation of Technical Education, Baghdad, Iraq
\textsuperscript{3}Sapientia University, Miercurea Ciuc, Romania

\textbf{S5-C03. Footprint instruments for environmental assessments of industrial companies: a case study of the dairy industry}
\textit{S.A. Popa (Ene), C. Teodosiu, L. Pintilie, B. Robu, C. Musteret, O. Ghiuzan}
“Gheorghe Asachi” Technical University of Iași, Iași, Romania

\textbf{S5-C04. Infant methemoglobinemia incidence in Iași county between 2010 and 2014 with reference to the drinking water supply system}
\textit{R. Mitroi, V. Boboc, L. Popoiu, D. Lepadatu}
"Gheorghe Asachi" Technical University of Iași, Iași, Romania

\textbf{S5-C05. Adsorption of endocrine disruptors on exfoliated graphene nanoplateletes}
\textit{E. Radu\textsuperscript{1}, I. Ion\textsuperscript{2}, F. Sirbu\textsuperscript{3}, A.C. Ion\textsuperscript{2}}
\textsuperscript{1}National Research & Development Institute for Chemistry and Petrochemistry ICECHIM, Bucharest, Romania
\textsuperscript{2}University POLITEHNICA of Bucharest, Bucharest, Romania
\textsuperscript{3}“Ilie Murgulescu" Institute of Physical Chemistry of Romanian Academy, Bucharest, Romania
S5-C06. Research concerning the pollution of groundwater with organic micro pollutants
L. Topliceanu¹, I. Lucavetchi², A. Amăriucăi²
¹“Vasile Alecsandri” University of Bacău, Bacău, Romania
²Romanian Waters National Administration, Siret Water Basin Administration, Bacău, Romania

S5-C07. Rural development through the optimization of the renewable energy potential
L. Topliceanu¹, K. Sioulas²
¹“Vasile Alecsandri” University of Bacău, Bacău, Romania
²Centre for Renewable Energy Sources, Pikermi Attiki, Greece

S5-C08. Environmental management plan developed for water quality in Goa mining region, India
R.K.Kamal, G.Singh, A. Perwez
Indian School of Mines Dhanbad, Jharkhand, India
New Materials and Techniques for Sustainable Conservation of Paper Heritage

Lecture room: CH III, Faculty of Chemical Engineering and Environmental Protection

Chairmen:
Prof. Elena Bobu, “Gheorghe Asachi” Technical University of Iași
Lecturer Florin Ciolacu, “Gheorghe Asachi” Technical University of Iași

W01. Non-conventional materials and Plasma Technique for Sustainable Solutions in Paper Heritage Conservation - PAPHERCON Project
E. Bobu
“Gheorghe Asachi” Technical University of Iași

W02. Application of the ATR-FTIR and AFM tools in analysis of paper surface coated with different consolidation polymers
G. Cazacu¹, G. Hitruc¹, D. Ciolacu¹, R. Nicu², T. Malutan²
¹“Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania
²“Gheorghe Asachi” Technical University, Iași, Romania

W03. Physical and mechanical properties of paper coated with chitosan derivatives
F. Ciolacu, T. Balan, R. Nicu
“Gheorghe Asachi” Technical University of Iași

W04. Antimicrobial properties of paper coated with chitosan derivatives
Raluca Nicu¹, Elena Bobu¹, Elena Ardelean², S. Dunca²
¹“Gheorghe Asachi” Technical University of Iași
²“Alexandru Ioan Cuza” University of Iași

W05. Dry decontamination of old paper documents by HF cold plasma treatments
A. M. Vlad¹, D.E. Rusu¹; E.G. Ioanid², Elena Ardelean³, C. Tanase³
¹Moldova National Complex of Museums Iași, Romania
²“Petru Poni” Institute of Macromolecular Chemistry Iași, Romania
³“Alexandru Ioan Cuza” University of Iași
W06. The effects of HF cold plasma treatments on paper strength properties
F. Ciolacu¹, M. I. Totolin²
¹“Gheorghe Asachi” Technical University of Iași
²Petru Poni’ Institute of Macromolecular Chemistry Iași, Romania

W07. Effects of HF cold plasma treatments on the printing inks from old paper documents
C. M. Ursescu¹, D. E. Rusu¹, E. G. Ioanid², Gh. Niculescu³
¹‘Moldova’ National Complex of Museums Iași, Romania
²Petru Poni’ Institute of Macromolecular Chemistry Iași, Romania
³National Museum of Romanian History, Bucharest, Romania

