COST Action CM0903 (UBIOCHEM)
3rd Workshop, Thessaloniki (Greece), 1-3 November, 2012

"UBIOCHEM-III: SUSTAINABLE PRODUCTION OF FUELS/ENERGY, MATERIALS & CHEMICALS FROM BIOMASS"

Keynote Lectures, Oral and Poster presentations Programme

	Wednesday, October 31st, 2012
20:00 – 22:30	Registration – Welcome Reception (Hotel Mediterranean Palace)
	Thursday, November 1st, 2012
08:30 – 8:45	Registration
08:45 – 09:00	Welcome
	Morning Session 1 ***Chairs: A. Marinas, V. Parvulescu***
09:00 – 09:40	**Keynote Lecture 1: Prof. (Emeritus) Roger A. Sheldon** *Delft University of Technology, The Netherlands* "Sustainability of Biomass Valorization: Methods, Molecules and Metrics"
09:40 – 10:20	**Keynote Lecture 2: Dipl.-Ing., Dipl. Biol. Susanne Zibek** *Group Manager Industrial Biotechnology, Fraunhofer Institute for Interfacial Engineering and Biotechnology, Stuttgart, Germany* "Process development and models for the conversion of multiple feedstocks within a lignocellulose biorefinery"
10:20 – 10:40	**O-1. Catalytic depolymerisation of starch-based industrial waste into high value-added compounds** Audrey Hernoux[1,2], Ulla Lassi[1] and Jean-Marc Lévêque[2] *[1]University of Oulu/Kokkola University Consortium Chydenius, Finland;* *[2]Laboratoire de Chimie Moléculaire et Environnement, Université de Savoie, France*
10:40– 11:00	**O-2. Activation of Celluloses by Chemical Modification** Christian M. Pedersen[1], Camille Gaucher, Vrushali Jadhav[1] and Mikael Bols[1] *[1]Department of Chemistry, University of Copenhagen, Denmark*
11:00– 11:20	**O-3. An Integrated Process for the Sustainable Production of Biofuels, Biopolymers and High Added-value Products from Lignocellulosic Biomass** Ioannis A. Pappas[1], Giannis Penloglou[1], Prokopis Pladis[1] and Costas Kiparissides[1,2]* *[1]Chemical Process Engineering Research Institute (CPERI), Centre for Research and Technology Hellas (CERTH), Thessaloniki, Greece* *[2]Department of Chemical Engineering, Aristotle University of Thessaloniki, Greece*
11:20 – 11:40	Coffee break
	Morning Session 2 ***Chairs: M. Koel, U. Lassi***

