

Innovative Materials and Processes

CONFERENCE PROGRAM

**3rd International Conference on
Chemical Engineering**

Romania, Iași, 09 – 11 November 2016

ICCE 2016

Organized by:

**“GHEORGHE ASACHI” TECHNICAL
UNIVERSITY OF IAȘI**



**FACULTY OF CHEMICAL ENGINEERING
AND ENVIRONMENTAL PROTECTION**



**ALUMNI ASSOCIATION OF INDUSTRIAL
CHEMISTRY FACULTY**

SCIENTIFIC COMMITTEE

Honorary Conference Chairman: *Prof. Dan Cascaval, "Gheorghe Asachi" Technical University of Iasi*

Conference Chairman: *Prof. Nicolae Hurduc, "Gheorghe Asachi" Technical University of Iasi*

Prof. Victor David, University of Bucharest

Prof. Aggregato Davide Fissore, "Politecnico" University of Torino

Prof. Berta Estevinho, University of Porto, Portugal

Prof. Renato Froidevaux, University of Science and Technology of Lille 1

Prof. Anca-Irina Galaction, "Gr. T. Popa" University of Medicine and Pharmacy of Iasi

Prof. Lucian Gavrilă, "V. Alecsandri" University of Bacău

Prof. Maria Gavrilă, "Gheorghe Asachi" Technical University of Iasi

Prof. Christoph Herwig, Vienna University of Technology

Prof. Horia Iovu, University Politehnica of Bucharest

Prof. Florin Dan Irimie, "Babes-Bolyai" University of Cluj-Napoca

Prof. Ionel Mangalagiu, "A.I. Cuza" University of Iasi

Prof. Alice Mija, University of Nice-Sophia Antipolis

Prof. Shin'ichi Nakatsuji, University of Hyogo

Prof. Vasile Parvulescu, University of Bucharest

Prof. Francesc Castells Piqué, University Rovira i Virgili

Prof. Aurel Pui, "A.I. Cuza" University of Iasi

Prof. Licinio Rocha, Saclay Nuclear Research Centre

Prof. Fernando Rocha, University of Porto, Portugal

Prof. Willi Schabel, Karlsruhe Institute of Technology

Prof. Nicolas Sbirrazzuoli, University of Nice Sophia Antipolis

Acad. Bogdan C. Simionescu, Romanian Academy

Prof. Alexandru Szep, "Sapientia" University Cluj-Napoca

Prof. Nicolas Szita, University College London

Prof. Carmen Teodosiu, "Gheorghe Asachi" Technical University of Iasi

Prof. Nicolae Vaszilcsin, University Politehnica of Timisoara



GENERAL PROGRAM

Wednesday, 9.11.2016

- 8.30 - 10.00 Registration
- 10.00 - 10.30 Opening Ceremony: Conference Room, University Main Building
- 10.30 - 11.10 Plenary Lecture - Acad. Prof. Bogdan C. Simionescu
- 11.10 - 11.30 Coffee Break
- 11.30 - 12.00 Plenary Lecture - Prof. Marc J.M. Abadie
- 12.00 - 12.30 Plenary Lecture - Prof. Ioan Andricioaei
- 12.30 - 13.00 Plenary Lecture - Prof. Vasile Parvulescu

- 13.00 - 14.00 Lunch
- 14.30 - 17.00 Organic and Inorganic Chemistry (S1) and
Polymers and Advanced Materials Sessions (S3)
- 14.30 - 17.00 Poster Sessions (S1, S2, S3, S4)
Organic and Inorganic Chemistry Session
Innovative Processes and Technologies Session
Polymers and Advanced Materials Session
Bioprocesses, Biocatalysis, Biotechnologies Session

Thursday, 10.11.2016

- 9.30 - 10.00 Plenary Lecture - Prof. Victor David
- 10.00 - 10.30 Plenary Lecture - Prof. Renato Froidevaux
- 10.30 - 11.00 Coffee Break
- 11.00 - 11.30 Plenary Lecture - Prof. Fernando Rocha

- 14.30 - 17.30 Processes and Innovative Technologies Session (S2) and
Bioprocesses, Biocatalysis, Biotechnologies Session (S4)
- 14.30 - 17.30 Environmental Management, Sustainable Development Session (S5)
- 14.30 - 17.30 Presentations of equipment and laboratory techniques
- 14.30 - 17.30 Poster Sessions (S1, S2, S3, S4)
Organic and Inorganic Chemistry Session
Innovative Processes and Technologies Session
Polymers and Advanced Materials Session
Bioprocesses, Biocatalysis, Biotechnologies Session
- 19.00 Gala dinner, Ramada Hotel

Friday 11.11.2016

- 9.30 - 10.00 Plenary Lecture - Prof. Silvia Fiore
- 10.00 - 10.30 Plenary Lecture - Prof. Anca Duta
- 10.30 - 10.50 Coffee Break
- 10.50 - 11.20 Plenary Lecture - Prof. Alice Mija
- 11.20 - 13.00 Poster Sessions (S5)
Environmental Management, Sustainable Development Session



About the "GHEORGHE ASACHI" TECHNICAL UNIVERSITY

The "Gheorghe Asachi" Technical University of Iasi (TUIASI) is a prestigious Romanian university, classified as a *university for advanced research and education*, according to the Ministry of Education and Research Order (MECTS nr. 5262/2011) being a relevant component of the research and development system of national interest. TUIASI develops programs for undergraduate, master, doctoral, postdoctoral studies and scientific research in 14 research areas, out of which 10 areas were classified in the category A, according to Law 1/2011 and HG 789/2011. The doctoral activity is organized within 10 doctoral schools including 13 doctoral fields developed according to national and international research priority areas, with a total of 478 doctoral students co-ordinated by 80 doctoral Ph.D. supervisors.