W08. Cold HF plasma plant with extended functionality: construction and functional optimization
M. I. Totolin¹, V. Frunza², G. Savin², G. Cazacu¹
¹Petru Poni Institute of Macromolecular Chemistry, Iași, Romania
²Impex Romcatel, Research and Design SA, Iași, Romania
15:00 - 18:00  Poster Session

Hall of Faculty of Chemical Engineering and Environmental Protection

S2. Innovative Processes and Technologies

S2-P01. MLP and MLR models used to predict excess molar volume based on experimental refractive index determinations
C. Lisă, S. Curteanu, G. Lisă
“Gheorghe Asachi” Technical University of Iași, Iași, Romania

S2-P02. Diffusion in polymer composite membranes
N. Bunduc, I. Mămăligă
“Gheorghe Asachi” Technical University of Iași, Iași, Romania

S2-P03. Polymer encapsulation of aluminium pigments
C.S. Bîldea, E. Zaharia, I. Dragnea
University Politehnica of Bucharest, Bucharest, Romania

S2-P04. Concentration of α-linolenic acid methyl ester from methanol transesterified camellina oil
N.G. Ţepeană, V. Pleșu, P. Iancoaia, A. Toma, E. Stepan
1University POLITEHNICA of Bucharest, Centre for Technology Transfer for the Process Industries, Bucharest, Romania
2The National Institute for Research & Development in Chemistry and Petrochemistry - ICECHIM, Bucharest, Romania

S2-P05. Kinetic study of the thermal dehydration of wastes of plaster moulds from fine ceramic industry
L. Lazăr, G. Lisă, I. Balasanian
“Gheorghe Asachi” Technical University of Iași, Iași, Romania

S2-P06. The performances and advanced characterization of CRYSTAL-RIGHT™ CR100 zeolite used in the water softening process
L. Lazăr, B. Bandrabur, R.E. Tataru-Fârmuș, M. Drobotă, S.G. Stroe, G. Guti
1"Gheorghe Asachi" Technical University of Iași, Iași, Romania
2Hach Lange SRL, Bucharest, Romania
3“Petru Poni” Institute of Macromolecular Chemistry of Romanian Academy, Iași, Romania
4“Stefan cel Mare” University of Suceava, Suceava, Romania
S2-P07. Influence of the drying and extraction methods on caraway (Carum carvi L.) essential oil yield and limonene and carvon relative concentration
C. D. András¹, R. V. Salamon¹, A. Szép¹, I. Volt², I. Barabás¹
¹Sapientia Hungarian University of Transylvania Cluj-Napoca, Romania
²"Gheorghe Asachi" Technical University of Iași, Iași, Romania

S2-P08. The study of stages and operations involved in the preservation and restoration of a xiii century icon, on textile support
M. Munteanu¹, I. Sandu¹,², V. Vasilache¹,², I.C.A. Sandu³
¹"Al. I. Cuza" University of Iași, ARHEOINVEST Platform, Iași, Romania
²Romanian Inventors Forum, Iași, Romania
³Universidade de Évora, Palácio do Vimioso, Largo Marquês de Marialva, Évora, Portugal

S2-P09. Characterization of some lignocellulosic wastes as potential feedstock for fiber-based biorefinery
A. C. Puițel¹, B.M. Tofănică¹, P.V. Puiu², N. Marin¹, D. Gavrilescu¹
¹"Gheorghe Asachi” Technical University of Iași, Iași, Romania
²S.C. EcoPaper. S.A. Zărnesti, Brasov, Romania

S2-P10. Development and optimization of water based paint formula in order to reduce VOCs emissions
A.I. Simion¹, I. Ioniță², C.G. Grigoraș¹, L.G. Favier-Teodorescu³,⁴, L. Gavrilă¹
¹“Vasile Alecsandri” University of Bacău, Bacău, Romania
²"Gheorghe Asachi” Technical University of Iași, Iași, Romania
³Ecole Nationale Supérieure de Chimie de Rennes, Rennes, France
⁴Université Européenne de Bretagne, Rennes, France
S3. Advanced Materials and Polymers

S3-P01. Alginate - lignosulphonate films as bioactive coatings
R. P. Dumitriu\textsuperscript{1,2}, I. Stoica\textsuperscript{1,2}, G. Cazacu\textsuperscript{2}
\textsuperscript{1} Polytechnic University of Bucharest, Bucharest, Romania
\textsuperscript{2}“Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania

S3-P02. Nanoporous materials influence on the chemical composition of Merlot and Cabernet Sauvignon
C. E. Luchian\textsuperscript{1}, V. V. Cotea\textsuperscript{1}, C. Colibaba\textsuperscript{1}, M. Codreanu\textsuperscript{1}, M. Niculaua\textsuperscript{2}, A. Patras\textsuperscript{1}
\textsuperscript{1} The University of Agricultural Sciences and Veterinary Medicine "Ion Ionescu de la Brad", Iași, Romania
\textsuperscript{2} Oenological Research Center - Romanian Academy, Iași, Romania

S3-P03. Effect of carbon based materials treatments on Cabernet Sauvignon wine composition
M. Codreanu\textsuperscript{1}, V. V. Cotea\textsuperscript{1}, C. Luchian\textsuperscript{1}, M. Niculaua\textsuperscript{2}, C. I. Zamfir\textsuperscript{1}
\textsuperscript{1} University of Agricultural Sciences and Veterinary Medicine "Ion Ionescu de la Brad", Faculty of Horticulture, Iași, Romania
\textsuperscript{2} Romanian Academy, Iași Branch, Oenology Research Centre, Iași, Romania

S3-P04. Bi-based carbon xerogels - carbon paste electrode for Cd\textsuperscript{2+} detection
A. R. Deac, C. L. Cotet, G. L. Turdean, L. M. Muresan
"Babes- Bolyai" University, Cluj-Napoca, Romania

S3-P05. Physicochemical behavior of exfoliated graphite nanoplatelets dispersed in tetrahydrofuran and dimethylformamide environments from $T = (293.15$ to $308.15$) K
F. Sirbu\textsuperscript{1}, E. Radu\textsuperscript{2}, A. C. Ion\textsuperscript{3}
\textsuperscript{1} "Ilie Murgulescu" Institute of Physical Chemistry of Romanian Academy, Bucharest, Romania;
\textsuperscript{2} National Research & Development Institute for Chemistry and Petrochemistry ICECHIM, Bucharest, Romania
\textsuperscript{3} Politehnica University of Bucharest, Romania

S3-P06. The synthesis and characterization of hybrid organic/inorganic composites polyimide/iron oxide (Fe\textsubscript{3}O\textsubscript{4}/γ-Fe\textsubscript{2}O\textsubscript{3})
S. L. Nica\textsuperscript{1}, V. Nica\textsuperscript{2}, C. Hulubei\textsuperscript{1}, S. Ioan\textsuperscript{1}
\textsuperscript{1} "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania
\textsuperscript{2} "Alexandru Ioan Cuza" University, Iași, Romania
S3-P07. Porous microspheres and transparent materials based on partially alicyclic copolyimides
C. Hulubei¹, C.D. Vlad¹, I. Stoica¹, D. Popovici¹, G. Lisa², S. L. Nica¹, A.I. Barzic¹, S. Ioan¹
¹ “Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania
2 “Gheorghe Asachi” Technical University, Iași, Romania

S3-P08. PNIPAM-functionalized mesoporous carbon for adsorption of vitamin B2
M. Ignat¹, M. Fortuna¹, L. Sacarescu¹, V. Harabagiu¹
¹ “Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania

S3-P09. Upon synthesis of poly(maleic anhydride-co-3, 9-divinyl-2, 4, 8, 10-tetraoxaspiro (5.5) undecane) copolymer with antioxidant character and possibilities for bioconjugation
A. P. Chiriac, L. E. Nita, N. Tudorachi, V. Balan, I. Neamtu, A. Diaconu
“Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania

S3-P10. Poly(maleic anhydride-co-3, 9-divinyl-2, 4, 8, 10-tetraoxaspiro (5.5) undecane) copolymer-based magnetic composites: Potential vectors for remote-controlled bioactive substance release
L. E. Nita, A. P. Chiriac, I. Neamtu, N. Tudorachi, A. Diaconu
“Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania

S3-P11. Testing of rheological properties of quaternized polysulfones/polyvinyl alcohol blends for upgrading biomembranes
A. Filimon, R. M. Albu, E. Avram, S. Ioan
“Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania

S3-P12. Transport phenomena of polymer mixtures solution based on quaternized polysulfones
A. M. Dobos, A. Filimon, E. Avram, S. Ioan
“Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania

S3-P13. Blood components adhesion to cellulose acetate phthalate/hydroxypropyl cellulose substrate
A. M. Dobos¹, M. D. Onofrei¹, E. G. Ioanid¹, S. Ioan¹
¹ “Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania

S3-P14. Phosphorus-functionalized polysulfones with antithrombogenic activity for potential biomedical application
L. I. Buruiana¹, E. Avram¹, A. Popa², S. Ioan¹
¹ “Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania
² Institute of Chemistry of Romanian Academy, Timișoara, Romania
S3-P15. Cosmeceutical cream with higher therapeutic effect based on natural product enoxil