11:40 – 12:00	**O-4. The biomass pre-treatment with ionic liquids** Karen João[1], Andre Lopes[1], Ewa Bogel-Łukasik[2] and Rafał Bogel-Łukasik[1] *[1] Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, Portugal* *[2] REQUIMTE, Departamento de Química, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Portugal*
12:00 – 12:20	**O-5. Towards Optimal Treatment Procedure upon Fractionation of Nordic Lignocelluloses Using Novel Alkanol amine –Superbase Ionic Liquid Systems** I. Anugwom[1], P. Mäki-Arvela[1], V. Eta[1], P. Virtanen[1] and J.-P. Mikkola[1,2] *[1] Laboratory of Industrial Chemistry and Reaction Engineering, Process Chemistry Centre, Åbo Akademi University, Finland* *[2] Technical Chemistry, Department of Chemistry, Chemical-Biological Centre, Umeå University, Sweden*
12:20 – 12:40	**O-6. Capillary Electrophoresis versus HPLC analysis methods used for analyzing sugars and sugar derivatives in ionic liquid media obtained from lignocellulosic biomass** S. Hyvärinen[1], J.-P. Mikkola[1,2], D. Yu. Murzin[1], M. Vaher[3], M. Kaljurand[3] and M. Koel[3] *[1] Process Chemistry Centre/Åbo Akademi University/ Lab. of Industrial Chemistry and Reaction Engineering, Finland* *[2] Chemical-Biological Center/Umeå University/Technical Chemistry, Department of Chemistry, Sweden* *[3] Department of Chemistry/Tallinn University of Technology/Chair of Analytical Chemistry, Estonia*
12:40 – 13:20	Lunch break
	Afternoon Session 1 ***Chairs: A. Lappas, J.-P. Mikkola***
13:20 – 14:00	**Keynote Lecture 3: Dr. Armin Günther** *Director Innovation Renewables, Air Liquide Global E&C Solutions, Lurgi GmbH, Frankfurt, Germany* "Conversion of renewable feedstocks for the production of 2nd generation biofuels and products – The thermochemical route"
14:00 – 14:20	**O-7. Hydro-Pyrolysis of Biomass and on-line Catalytic Vapour Upgrading with Ni-ZSM-5 and Ni-MCM-41** F. Melligan, J.J. Leahy, M.H.B. Hayes and W. Kwapinski *Carbolea Research Group, Department of Chemical and Environmental Sciences, University of Limerick, Ireland*
14:20 – 14:40	**O-8. Biomass Catalytic Pyrolysis over Mesoporous ZSM-5 Zeolites** Eleni F. Iliopoulou[1], Antonio Pineda[2], Stelios Stefanidis[1], Kostas Kalogiannis[1], Rafael Luque[2] and Angelos A. Lappas[1] *[1]CPERI/CERTH, Thessaloniki, Greece* *[2]Departamento de Quimica Organica, Universidad de Cordoba, Spain*
14:40 – 15:00	**O-9. Effect of birch wood prehydrolysis on the thermal degradation of lignocellulose** Aivars Zhurinsh[1], Galina Dobele, Janis Rizhikovs, Janis Zandersons and Aigars Paze *[1]Latvian State Institute of Wood Chemistry, Latvia*
15:00 – 15:20	**O-10. Pyrolysis of biomass for high added value carbon materials** Anastasia A. Zabaniotou *Department of Chemical Engineering, Aristotle University of Thessaloniki, Greece*

15:20 – 15:40	Coffee break
	Afternoon Session 2 ***Chairs: R. Bogel-Lukasik, A. Zabaniotou***
15:40 – 16:00	**O-11. Continuous catalytic hydrothermal gasification of algal biomass to methane and process optimization for nutrient recycling** M. Bagnoud-Velásquez[1,2], M. Brandenberger[1], F. Vogel[1] and Chr. Ludwig[1,2] *[1]Paul Scherrer Institut, General Energy Research, Switzerland* *[2]Ecole Polytechnique Fédéral de Lausanne, EPFL-ENAC-IIE, Switzerland*
16:00 – 16:20	**O-12. New Photobioreactor Design for Enhancing the Photosynthetic Productivity of *Chlorella Homosphaera*** S. Velea, L. Ilie and E. Stepan *National Research & Development Institute for Chemistry & Petrochemistry– ICECHIM, Romania*
16:20 – 16:40	**O-13. Screening of algal strains for nutrient removal capabilities in anaerobically digested palm oil mill effluent** Afifi Zainal, Zahira Yaakob, Mohd Sobri Takriff, Renganathan Rajkumar, and Siti Masrinda Tasirin *Department of Chemical and Process Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia, Malaysia*
16:40 – 17:00	**O-14. Microalgal carotenoid recovery in a biorefinery approach** E.P. Gomes[1,2] O. Emery ,[1]M. Bagnoud-Velásquez[2], J.-P. Schwitzguebel[1], C. Holliger[1] and C. Ludwig[2,3] *1 LBE – Laboratory for Environmental Biotechnology, EPFL, Switzerland* *2 IIE – EPFL, Switzerland* *3 Paul Scherrer Institut (PSI), General Energy Research Department, Laboratory for Energy and Materials Cycles, Switzerland*
17:00 – 18:00	**Poster Session 1** (Coffee/refreshments)
20:00 – 23:00	Gala Dinner