TUIASI participated in last years as coordinator or partner in several structural funded programs such as: 38 POSDRU projects (doctoral, post-doctoral, improvement of B.Sc. or M.Sc. curricula, etc), 5 POSCCE projects and 1 POR project.

TUIASI has an important research dimension, with 23 accredited research/excellence centers and laboratories focused on creating and transferring knowledge, especially in multi-disciplinary high-tech engineering areas. These centers/laboratories activate within national & international research grants or contracts with industry and governmental organizations, their activities and results placing TUIASI in the Romanian top of scientific research.

Dissemination of research results is supported by the means of the TUIASI international journals: **Environmental Engineering and Management Journal** (ISI Impact Factor 1.008), and the **Bulletin of the Polytechnic Institute of Iasi**, a BDI publication with 10 specialized sections. Also, TUIASI provides administrative support, human resources, research infrastructure, the informational basis of the university's Library, consulting and monitoring needed to adequately develop and implement all the scientific research projects.

Address and Conference Venue

All ICCE 03 sessions will take place at the "Gheorghe Asachi" Technical University of Iasi. Please check this program for information on the exact locations of events.



Dear Guests and Colleagues,

Welcome to the Third 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.

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

Professor Nicolae Hurduc,

Dean,
Faculty of Chemical Engineering and Environmental Protection

2016

ORGANIZING COMMITTEE

Prof. Nicolae Hurduc

Prof. Irina Volf

Prof. Teodor Măluțan

Eng. Eduard Moisii

Conference secretariat:

Lect. Alexandra Cristina Blaga, acblaga@tuiasi.ro

Lect. Gabriela Antoaneta Apostolescu (Section 1: ganto@tuiasi.ro)

Lect. Liliana Lazăr (Section 2: lillazar@tuiasi.ro)

Lect. Irina Cârlescu (Section 3: icarlescu@tuiasi.ro)

Lect. Lenuța Kloetzer (Section 4: lkloetzer@gmail.com)

Lect. Camelia Smaranda (Section 5: betianuc@ch.tuiasi.ro)

Web-site design and administration

Prof. Nicolae Apostolescu

napostol@tuiasi.ro

Scientific and general information:

Address and Conference Venue

All ICCE 03 sessions will take place at the “*Gheorghe Asachi*” Technical University of Iasi.

Registration and Conference Desk

The ICCE 03 registration will take place on Wednesday 09th of November from 8:00 to 9:30 at the Faculty of Chemical Engineering and Environmental Protection, Orizont Hall (Ground Floor). All participants are invited to register and collect the conference materials at the conference desks.

Official opening of the Conference and all the plenary conferences will be held in the Conference Room of the University Main Building, 67, Dimitrie Mangeron Bd., Iași.

The scientific communications on sections will be presented as follow:

✓ Wednesday, 09th of November and Thursday, 10th of November in the Council Room of the Faculty of Chemical Engineering and Environmental Protection Building, Dimitrie Mangeron Bd., No. 73, Iași

✓ Thursday, 10th of November the Section S5 in Technical University Main Building 67, Dimitrie Mangeron Bd., Iași.

Oral Presentations

The oral presentations program is structured in parallel sessions, which are held according to this conference program. Time allocation for keynote lectures is 30 minutes (including discussions) and for oral communications is 15 minutes (including discussions).

LDC projectors and a PC (Windows, MS Office, Adobe Acrobat) will be available in the session rooms. Authors are invited to upload their presentations on the PCs of each room well in advance of the beginning of the scheduled session, in order to avoid last minute problems. Uploading will exclusively be done via USB-drives.

Authors are also invited to reach the session room 10 minutes before the beginning and to introduce themselves to the sessions Chairpersons.

Posters

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 (USB drives).



Conference Program

Wednesday, 09 November 2016

Venue: University Main Building (Rectorate), 67 Dimitrie Mangeron Bd., Iași

10⁰⁰ - 10³⁰ **Opening Ceremony**

Prof. Nicolae Hurduc, Dean of the *Faculty of Chemical Engineering and Environmental Protection, TUIASI, ICCE 03* Chairman

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

Acad. Prof. Bogdan C. Simionescu, *Vice President of the Romanian Academy*

Prof. Maria Gavrilescu, *Editor in chief Environmental Engineering and Management Journal*

Plenary Session

Chairman:

Prof. Nicolae Hurduc, “Gheorghe Asachi” Technical University of Iași

Prof. Teodor Măluțan, “Gheorghe Asachi” Technical University of Iași

10³⁰ - 11¹⁰ Plenary Lecture: **Acad. Prof. Bogdan Simionescu**,
Vice President of the Romanian Academy

POLYMERS FOR DRUG/GENE DELIVERY AND TISSUE ENGINEERING

11¹⁰ - 11³⁰ Coffee Break

2016

11³⁰ - 12⁰⁰ Plenary Lecture: **Prof. Marc J.M. Abadie**, Institute Charles Gerhardt of Montpellier, University of Montpellier, France

FUNDAMENTALS AND CHALLENGES IN CURING PROCESS

12⁰⁰ - 12³⁰ Plenary Lecture: **Prof. Ioan Andricioaei**, University of California, U.S.A.