T. Lupascu, A.I. Gonta, N. Timbaliuc
Institute of Chemistry, Academy of Sciences of Moldova, Chisinau, Republic of Moldavia

S3-P16. Use of layered double hydroxides to remove anionic dyes from aqueous solutions

M. C. Alexandrica¹, D. Nistor², I. Andries³, M. I. Popa⁴
¹“Gheorghe Asachi” Tehnical University of Iași, Iași, Romania
²University “Vasile Alecsandri”, Bacău, Romania

S3-P17. In vitro cytotoxicity and enzymatic degradation of new chitosan-based scaffolds

A. G. Rusu¹, M. I. Popa⁴, M. C. Alexandrica¹, L. Verestiuc², M. Butnaru²
¹“Gheorghe Asachi” Tehnical University of Iași, Iași, Romania
²“Grigore T. Popa” University of Medicine and Pharmacy, Iași, Romania

S3-P18. Special wrapping papers. Corrosion test

T. Măluțan¹, A. M. Axinte¹,², V. Negreanu²
¹“Gheorghe Asachi” Tehnical University of Iași, Iași, Romania
²Pulp and paper research and development institute – Ceprohart SA/Suceava Branch/Romania

S3-P19. Comparative study of prehydrolysis methods for vegetal materials

C. Malutan, A. Panzariu, T. Malutan
“Gheorghe Asachi” Tehnical University of Iași, Iași, Romania

S3-P20. BaFe₁₂O₁₉ formation by citrate method

R. Băbuță, I. Lazău, C. Păcurariu
Politehnica University Timișoara, Timișoara, Romania

S3-P21. Optimisation of the blank shape and dimensions in order to reduce material scrap from deep drawing processes

A. Albut
“Vasile Alecsandri” University of Bacău, Bacău, Romania

S3-P22. Modelling of fracture phenomenon in case of composite materials reinforced with short carbon fibers

R. Caliman
“Vasile Alecsandri” University of Bacău, Bacău, Romania
S3-P23. Mathematical modelling of mechanical behaviour of cellulose-based fibres exposed to gamma rays and hydrothermal treatment

A. Olaru¹, M. Geba¹, C.M. Ursescu¹, T. Măluțan²

¹‘Moldova’ National Complex of Museums, Iași, Romania
²‘Gheorghe. Asachi’ Technical University of Iași, Iași, Romania
Friday, 07 November 2014

Lecture room: Faculty Council Room, Faculty of Chemical Engineering and Environmental Protection

930- 1010 Plenary Lecture: Prof. Ionel Mangalagiu, “Alexandru Ioan Cuza” University of Iași

NITROGEN HETEROCYCLES: AN EFFICIENT WAY TOWARDS “TARGET COMPOUNDS” OF POTENTIAL INTEREST AND MOLECULAR LOGIC DEVICES

Chairman: Prof. Ionel Marcel Popa, “Gheorghe Asachi” Technical University of Iași

1010 - 1050 Plenary Lecture - Prof. Shin’ichi Nakatsuji, University of Hyogo

RECENT PROGRESS IN THE DEVELOPMENT OF NEW ORGANIC RADICAL BATTERIES

Chairman: Prof. Dan Scutaru, “Gheorghe Asachi” Technical University of Iași

1050 - 1100 Coffee Break

1100 - 1300 Poster Session

Hall of Faculty of Chemical Engineering and Environmental Protection

S5. Environmental Management, Sustainable Development

S5-P01. Biosorption of antimony by brown algae
G. Ungureanu, S. Santos, R. Boaventura, C. Botelho
LSRE-Laboratory of Separation and Reaction Engineering, Porto, Portugal
S5-P02. Sorption behavior of anionic dye Congo red in the soil environment
_C. Smaranda_¹, _B. Drăgoi_¹, _D. Bulgariu_², _M. Gavrilescu_¹,³
¹“Gheorghe Asachi” Technical University of Iași, Iași, Romania
²“Al.I.Cuza” University of Iași, Iași, Romania
³Academy of Romanian Scientists, Bucharest, Romania

S5-P03. Recycling biomass waste to compost for heavy metals adsorption from wastewaters
_I.C. Manciulea, G.L. Dumitresu, C. Zaha_
Centre: Renewable Energy Systems and Recycling, Brasov, Romania

S5-P04. Comparison of ALR, BC and packed column performances used for CO₂ removal from gas mixtures
_P. Cozma_¹, _W. Wukovits_², _I.M. Simion_¹, _R.M. Hlihor_¹, _A. Friedl_², _I. Mămăligă_¹, _M. Gavrilescu_¹,³
¹“Gheorghe Asachi” Technical University of Iași, Iași, Romania
²Vienna University of Technology, Vienna, Austria
³Academy of Romanian Scientists, Bucharest, Romania