	Friday, November 2nd, 2012
	Morning Session 1 ***Chairs: D. Bogdal, N. Ravasio***
08:30 – 09:10	**Keynote Lecture 4: Prof. Richard P. Wool** *Department of Chemical and Biomolecular Engineering, University of Delaware, USA* "Biobased Polymers and Composites: Optimal Design"
09:10 – 09:30	**O-15. High Value Lignin Polymers, and Copolymers, for use in Thermoplastic and Thermoset Applications** Dimitris S. Argyropoulos *Department of Forest Biomaterials & Chemistry, North Carolina State University, USA*

09:30 – 09:50	**O-16. Thermosetting adhesives with renewable raw materials for wood-based products** E. Papadopoulou[1], S. Kountouras[1], T. Sevastiadis[1], Z. Nikolaidou[1], E. Roumeli[2], K. Chrissafis[2], B. Benjelloun[3], W.J.J. Huijgen[4] and P.J. de Wild[4] *[1] CHIMAR HELLAS S.A., Greece* *[2] Aristotle University of Thessaloniki, Greece* *[3] Compagnie Industrielle de la Matière Végétale (CIMV), France* *[4] Netherlands Energy Research Foundation (ECN), The Netherlands*
09:50 – 10:10	**O-17. Biobased hydrogels prepared by cross-linking of itaconic acid eutectics.** Szczepan Bednarz[1], Magdalena Trątnowiecka[1], Maria Fluder[1], and Dariusz Bogdał[1] *[1]Chair of Biotechnology and Renewable Materials, Faculty of Chemical Engineering and Technology, Cracow University of Technology, Poland*
10:10 – 10:30	**O-18. Production of surface-active agents and antioxidants from renewable resources under microwave heating** Aurore Richel *University of Liege-Gembloux Agro-Bio Tech, Unit of Biological and Industrial Chemistry, Belgium*
10:30 – 10:50	**O-19. High quality oleochemistry feedstock through selective hydrogenation of vegetable oils** Federica Zaccheria, Matteo Mariani, Rinaldo Psaro, Paolo Bondioli and Nicoletta Ravasio *ISTM CNR, Via Golgi 19, 20133 Milano, Italy*
10:50 – 11:10	**O-20. Chemo-enzymatic epoxidation of non-conventional plant oils – process optimization using response surface methodology** Fabian Haitz[1], Thomas Hirth[1,2], Steffen Rupp[2] and Susanne Zibek[2] *[1]University of Stuttgart, Germany* *[2]Fraunhofer Institute for Interfacial Engineering and Biotechnology, Stuttgart, Germany*
11:10 – 11:30	Coffee break
	Morning Session 2 ***Chairs: A.M. Venezia, E. Heracleous***
11:30 – 12:10	**Keynote Lecture 5: Dr. Angelos A. Lappas** *Research Director, Chemical Process and Energy Resources Institute (CPERI), Centre for Research and Technology Hellas (CERTH), Thessaloniki, Greece* "Catalytic technologies for the production of 2nd generation biofuels"
12:10 – 12:30	**O-21. Upgrading of Phenolic Oil with Zeolite Supported Ni Catalysts** Chen Zhao, Wenji Song and Johannes A. Lercher *Chemistry department and Catalysis Research Center, Technische Universitaet Muenchen, Germany*
12:30 – 12:50	**O-22. Catalytic hydrodeoxygenation (HDO) of bio-oil model components over supported molybdenum carbide, nitride and phosphide catalysts** Sara Boullosa-Eiras[1], Rune Lødeng[2], Håkon Bergem[2], Michael Wilhelm Stöcker[3], Lenka Hannevold[3] and Edd Blekkan[1] *[1]NTNU, Dept. Chem. Eng., Trondheim, Norway* *[2]SINTEF Materials & Chemistry, Dept. Process Chemistry, Trondheim, Norway* *[3]SINTEF, Materials & Chemistry, Dept. Process Chemistry, Oslo, Norway*