**DENDRIMER INTERACTIONS WITH DNA AND NANOPORES:
MOLECULAR DYNAMICS SIMULATIONS**

12³⁰ - 13⁰⁰ Plenary Lecture: **Prof. Vasile Parvulescu**, University of Bucharest, Romania

**GRAPHENES BASED CATALYSTS - A NEW ADVENTURE IN THE
CONTROL OF THE CHEMOSELECTIVE REACTIONS**

13⁰⁰ - 14⁰⁰ Lunch in the Hall of the Faculty of Chemical Engineering and Environmental Protection

14³⁰ - 16³⁰

**Topic: Organic and Inorganic Chemistry (S1) and
Advanced Materials and Polymers Sessions (S3)**

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

Chairperson:

Dr. Tatjana Juzsakova, *University of Pannonia, Veszprem, Hungary*

Dr. Catalina Peptu, *"Gheorghe Asachi" Technical University of Iasi,
Romania*

S1-C01. Application of the Thermodynamic Principles in Steam Reforming

T. Juzsakova, A. Redey, E. Domokos

Institute of Environmental Engineering, University of Pannonia, Veszprem,
Hungary

S1-C02. Reaction Mechanism Study in Heterogeneous Catalysis

T. Juzsakova, Á. Rédey, E. Domokos, A. Utasi, T. Frater, J. Németh, V. Sebestyén

Institute of Environmental Engineering, University of Pannonia, Veszprem,
Hungary

S3-C01. 3-Dimentional Fibre Deposition technology for catalytic applications

L. Protasova¹, J. Lefevere^{1,2}, S. Danaci^{1,2,3,4}, S. Mullens¹, M. Gysen¹, M. Mertens¹

¹Sustainable Materials Management, Flemish Institute for Technological Research (VITO), Boeretang, Belgium

²University Antwerp, Laboratory of Adsorption and Catalysis, Universiteitsplein 1, 2610 Wilrijk, Belgium

³Liten/DTBH/SCTR/LER, CEA Grenoble, France

⁴Université de Toulouse, UPS, Laboratoire de Génie Chimique (LGC UMR 5503), Toulouse, France

S3-C02. Mesoporous solids for the adsorption of dyes and compounds from red wine

D. Lutic¹, D. Gilea¹, A.M. Nistor¹, I. Crețescu²

¹Al. I. Cuza University of Iasi, Romania,

²"Gheorghe Asachi" Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania



S3-C03. Incorporation of different drugs into biocomposites based on hydroxyapatite and cellulose acetate

A. Mija¹, A. M. Mateiuc², G. Ciobanu², T. Măluțan², C. Luca

¹Université Nice Sophia Antipolis, Nice, France

²"Gheorghe Asachi" Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

S3-C04. Nonviral vector loaded hybrid matrix for sustained gene delivery

G. David¹, D. Peptanariu², M. Calin Voinea³

¹"Gheorghe Asachi" Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

²P. Poni" Institute of Macromolecular Chemistry, Iasi, Romania

³Nanotherapy laboratory Institute of Cellular Biology and Pathology "Nicolae Simionescu", Bucharest, Romania

S3-C05. Azo-polymer surface reorganization during exposure to the aqueous media

C.M. Păiuș (Herghiligiu)¹, E.L. Epure¹, R. Constantinel¹, L. Rocha², N. Hurduc¹

¹"Gheorghe Asachi" Technical University of Iași, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

²CEA, LIST Saclay, Laboratoire Capteurs et Architectures Électroniques, F-91191 Gif-sur-Yvette Cedex, France

S3-C06. Molecular modelling studies of azo-polysiloxanes functionalized with ammonium groups

E.L. Epure, C. M. Herghiligiu, S. Ciobotarescu, N. Hurduc

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

S3-C07. Insights into the relaxation behavior of new heterocyclic polyurethane and poly(urethane-urea) elastomers

V. O. Potolinca, S. Oprea, E. C. Buruiana, V.E. Musteata

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

14³⁰ - 17³⁰ **Poster Session**

Hall of Faculty of Chemical Engineering and Environmental Protection

S1. Organic and Inorganic Chemistry

Chairperson:

Dr. Brandușa Drăgoi, “Gheorghe Asachi” Technical University of Iași

S1-P01. Study on the Efficiency of Advanced Technologies in Waste Water Treatment

J. Németh, V. Sebestyén, E. Domokos, T. Juzsakova, Á. Rédey
Institute of Environmental Engineering, University of Pannonia, Veszprem, Hungary

S1-P02. A new complex compounds with β -Aminoisobutyric acid bidentate ligand

D. Sibiescu¹, M. Vizitiu¹, M. Crudu², A. M. Crudu²
¹“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania
² INCDTP – Division ICPI Bucharest, Romania

S1-P03. Promoting effect of ceria on the catalytic activity of CeO₂-ZnO nanostructured materials

N. Apostolescu, C. Cernatescu, R. E. Tătaru Farmus, C. Cobzaru, G. Apostolescu
“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

S1-P04. Stabilization of nano-sized Co-based bimetallic nanoparticles into the mesochannels of SBA-15 silica

I. Mazilu^{1,2}, B. Dragoi¹, A. Ungureanu¹, A. Chiriac¹, C. Ciotonea³, S. Royer³, E. Dumitriu¹
¹“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection Iasi, Romania
²Université de Poitiers, CNRS UMR 7285 IC2MP, Poitiers, France
³Université de Lille 1, CNRS UMR 8181, UCCS, Cite Scientifique, Villeneuve d'Ascq Cedex, France

S2. Innovative Processes and Technologies

Chairperson:

Prof. Maria Harja, “Gheorghe Asachi” Technical University of Iași

S2-P01. Kinetically studies in essential oil extraction from *Lavandula X intermedia* cultivated in the north country of Bucovina

A. Moise, A. Sidor, C. Răducanu

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

S2-P02. Some possibilities to make more efficient the technology of biodiesel production from corn oil

A. Moise, C. Răducanu, A. Sidor

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

S2-P03. Hansen parameter calculation of supercritical fluid solvents as tool of green solvent design for environmental protection

C.D. András^{1,2}, L. Mátyás³, R.V. Salamon¹, A.S. Szép¹

¹Sapientia Hungarian University of Transylvania, Department of Food Science, Miercurea Ciuc, Romania

²University of Technology and Economics, Department of Chemical and Environmental Process Engineering, Budapest, Hungary