S5-P05. Energy efficiency study case on biogas production in industrial anaerobic digesters at municipal wastewater treatment plant
_A. Zuza_¹, _P.Ş. Agachi_¹, _V.M. Cristea_¹, _A. Nair_², _T. N. Nguyen_³, _C.Horju-Deac_⁴
¹Babes-Bolyai University of Cluj-Napoca, Cluj-Napoca, Romania
²Erasmus Mundus Program, India
³Erasmus Mundus Program, Vietnam
⁴Technical University of Cluj-Napoca, Cluj-Napoca, Romania

S5-P06. Influence of the polypropylene [PPR] pipes characteristics on the drinking water quality (I)
_N. Damian, S. Patachia_
Transilvania University of Brasov, Brasov, Romania

S5-P07. The use of ion exchange processes on weak acid resins for treatment of wastewaters containing copper ions
University “Politehnica” of Bucharest, Bucharest, Romania

S5-P08. Complex mathematical modelling of the removal of radionuclide using ion exchange columns
_D. Dinculescu, C.L. Gîjiu, V. Lavric_
University Politehnica of Bucharest, Bucharest, Romania
S5-P09. Selective recovery of phenolic derivatives through the technique of liquid membrane
I. Diaconu¹, C.M. Mirea¹,², E. Ruse¹, G. Nechifor¹
¹Politehnica University of Bucharest, Bucharest, Romania
²Arcuda Laboratory, Giurgiu, Romania

S5-P10. Selection of advanced wastewater treatment processes for effluent reclamation based on multi-criteria decision analysis
D. Gavrilescu (Cailean)¹, C. Teodosiu¹, G. Barjoveanu¹, D. Arsene¹, A. Chelba¹, I. Chihaiței, I. Dascalescu²
¹“Gheorghe Asachi” Technical University of Iași, Iași, Romania
²SC APAVITAL SA Iași, Iași, Romania

S5-P11. Supercritical fluid technology applied for polyphenols extraction from Picea abies bark: a preliminary study
A.I. Talmaciu, I. Volf, I. Mamaliga, V.I. Popa
“Gheorghe Asachi” Technical University of Iași, Iași, Romania

S5-P12. Correlation between the Danube hydrological regime and nearby groundwater levels in characteristic sections
A.M. Anghel, Deák Gy., M. Ilie, G. Ghiță, B. Petculescu, F. Marinescu, B. Uritescu
National Institute for Research and Development in Environmental Protection, Bucharest, Romania

S5-P13. Phenol removal from wastewaters using Ce, Ni and Co doped carbon xerogel
R.C. Pleșa Chiciuș, L.C. Coteț, A. Măicâneanu
Babes-Bolyai University, Cluj-Napoca, Romania

S5-P14. Influence of different harvest periods on the phenolic profile and content of leaf, stem and fruit extracts of bilberry
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S5-P15. A comparative life cycle assessment of three types of agricultural waste applied for Cd(II) biosorption
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S5-P16. Evolution of trophic parameters from Amara Lake
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S5-P17. Management possibilities of plants used for phytoremediation of soils polluted with heavy metals
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S5-P18. Oxy-combustion and CO₂ combustion of swine manure
D. López-González¹, M.M. Parascanu², M. Puig-Gameiro³, G. Soreanu², M. Fernandez-Lopez³, A. Avalos-Ramírez⁴, J.L. Valverde³, L. Sanchez-Silva³
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S5-P19. Catalytic and non-catalytic thermochemical conversion of biologically treated manure
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S5-P20. Evaluation of solid waste management scenarios using analytic hierarchy process (AHP) technique
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S5-P21. Ecotoxicological evaluation of erythrosine B and its degradation products
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S5-P22. Challenges and opportunities in green plastics: an assessment using the ELECTRE decision-aid method
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S5-P23. Heavy metal pollution on the Romanian Black Sea shore: an environmental impact and risk assessment
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S5-P24. Enhancing the Fenton process by UV light applied in textile wastewater treatment
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S5-P25. Sustainability indicators associated to the ecological footprint in construction and demolition waste management
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S5-P27. Mathematical modeling of a fixed bed catalytic reactor for the reduction of NO by H₂
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S5-P28. Full Saint Venant hydraulic modelling, simulation and calibration of a 5 water reservoir system in Jijia River catchment
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S5-P29. Heavy metals and PAHs characteristics of the ashes from Unchahar thermal power plant
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