12:50 – 13:10	**O-23. Triglycerides deoxygenation kinetics over sulfide CoMo/Al_2O_3** David Kubička[1], Vratislav Tukač[2] and Jan Horáček[1] *[1] Research Institute of Inorganic Chemistry, UniCRE-RENTECH, Czech Republic* *[2] Institute of Chemical Technology Prague, Department of Organic Technology,Czech Republic*
13:10 – 14:10	Lunch break
	Afternoon Session 1 ***Chairs: M. Boutonnet, A. Lemonidou***
14:10 – 14:30	**O-24. Fischer-Tropsch synthesis on different platinum-modified Co catalysts** V. Montes[1], Magali Boutonnet[2] Sven Järas[2], A, Marinas[1], J.M. Marinas[1] and Francisco J. Urbano[1] *[1]Faculty of Sciences, University of Córdoba, Spain* *[2]KTH (Royal Institute of Technology), Chemical Technology, Sweden*
14:30 – 14:50	**O-25. Supported Ni on alumina catalysts for biogas reforming reaction – Influence of the preparation technique** Olga A. Bereketidou and Maria A. Goula *Technological Educational Institute of Western Macedonia, Pollution Control Technologies Department, Laboratory of Alternative Fuells and Environmental Catalysis (LAFEC), Greece*
14:50 – 15:10	**O-26. Active phase precursor and support effects in rapeseed oil transesterification over CaO/Al_2O_3 catalyst** Dj. Vujicic, S. Ratkovic, R. Micic and G. Boskovic *Faculty of Technology, University of Novi Sad, Serbia*
15:10 – 15:30	**O-27. Optimization of acetone-butanol-ethanol fermentation using pervaporation** Wouter Van Hecke[1] Tim Hofmann[2], and Heleen De Wever[1] *[1]Flemish Institute for Technological Research (VITO), Business Unit Separation and Conversion Technology, Belgium* *[2]Biotechnology & Bioprocess Engineering, Faculty of Life Science Technologies, University of Applied Sciences Oswestfalen-Lippe, Germany*
15:30 – 15:50	Coffee break
	Afternoon Session 2 ***Chairs: C. Pinel, A. Richel***
15:50 – 16:10	**O-28. Hemicelluloses: a rich source of chemicals – from catalyst development to new reactors** Tapio Salmi[1], Jyri-Pekka Mikkola[1,2], Bright Kusema[1], Victor Sifontes Herrera[1] and Dmitry Murzin[1] *[1]Laboratory of Industrial Chemistry and Reaction Engineering, Åbo Akademi, Turku, Finland* *[2]Department of Chemistry, Umeå University, Chemical-Biochemical Center, Technical Chemistry, Sweden*
16:10 – 16:30	**O-29. The hydrogenolysis of cellulose to sugar alcohols on Me (Me = Rh, Ru, Pd, Ir) / BEA-zeolite catalysts** Alina Negoi, Vasile I. Parvulescu and Simona M. Coman *Department Of Organic Chemistry, Biochemistry and Catalysis, Faculty of Chemistry, University of Bucharest, Romania*