³Sapientia Hungarian University of Transylvania, Department of Bioengineering, Miercurea Ciuc, Romania

S2-P04. Mathematical optimization of lignosulphonate waste liquor phenolization

A.I. Simion¹, C-G. Grigoraș¹, A. Chiriac², N.C. Tâmpu³, L. Gavrilă¹

¹“Vasile Alecsandri” University of Bacau, Faculty of Engineering, Bacau, Romania

²“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

³“Vasile Alecsandri” University of Bacau, Faculty of Engineering, Bacau, Romania

S2-P05. Kinetic modeling of mercury oxidation by gold-coated SCR-DeNOx catalysts

L. Lazar¹, B.A. Esiyok², I. Fechet³, H. Koese⁴

¹“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

²Martin-Luther University Halle-Wittenberg, Centre for Engineering Science, Halle, Germany

³University of Strasbourg, ICPEES, Strasbourg, France

⁴Otto-von-Guericke University Magdeburg, FVST/IAUT Environmental Engineering, Magdeburg, Germany

S2-P06. Washcoating of thin Au/TiO₂ layers onto commercial SCR-DeNOx monolithic catalyst: Role of suspension formulation

B.A. Esiyok¹, I. Fechet², L. Lazar³, H. Koese⁴

¹Martin-Luther University Halle-Wittenberg, Centre for Engineering Science, Halle, Germany

²University of Strasbourg, ICPEES, Strasbourg, France

³“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection Iasi, Romania

⁴Otto-von-Guericke University Magdeburg, FVST/IAUT Environmental Engineering, Magdeburg, Germany

S2-P07. Low-cost adsorbents from power plant ash and its applications

M. Harja¹, G. Ciobanu¹, L. Favier², L. Rusu³, L. Lazar¹

¹“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection Iasi, Romania

²Ecole Nationale Supérieure de Chimie de Rennes, CNRS, Rennes, France

³“Vasile Alecsandri” University of Bacau, Faculty of Engineering, Bacau, Romania

S2-P08. Diclofenac removal from aqueous solution using ZnAILDH and ZnCoAILDH and their derived mixed oxides as highly efficient photocatalysts under solar irradiation

E.F. Grosu¹, E.M. Seftel^{2,3}, P. Coof², G. Carja¹

¹“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

²University of Antwerpen, Department of Chemistry, Antwerpen, Belgium

³VITO Flemish Institute for Technological Research, Boeretang, Belgium

S2-P09. Novel self-supported Fe(II) layered double hydroxides as efficient photocatalysts

M.S. Secula, M. Darie, I. Mămăligă, G. Cârjă

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

S2-P10. Evaluation of phenolic compounds content of grape marc

V.V. Cotea¹, C. E. Luchian¹, M. Niculaua², R. Tucaliuc¹, Ș. Tudose Sandu-Ville¹

¹The University of Agricultural Sciences and Veterinary Medicine “Ion Ionescu de la Brad”, Faculty of Horticulture, Iasi, Romania

²Oenological Research Center - Romanian Academy, Iasi, Romania

S2-P11. Effect of metal tolerant PGPR bacteria on plant growth, metal uptake and stress responses

M. Gyöngyvér¹, B. Vincze¹, R.V. Salamon², E. Kovács¹

¹Sapientia Hungarian University of Transylvania, Department of Bioengineering, Miercurea Ciuc, Romania

²Sapientia Hungarian University of Transylvania, Department of Food Engineering, Miercurea Ciuc, Romania

S2-P12. Drying kinetics in nanoscale polymer films and coatings towards interfaces

W. Schabel, F. Buss, T. Fritzensmeier, P. Scharfer

Karlsruhe Institute of Technology, Karlsruhe, Germany

S2-P13. The enhancement factor approach for chemisorption process

M. Harja¹, L. Lazar¹, G. Ciobanu¹, L. Rusu²,

¹“Gheorghe Asachi” Technical University of Iași, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

²“Vasile Alecsandri” University of Bacau, Faculty of Engineering, Romania

S3. Advanced Materials and Polymers

Chairperson:

Dr. Luiza Epure, “Gheorghe Asachi” Technical University of Iași

S3-P01. Studies on thermal stability of some bent core liquid crystals

I. Cârlescu, A. Simion, G. Lisa, D. Scutaru

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

S3-P02. Dielectric properties of some bent core liquid crystals

J. Cârlescu¹, A. Simion¹, A. Bele², D. Scutaru¹

¹"Gheorghe Asachi" Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection Iași, România

²Institute of Macromolecular Chemistry "Petru Poni" Iasi, Romania

S3-P03. MLR Models Used to Predict the Thermal Stability of Some Polyimides

C. Lisa¹, E. Hamciuc², C. Hamciuc², G. Lisa¹

¹"Gheorghe Asachi" Tehnical University, Iasi, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

²Institute of Macromolecular Chemistry "Petru Poni" Iasi, Romania

S3-P04. Thermal Analysis of the Coffee Grounds Obtained in the Professional Coffee Vending Machines

G. Lisa, L-E. Țiplea, I. A. Ciobanu, P. Buțu, B. Bîlbă, R. Ciompu, N. Tudorachi, C. Lisa

„Gheorghe Asachi” Tehnical University, Iasi, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

S3-P05. Innovative nanoparticles based on PEG methacrylate/acrylate grafted chitosan: a comparative study

C. Savin^{1,2}, C. A. Peptu¹, M. Popa^{1,3}, C. Delaite², G. Riess²

¹"Gheorghe Asachi" Technical University of Iași, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

²Laboratoire de Photochimie et d'Ingénierie macromoléculaires, Institut J.B. Donnet, Mulhouse France

³Academy of Romanian Scientists, Bucuresti, Romania

S3-P06. Synthesis of Hydroxyapatite – Eugenol Biocomposites for Periodontal Regeneration and Implant Site Development