16:30 – 16:50	**O-30. Acid catalysed alcoholysis of lignocellulose: towards second generation furan-derivatives** Ruud J.H. Grisel[1], Jan Kees van der Waal[2], Ed de Jong[2] and Wouter J.J. Huijgen[1], *[1]Energy Research Centre of the Netherlands, The Netherlands* *[2]Avantium Chemicals B.V., The Netherlands*
16:50 – 17:10	**O-31. Furans as precursor for broad applications in chemical and polymer industry** Jochen Forstner[1], Klemens Flick [2], Gerd Unkelbach[3] and Rainer Schweppe[1] *[1]Fraunhofer Institute for Chemical Technology ICT, German* *[2]Heilbronn University, Germany,* *[3]Fraunhofer Center for Chemical-Biotechnological Processes CBP, Leuna, Germany*
17:10 – 17:30	**O-32. Synthesis of Acrylonitrile from different routes and starting molecules: a comparative study** M. Olga Guerrero-Pérez[1], V. Calvino-Casilda[2] and Miguel A. Bañares[2] *[1] Departamento de Ingeniería Química, Universidad de Málaga, Spain* *[2] Instituto de Catálisis y Petroleoquímica (CSIC),Madrid, Spain*
17:30 – 18:30	**Poster Session 2** (Coffee/refreshments)
18:30 – 19:30	**Thessaloniki city tour**

	Saturday, November 3rd, 2012
	Morning Session 1 ***Chairs: P.C.A. Bruijnincx, M.A. Bañares***
08:30 – 09:10	**Keynote Lecture 6: Dr. Marcelo E. Domine** *Científico Titular, Instituto de Tecnología Química, ITQ (UPV - CSIC), Valencia, Spain* "Catalytic valorization of biomass derivatives towards high added value chemicals"
09:10 – 09:30	**O-33. Catalytic conversion of recalcitrant feedstocks** Pieter C. A. Bruijnincx, Anna L. Jongerius, Ilona van Zandvoort, Joseph J. Zakzeski, Bert M. Weckhuysen *Inorganic Chemistry and Catalysis Group, Utrecht University, Universiteitsweg 99, 3584CG, The Netherlands*
09:30 – 09:50	**O-34. Heterogeneous catalytic hydrogenation of biobased acids** Bao-Khanh Ly,[1] Louis Corbel-Demailly,[1,2] Doan-Pham Minh,[1] Benoit Tapin,[3] Catherine Especel,[3] Florence Epron,[3] Amandine Cabiac,[2] Emmanuelle Guillon,[2] Michèle Besson[1] and Catherine Pinel[1] *[1]IRCELYON, Université de Lyon, CNRS, Villeurbanne,France* *[2]IFPen, rond-point de l'échangeur, Solaize, France* *[3]IC2MP, Université de Poitiers, CNRS, Poitiers, France*
09:50 – 10:10	**O-35. Glycerol hydrodeoxygenation with in-situ H_2 formation** E.S. Vasiliadou[1,2] and A.A. Lemonidou[1,2] *[1] Dept. Chem. Engineering, Aristotle University of Thessaloniki, Greece* *[2] Chemical Process and Energy Resources Institute, CERTH, Greece*

10:10 – 10:30	**O-36. Synthesis of different ZnO-supported metal systems through microemulsion technique and application to selective hydrogenation processes** V. Montes[1], M. Checa[1], A. Marinas[1], J.M. Marinas[1], Francisco J. Urbano[1], Magali Boutonnet [2], Sven Järas[2] and C. Pinel[3] [1]*Faculty of Sciences, University of Córdoba, Spain* [2]*KTH (Royal Institute of Technology), Chemical Technology, Stockholm, Sweden* [3]*IRCELYON, UMR 5256 CNRS/UCBL, Villeurbanne Cedex, France*
10:30 – 10:50	**O-37. Supercritical CO_2 as an effective medium for a novel conversion of glycerol in the heterogeneous telomerisation of butadiene** Lucinda J. A. Conceiçao[1], Ewa Bogel-Łukasik[2] and Rafał Bogel-Łukasik[1] [1] *Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, Portugal* [2] *REQUIMTE, Departamento de Química, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Portugal*
10:50 – 11:10	**O-38. From glycerol to acrylonitrile by successive catalytic dehydration and ammoxidation** Carsten Liebig[1,2,4], Cyrille Guillon[1,4], Benjamin Katryniok[1,3,4], Sébastien Paul[1,3,4], Wolfgang F. Hoelderich[2] and Franck Dumeignil[1,4,5] [1] *Univ. Lille Nord de France, France* [2] *Department of Chemical Technology and Heterogeneous Catalysis, WTH Aachen University, Germany* [3] *Ecole Centrale de Lille, ECLille, France* [4] *Unité de Catalyse et de Chimie du Solide, UCCS (UMR CNRS 8181), Villeneuve d'Ascq, France* [5] *Institut Universitaire de France, Maison des Universités, Paris, France*
11:10 – 11:30	Coffee break
	Morning Session 2 ***Chairs: R. Sheldon, A. Marinas***
11:30 – 13:30	**Presentations of CM0903 COST Action Working Groups:** **WG1: *Primary conversion of lignocellulosic feedstocks*** Prof. Vasile I. Parvulescu **WG2: *Conversion of biomass into energy/fuels*** Dr. Kostas S. Triantafyllidis **WG3: *Biomass to materials*** Dr. Catherine Pinel **WG4: *Biomass to platform chemicals*** Dr. Pieter C. A. Bruijnincx
13:30 – 13:45	**Closing ceremony of UBIOCHEM-III Workshop - Best Poster Awards**
13:45 – 14:15	Lunch break
14:15 – 15.00	**Management Committee meeting of COST Action CM0903**
15:00 – 19:30	**Visit to the Museum and Archaeological site of Aigai (Vergina) (~ 90 km from Thessaloniki)**