A.S. Barna¹, M. G. Ciobanu¹, C. Luca¹, P. Gargiulo^{2,3}

¹"Gheorghe Asachi" Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iași, Romania

²University of Reykjavik, Institute of Biomedical and Neural Engineering, Department of Biomedical Engineering, Reykjavik, Iceland

³Landspítali University Hospital, Department of Development CE and IT, Menntavegi 1, 101 Reykjavik, Iceland

S4. Bioprocesses, Biocatalysis, Biotechnologies

Chairperson:

Dr. Corina Cernatescu, “Gheorghe Asachi” Technical University of Iași

S4-P01. Furan derivatives synthesis from biomass using advanced nanostructured hybrid catalysis

K. Belhacene¹, T. Delaunay¹, M. Collinet¹, A.-V. Duffrene², R. Froidevaux²

¹IFMAS Institut Français des Matériaux Agro-Sourcés, Parc de la Haute Borne, 60 avenue Halley, Villeneuve d’ascq, France ;

²Institut Charles Viollette, EA7394, Université Lille Nord de France – Sciences et technologies – Villeneuve d’ascq, France

S4-P02. Influence of extraction method and solvent composition on efficiency of polyphenols extraction from berries

L. Kloetzer, R.M. Șova, A.C. Blaga

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

S4-P03. Wheat straw pulping using sodium carbonate

A.C. Puițel, N. Marin, D. Gavrilescu

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

S4-P04. Investigation of microalgae cultivation systems for biofuels (biodiesel and bioethanol)

A.C. Blaga¹, L. Kloetzer¹, A. Tucaliuc¹, A.I. Galaction², D. Cascaval¹

¹“Gheorghe Asachi” Technical University of Iași, Faculty of Chemical Engineering and Environmental Protection, Iași, Romania

²“Grigore T. Popa” University of Medicine and Pharmacy of Iași, Faculty of Medical Bioengineering, Iași, Romania

S4-P05. Influence of oxygen-vectors in fumaric acid fermentation using *Rhizopus orizae*

A.C. Blaga¹, C. Ciobanu¹, O. Farcasi¹, D. Cascaval¹, A.I. Galaction²

¹“Gheorghe Asachi” Technical University of Iași, Faculty of Chemical Engineering and Environmental Protection, Iași, Romania

²“Grigore T. Popa” University of Medicine and Pharmacy of Iași, Faculty of Medical Bioengineering, Iași, Romania

S4-P06. Comparative study of ultrasound extraction of polyphenols

L. Horciu¹, B.N. Estevinho², L. Kloetzer¹, A.C. Blaga¹

¹“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iași, Romania

²LEPABE, Departamento de Engenharia Química, Faculdade de Engenharia da Universidade do Porto, Porto, Portugal

S4-P07. Separation of an opioid peptide from hemoglobin hydrolysate through a microfluidic process

J. Ungureanu¹, R. Froidevaux², A. Blaga¹

¹“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iași, Romania

²University of Science and Technology Lille 1, France

S4-P08. Design and characterization of vitamin B12 microcapsules produced by a spray-drying technique

J. Carlan, B.N. Estevinho, F.A. Rocha

LEPABE, Departamento de Engenharia Química, Faculdade de Engenharia da Universidade do Porto, Porto, Portugal

S4-P9. Increase in ergosterol content in *Saccharomyces cerevisiae* strain using non-conventional aeration method

A.C. Blaga¹, C. Ciobanu¹, A. Tucaliuc¹, A.I. Galaction², D. Cascava¹

¹“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iași, Romania

²“Grigore T. Popa” University of Medicine and Pharmacy of Iasi, Faculty of Medical Bioengineering, Iasi, Romania

S4-P10. Synergic extraction of pantothenic acid

M. Postaru¹, A.S. Bompa (Voinea)², L. Kloetzer², A.I. Galaction¹, D. Cascava²

¹“Grigore T. Popa” University of Medicine and Pharmacy of Iasi, Faculty of Medical Bioengineering, Iasi, Romania

²“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Iași, Romania

Thursday, 10 November 2016

Venue: Conference Room, University Main Building (Rectorate),
Dimitrie Mangeron Bd. No. 67, Iași

Chairperson:

Prof. Constanta Ibanescu, *“Gheorghe Asachi” Technical University of Iași*

Prof. Adrian Ungureanu, *“Gheorghe Asachi” Technical University of Iași*

09³⁰ - 10⁰⁰ Plenary Lecture: **Prof. Victor David** - University of
Bucharest, Romania

**MOLECULAR PROPERTIES INVESTIGATED BY LIQUID
CHROMATOGRAPHY**

10⁰⁰ - 10³⁰ Plenary Lecture: **Prof. Renato Froidevaux** -
University of Science and Technology Lille 1, France

**NOVEL ENZYMATIC STRATEGIES APPLIED TO BIOMASS AND
AGRO-FOOD VALORIZATION**

10³⁰ - 11⁰⁰ Coffee Break

11⁰⁰ - 11³⁰ Plenary Lecture: **Prof. Fernando Rocha** – University
of Porto, Portugal

**SEPARATION PROCESSES IN CHEMICAL ENGINEERING:
APPLICATION TO NEW PRODUCTS AND NEW FIELDS**



14³⁰ - 17³⁰ **Topic: Processes and Innovative Technologies (S2) and Bioprocesses, Biocatalysis, Biotechnologies (S4)**

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

Chairman:

Prof. Silvia Curteanu, *Gheorghe Asachi" Technical University of Iași*

Prof. Alexandru Szep, *"Sapientia" University Cluj-Napoca*

S2-C01. Tubular furnaces performances study using UniSim FPH simulator

C. Patrascioiu, M. Petre

Petroleum-Gas University of Ploiesti, Romania

S2-C02. Mass transfer in solid – liquid extraction at high solute concentrations

M. Popa, E.T. Iacob Tudose, I. Mamaliga

"Gheorghe Asachi" Technical University of Iași, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