Poster Session 1
Thursday, November 1st, 2012

P-1 Investigation of willows species from short rotation cultivations in the aim of biomass obtaining

Bogusława Waliszerwska, Magdalena Zborowska and Kinga Szentner
University of Life Sciences in Poznan, Institute of Chemical Wood Technology, Poland

P-2 Mediterranean lignocellulosic biomass delignification and lignin valorization into high-added value components

P. Manara[1], Aurore Richel[2] and A. Zabaniotou[1]
[1] *Lab.of Chemical Process and Plant Design, Chemical Engineering Department, Thessaloniki, Greece*
[2] *Unit of Biological and Industrial Chemistry, University of Liege, Belgium*

P-3 Aspects of cellulosic pulp degradation

Izabela Modzelewska, Magdalena Zborowska and Anna Jaszczur
Institute of Chemical Technology of Wood, Poznan University of Life Sciences, Poland

P-4 Optimization of the hydrothermal pretreatment of lignocellulosic biomass for increased cellulose enzymatic hydrolysis

Christos K. Nitsos, Konstantinos A. Matis and Kostas S. Triantafyllidis
Department of Chemistry, Aristotle University of Thessaloniki, Greece

P-5 Carmagnola hemp biomass for preparation of valuable products. Chemical analysis

Ilabahen Patel, Stefano Gandolfi, Gianluca Ottolina and Sergio Riva
Istituto di Chimica del Riconoscimento Molecolare, CNR, Milano, Italy

P-6 From lignocellulose to lactic acid

Angela Gronen[1] and Daniel Ludwig[1], T. Hirth[1,2], S. Rupp[2] and S. Zibek[2]
[1] *University of Stuttgart, Institute for Interfacial Engineering IGVT*
[2] *Fraunhofer Institute of Interfacial Engineering and Biotechnology, Stuttgart, Germany*

P-7 Autohydrolysis: A search for an on-line monitoring strategy

Luís C. Duarte[1], Pedro R. Bernardo[1], Rafał Bogel-Łukasik[1], Patrícia Moniz[1], Talita Silva-Fernandes[1], Mafalda Viegas[1], Pedro Lourenço[2]and Florbela Carvalheiro[1]
[1] *Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, Lisboa, Portugal*
[2]*UCASUL, Beja, Portugal*

P-8 Optimization of dilute acid hydrolysis of extracted olive pomace

Florbela Carvalheiro[1], Vera Guerra[1], Rita C. Morais[1], Ivone Torrado[1], Rafał Bogel-Łukasik[1], Pedro Lourenço[2] and Luís C. Duarte[1]
[1] *Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, Lisboa, Portugal;*
[2]*UCASUL, Beja, Portugal*