S2-C03. The treatment of aluminium pigments with inorganic polymers forenvironment-friendly applications

D. Dragnea¹, A. Smochină¹, E. Zaharia¹, D. Gudovan¹, C.S. Bîldea¹, I. Dragnea²

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

²S.C. Alba Aluminiu Ltd., Zlatna, Alba

S2-C04. Plasmonic nanoparticles – layered double hydroxides nanocomposites for efficient UV and solar-driven photocatalysis

M. Darie, M. Vizitiu, S. Dranca, G. Carja

"Gheorghe Asachi" Technical University of Iași, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

S2-C05. Kinetics and equilibrium studies of para-chlorophenol adsorption onto magnetic activated carbon composites

M.S. Secula¹, E. David¹, B. Cagnon², A. Vajda¹, I. Mămăligă¹

¹"Gheorghe Asachi" Technical University of Iași, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

²ICMN, CNRS-Universite d'Orleans, France

S2-C06. Naphthalene sublimation modelling and optimization using a neuro-evolutive approach

E.N. Dragoi, S. Curteanu, G.D. Suditu

"Gheorghe Asachi" Technical University of Iași, Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania

S4-C01. Antioxidant and antimicrobial activities of beech bark (*Fagus sylvatica* L.) polyphenolic extract

C. Tanase¹, S. Coșarcă¹, F. Toma¹, A. Mare¹, A. Man¹, A. Miklos¹, S. Imre¹, I. Boz^{2,3}

¹University of Medicine and Pharmacy of Tirgu Mureș, Tirgu Mures, Romania

² Institute of Biological Research, Iasi, Romania

³"Alexandru Ioan Cuza" University of Iasi, Faculty of Biology, Iasi, Romania

S4-C02. Influence of husk on content of secondary metabolites of *Fusarium* spp. in different wheat species

P. Konvalina¹, I. Capouchová², D. Janovská³, K. Suchý¹, Z. Štěrba¹, J. Moudrý jr.¹, J. Bernas¹, M. Kopecký¹, T. D. Khoa¹, O. Vlášek¹

¹University of South Bohemia in Ceske Budejovice, Faculty of Agriculture, Ceske Budejovice, Czech Republic

²Czech University of Life Sciences in Prague, Prague, Czech Republic

³Crop Research Institute in Prague, Prague, Czech Republic

S4-C03. Chemical oxidation integrated into bioleaching of pyrite and chalcopyrite using immobilized biomass

A.K. Vardanyan, N.S. Vardanyan, A.S. Khachatryan, Z.S. Melkonyan
SPC" Armbiotechnology" of NAS of Armenia

14³⁰ - 17³⁰ **Topic: *Environmental Management, Sustainable Development (S5)***

Lecture room: Conference Room, University Main Building (Rectorate), Dimitrie Mangeron Bd. No. 67, Iași

Chairman:

Prof. C. Catrinescu, “Gheorghe Asachi” Technical University of Iași

Dr. G. Barjoveanu, “Gheorghe Asachi” Technical University of Iași

S5-C01. Utilization of red mud as catalyst for hydrodeoxygenation of guaiacol

*T. Juzsakova*¹, *A. Rédey*¹, *Z. Ifju*¹, *J. Nemeth*¹, *V. Sebestyén*¹, *A. Csavdár*², *C.L. Phuoc*³, *L. Disossy*⁴

¹University of Pannonia, Veszprem, Hungary

²Babes-Bolyai University of Cluj-Napoca, Romania

³University of Science and Technology, Danang, Vietnam

⁴Chianti 3D Kft, Veszprem, Hungary

S5-C02. Emission footprint of plants grown for direct combustion

J. Bernas, *C. Kopecky*, *J. Moudry Jr.*, *P. Konvalina*, *Z. Jelinkova*, *J. Moudry*
University of South Bohemia, České Budějovice, Czech Republic

S5-C03. Utilization of the red mud to recover rare materials

*T. Juzsakova*¹, *A. Rédey*¹, *E. Domokos*¹, *A. Csavdár*², *C.L. Phuoc*³, *J. Németh*¹, *V. Sebestyén*¹, *L. Dióssy*¹, *I. Raduly*⁴, *A. Utasi*¹

¹University of Pannonia, Veszprem, Hungary

²Babes-Bolyai University of Cluj-Napoca, Romania

³University of Science and Technology, Danang, Vietnam

⁴Babes-Bolyai University of Cluj-Napoca, Romania

S5-C04. Optimization the physical-chemical processes in the treatment of domestic and industrial wastewaters

*M. Mincu*¹, *E. Diaçu*²

¹National Institute for Research and Development in Environment Protection, Bucharest, Romania

²University Polytechnica of Bucharest, Romania

S5-C05. Influence of farming system on greenhouse gas emissions within cereal cultivation

J. Moudrý Jr., J. Bernas, Z. Jelínková, M. Kopecký, P. Konvalina, J. Moudrý, L. Kolář, Z. Štěřba

University of South Bohemia, České Budějovice, Czech Republic

S5-C06. Environmental friendly synthesis of silver nanoparticles using Gooseberry aqueous extract

A.A. Sorescu^{1,2}, A. Nută^{2,3}, I.R. Suica-Bunghiez², R.M. Ion^{1,2}, C.L. Nistor², R. C. Fierascu²

¹Valahia University, Targoviste, Romania

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

³The Romanian Academy "Stefan S. Nicolau" Institute of Virology, Bucharest, Romania

S5-C07. The determination of the quantity and quality of primary soil organic matter and humus by new method