P-9 Solubility of tannins and flavonoids in alternative solvents

Linda M. N. Gonçalves[1], Ewa Bogel-Łukasik[1] and Rafał Bogel-Łukasik[2]
[1] *Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, Lisboa, Portugal*
[2] *REQUIMTE, Departamento de Química, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Portugal*

P-10 Solubility of carbohydrates and sugar alcohols in novel ionic liquids

Lucinda J. A. Conceiçao[1], Ewa Bogel-Łukasik[2] and Rafał Bogel-Łukasik[1]
[1] *Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, Lisboa, Portugal*
[2]*REQUIMTE, Departamento de Química, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Portugal*

P-11 Task-specific ionic liquid for one-step hydrolysis of fibre sludge into reducing sugars

Jana Holm and Ulla Lassi
University of Oulu, Kokkola University Consortium Chydenius, Finland

P-12 Decomposition of biomass pyrolysis tars using two different types of activated chars

Nerijus Striūgas, Kęstutis Zakarauskas and Giedrius Stravinskas
Lithuanian Energy Institute Laboratory of Combustion Processes, Kaunas, Lithuania

P-13 Effect of zeolite acidity for the upgrading of vapours from Miscanthus hydropyrolysis

F. Melligan, W. Kwapinski, M.H.B. Hayes and J.J. Leahy
Carbolea Research Group, Department of Chemical and Environmental Sciences, University of Limerick, Ireland

P-14 Catalytic fast pyrolysis of lignocellulosic biomass using natural MgO materials

Stylianos D. Stefanidis[1], Stamatia A. Karakoulia[1], Konstantinos G. Kalogiannis[1], Angelos A. Lappas[1] and Kostas S. Triantafyllidis[1,2]
[1]*Chemical Process and Energy Resources Institute, CERTH, Thessaloniki, Greece*
[2]*Department of Chemistry, Aristotle University of Thessaloniki, Greece*

P-15 Low Energetic Recovery of Microalga *Nannochloropsis* sp. Biomass for Biodiesel and Added Value Compounds

Luísa Gouveia, Marta Santos and Cristina T. Matos
[1]*Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, Lisboa, Portugal*

P-16 Photobioreactors for CO_2 capture and source of energy and chemicals

José C. Duarte, Sofia Graça, Belina Ribeiro, Lina Hall and Luísa Gouveia
LNEG, Laboratório Nacional de Engenharia e Geologia, I.P., Bioenergy Unit, Lisboa /Portugal

P-17 Effect of Microorganisms on the Conversion of *Fusarium spp.* Contaminated Barley Biomass to Bioethanol

Grazina Juodeikiene[1], Loreta Basinskiene[1], Daiva Vidmantiene[1], Dalius Cernauskas[1] Elena Bartkiene[2], Bronius Bakutis[2] and Violeta Baliukoniene[2]
[1]*Kaunas University of Technology, Lithuania*
[2] *Lithuanian University of Health Sciences, Veterinary Academy, Kaunas, Lithuania*

P-18 The use of combined fermentation for increasing efficiency of bioethanol production from Jerusalem artichoke

Grazina Juodeikiene[1], Elena Bartkiene[2], Daiva Vidmantiene[1], Loreta Basinskiene[1] and Dalia Eidukonyte[1]
[1]*Kaunas University of Technology, Lithuania*
[2]*Lithuanian University of Health Sciences, Veterinary Academy, Kaunas, Lithuania*

P-19 Monitoring of simultaneous saccharification and fermentation of wheat straw by HPLC and capillary electrophoresis

Merike Vaher[1], Andres Käsper[2], Sten Erm[1], Tiina Aid[1] and Mihkel Koel[1]

[1]*Institute of Chemistry, Tallinn University of Technology, Estonia*
[2]*Biogold Ltd., Tallinn, Estonia*