M. Kopecký, L. Kolář, J. Bernas, J. Peterka, R. Váchalová, P. Konvalina, J. Moudrý Jr., J. Borová-Batt

University of South Bohemia, České Budějovice, Czech Republic

S5-C08. Performance of living *Bacillus megaterium* for Chromium(VI) removal from liquid effluents

M. Rosca¹, R.M. Hlihor¹, M. Diaconu¹, T. Tavares², M. Gavrilescu^{1,3}

¹"Gheorghe Asachi" Technical University of Iasi, Romania

²University of Minho, CEB – Centre of Biological Engineering, Braga, Portugal

³Academy of Romanian Scientists, Bucharest, Romania

S5-C09. Prognosis scenarios related to Amara Lake evolution

O. Axinte¹, O.C. Star^{2,3}, L. Bulgariu¹

¹"Gheorghe Asachi" Technical University of Iasi, Iasi, Romania

²"Al. I. Cuza" University of Iasi, Iasi, Romania

³Romanian Academy, Branch of Iasi, Romania

S5-C10. Assessment of environmental impacts generated during Cr(VI) removal from aqueous solutions by living *Arthrobacter viscosus*

R.M. Hlihor¹, I.M. Simion¹, R.E. Turculeț¹, L. Favier^{2,3}, T. Tavares⁴, M. Gavrilescu^{1,5}

¹"Gheorghe Asachi" Technical University of Iasi, Iasi, Romania

²Ecole Nationale Supérieure de Chimie de Rennes, Rennes, France

³Université Européenne de Bretagne, Rennes, France

⁴University of Minho, Braga, Portugal

⁵Academy of Romanian Scientists, Bucharest, Romania



Friday, 11 November 2016

Lecture room: Conference Room, University Main Building (Rectorate), 67, Dimitrie Mangeron Bd., Iași

Chairperson:

Prof. **Carmen Teodosiu**, "Gheorghe Asachi" Technical University of Iași

Prof. **Irina Volf** "Gheorghe Asachi" Technical University of Iași

9³⁰ - 10⁰⁰ Plenary Lecture: **Prof. Silvia Fiore** - Polytechnic University of Torino, Italy

ENERGY EFFICIENCY OPTIMIZATION OF WASTEWATER TREATMENT: OVERVIEW AND PERSPECTIVES

10⁰⁰ - 10³⁰ Plenary Lecture – **Prof. Anca Duta** - University Transilvania Brasov, Romania

WATER REUSE: PHOTOCATALYSIS-BASED FEASIBLE AND EFFICIENT SOLUTIONS FOR THE BUILT ENVIRONMENT

10³⁰ - 10⁵⁰ Coffee Break

10⁵⁰ - 11²⁰ Plenary Lecture – **Prof. Alice Mija** – University of Nice-Sophia Antipolis, Nice, France

DESIGN OF SUSTAINABLE THERMOSETS: FROM SYNTHESIS TO PROPERTIES CONTROL

11²⁰ - 13⁰⁰ **Poster Session**

Hall of Faculty of Chemical Engineering and Environmental Protection

S5. Environmental Management, Sustainable Development

Chairperson:

Dr. A. Buburuzan, *„Gheorghe Asachi” Technical University of Iași*

S5-P01. Recent trends in urban sprawl and consequent air pollution in Iași City (Romania)

L. Rosu, M. Istrate, A. Baniică

Alexandru Ioan Cuza University Iasi, Iasi, Romania

S5-P02. New quantitative methods in environmental impact assessment

V. Sebestyén, J. Németh, A. Utasi, T. Juzsakova, E. Domokos, Á. Rédey

University of Pannonia, Veszprém, Hungary

S5-P03. Unmanned aerial vehicles in environmental monitoring

T. Fráter, T. Juzsakova, Á. Rédey

University of Pannonia, Veszprém, Hungary

S5-P04. Environmental sustainability evaluation based on waste absorption footprint indicator applied in the Prut River basin

D. Căilean (Gavrilescu), C.G. Didilescu, G. Barjoveanu, D. Ibanescu, O. Ghiuzan, B.M. Sluser, C. Teodosiu

„Gheorghe Asachi” Technical University of Iasi, Iasi, Romania

S5-P05. Evaluation of landfill leachate treatment by combined Fenton oxidation and membrane separation processes

D. Fighir, C.P. Musteret, A. Gherghel, I. Morosanu, A.F. Gilca, M. Minea, P. Apopei, C. Teodosiu

„Gheorghe Asachi” Technical University of Iasi, Iasi, Romania

S5-P06. Validation and optimization of a method for Sb determination from mineral waters by ICP-OES

L. Capra^{1,2}, M. Manolache¹, I. Ior², R. Stoica¹, A.C. Ior²

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

²University Politehnica of Bucharest, Bucharest, Romania

S5-P07. Soil pollution control and sustainable remediation strategies

C.Smaranda¹, D.Comăniță¹, P. Cozma¹, M. Gavrilescu^{1,2}

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

²Academy of Romanian Scientists, Bucharest, Romania

S5-P08. Tolerance and adaptability of some microorganisms in soils contaminated with PCBs

M. Diaconu¹, P. Cozma¹, R.M. Hlihor¹, M. Gavrilescu^{1,2}

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

²Academy of Romanian Scientists, Bucharest, Romania

S5-P09. Comparative evaluation of environmental impacts of plastic production processes using SimaPro software tool for Life Cycle Assessment (LCA)

E.D. Comăniță¹, C. Ghinea², I. Gostin³, Șt. Iordache⁴, A. Bonoli⁵, M. Gavrilescu^{1,6}

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

²“Stefan cel Mare” University of Suceava, Suceava, Romania

³“Alexandru Ioan Cuza” University of Iasi, Iasi, Romania

⁴Valahia University of Târgoviște, Târgoviște, Romania

⁵University of Bologna, Bologna, Italy

⁶Academy of Romanian Scientists, Bucharest, Romania

S5-P10. Chemical and biological processes in the treatment of contaminated aqueous solutions for the elimination of refractory organic compounds: weaknesses and strengths

R.E. Turculeț¹, M. Roșca¹, M. Diaconu¹, R.M. Hlihor¹, Lidia Favier², M. Gavrilescu^{1,3}

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

²École Nationale Supérieure de Chimie de Rennes ISCR UMR CNRS 6226, Equipe Chimie et Ingénierie des Procédés

³Academy of Romanian Scientists, Bucharest, Romania

S5-P11. Increasing sustainability in construction and demolition waste management systems

I.M. Simion¹, E.D. Comăniță¹, M. Gavrilescu^{1,2}, A. Bonoli³

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

²Academy of Romanian Scientists, Bucharest, Romania

³DICAM University of Bologna, Bologna, Italy

S5-P12. Sustainable industrial production in cement industry: Characterization, perspectives and challenges

*P. Cozma*¹, *G. Ropcean*¹, *M. Rosca*¹, *I.M. Simion*¹, *R.M. Hlihor*¹, *M. Gavrilescu*^{1,2}

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

²Academy of Romanian Scientists, Bucharest, Romania

S5-P13. Impacts assessment of some scenarios for the treatment of biomass loaded with heavy metals

*D.I. Tudorache Fertu*¹, *I.M. Simion*¹, *L. Bulgariu*¹, *M. Gavrilescu*^{1,2}

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

²Academy of Romanian Scientists, Bucharest, Romania

S5-P14. Romanian peat as source of raw material for ecological soil fertilizers

*S. Pruteanu*¹, *L. Bulgariu*¹, *M. Gavrilescu*^{1,2}

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

²Academy of Romanian Scientists, Bucharest, Romania

S5-P15. Valorization of algae biomass loaded with metal ions in soil remediation processes

*I.S. Bădescu*¹, *D. Bulgariu*^{2,3}, *V. Stoleru*⁴, *L. Bulgariu*¹

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

²Al. I. Cuza” University of Iasi, Iasi, Romania

³Romanian Academy, Branch of Iasi, Collective of Geography, Romania

⁴ Ion Ionescu de la Brad University of Agricultural Sciences and Veterinary Medicine of Iasi, Iasi, Romania

S5-P16. Adsorptive characteristics of PET waste for organic dyes from aqueous media

*B. (Isăilă) Cojocariu*¹, *A. Mocanu*², *G. Nacu*¹, *M. Zamfir*³, *L. Bulgariu*¹

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

²Gheorghe Asachi” Technical University of Iasi, Iasi, Romania

³GreenFiber International Company

S5-P17. Biosorption of Cu(II) ions from aqueous media onto mustard-based biochar

L. Nemes, *T. (Ionel) Arsene*, *L. Bulgariu*

“Gheorghe Asachi” Technical University of Iasi, Iasi, Romania

S5-P18. Binding of oxyanions by *Sphagnum* moss peat. Theoretical models of kinetics and isotherm

*G. Ungureanu*¹, *C. Balan*², *I. Volf*²

¹FEUP-Faculdade de Engenharia da Universidade do Porto, Portugal

²“Gheorghe Asachi” Technical University of Iasi, Iasi, Romania

S5-P19. Removal of aqueous bisphenol A in carbon nanotubes (CNTs) - HPLC method with UV detection

R.M. Senin^{1,2}, *R. Stoica*², *S. Doncea*², *A.C. Ion*¹

¹University Politehnica of Bucharest, Bucharest, Romania

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

S5-P20. Advanced environmental impact assessment method

V. Sebestyén, *A. Utasi*, *Á. Rédey*

University of Pannonia, Veszprem, Hungary

S5-P21. A sensitive and efficient way for trace levels monitoring of water contaminants of health and environmental concern

*Y. Kadmi*¹, *L. Favier*^{2,3}, *F. Kaidi*^{2,3}, *R. Hlihor*⁴, *D. Wolber*^{2,3}, *M. Gavrilescu*⁴

¹Université d'Artois, Institut Régional en Agroalimentaire et Biotechnologie Charles Viollette, France

²Ecole Nationale Supérieure de Chimie de Rennes, France

³Université Européenne de Bretagne, France

⁴“Gheorghe Asachi” Technical University of Iasi, Iasi, Romania

S5-P22. Preparation and characterisation of nanocomposite material based on TiO₂-Ag for environmental applications

*C. Nuțescu Duduman*¹, *J.M. Gómez de Salazar y Caso de Los Cobos*², *M. Harja*¹, *M.I. Barrena Pérez*², *C. Gómez de Castro*², *I. Cretescu*¹

¹Gheorghe Asachi Technical University of Iași, Romania

²Complutense University of Madrid, Madrid, Spain

S5-P23. An assessment in ceramic tile manufacturing industry in Turkey according to the future energy use and emission protocols

O. Cengiz

Afyon Kocatepe University, Turkey

S5-P24. Indicators system for assessing the organizational knowledge acquisition process

D.G. Luca (Cososchi), *A. Luca*, *L.M. Lupu*, *I.V. Herghiligiu*

“Gheorghe Asachi” Technical University of Iasi, Iasi, Romania



S5-P25. Reduction of recyclable waste by promoting product ecodesign

T. Câmpean^{1,2}, *E.D. Comăniță*¹, *I.M. Simion*¹, *P. Cozma*¹, *C. Smaranda*¹, *C. Ghinea*¹, *M. Gavrilescu*^{1,3}

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

²Rondocarton SRL, Cluj, Romania

³Academy of Romanian Scientists, Bucharest, Romania

ICCE 2016

Some key figures