P-20 Heterogeneous valorization of bio-ethanol to bio-butanol – towards continuous process

Toni Riittonen[1] and Jyri-Pekka Mikkola[1,2]
[1]*Åbo Akademi University, Process Chemistry Centre, Laboratory of Industrial Chemistry & Reaction Engineering, Finland*
[2]*Umeå University, Chemical-Biological Center, Department of Chemistry, Technical Chemistry, Sweden*

P-21 Catalytic upgrading of Bio-oils

Juha Linnekoski[1] Jinto Manjaly Anthonykutty[1], Antero Laitinen[1], Ali Harlin[1] and Jari Räsänen[2]
[1]*VTT Technical Research Centre of Finland, Process Chemistry, VTT, Finland*
[2]*StoraEnso, Packaging Boards, Imatra*

P-22 Effect of Carbon Dioxide (CO_2) and Water (H_2O) in Catalytic Hydrotreatment of Gasoil

Vasiliki Dagonikou and Stella Bezergianni
Chemical Process Engineering Research Institute – CPERI, Centre for Research and Technology Hellas – CERTH, Thessaloniki, Greece

P-23 In-Situ Catalytic Upgrading of Bio-Oil using Mo_2C/Al_2O_3

M. Patel[1] V. Teixeira da Silva[2] and A.V. Bridgwater[1]
[1]*Bioenergy Research Group, Chemical Engineering and Applied Science, Aston University, Birmingham, United Kingdom*
[2]*Federal University of Rio de Janeiro, COPPE, Chemical Engineering Program, Brazil*

P-24 Pyrolysis and Gasification of Residues from Levulinic Acid Production from Biomass

M. Patel[1] and A.V. Bridgwater[1]
Bioenergy Research Group, Chemical Engineering and Applied Science, Aston University, Birmingham, United Kingdom

P-25 Hydroprocessing of rapeseed pyrolysis bio-oils over $NiMo/Al_2O_3$ catalyst

Katarzyna Pstrowska, Jerzy Walendziewski, Marek Stolarski and Rafał Łużny
Wroclaw University of Technology, Faculty of Chemistry, Division of Fuel Chemistry and Technology, Poland

P-26 Synthesis of AlSBA-15 materials with different Si/Al ratio and their application to hydroconversion of n-paraffins

Dominika Marek and Jolanta Grzechowiak
Faculty of Chemistry, University of Technology in Wrocław, Poland

P-27 Effect of support composition on the activity of Pt and PtMo catalysts in the conversion of *n*-hexadecane

K. Jaroszewska, A. Masalska, J.R. Grzechowiak, D. Marek and A. Zemska
Wrocław University of Technology, Faculty of Chemistry, Poland

P-28 Deactivation of Pd/silica-alumina catalysts in the hydrocracking of n-hexadecane

Francesco Regali[1], Magali Boutonnet[1], A.M. Venezia[2] and Sven Järås[1]
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Poster Session 2
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P-29 Hydroxyalkylimidazolium hydroxide ionic liquids – new highly active catalysts for transesterification of rapeseed oil
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P-30 Transesterification of short chain esters using sulfonic acid-functionalized hybrid silicas
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P-31 Potassium Embedded SBA-15 for the Production of Biodiesel
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P-32 Syngas production from biogas in volumetric (3D) matrix reformers
Oksana V. Shapovalova[1], Vladimir M. Shmelev[1], Vladimir S. Arutyunov[1], Mikhail Yu. Sinev[1], Young Nam Chun[2] and Mun Sup Lim[2]
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P-33 The production of synthetic gas from hydrocarbons using thermal water vapor plasma
Andrius Tamošiūnas, Pranas Valatkevičius, Vitas Valinčius, Viktorija Grigaitienė and Nerijus Striūgas
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P-34 Needs and opportunities for reliability' installations, safety and environmental risk assessment by energy production via biomass gasification technologies
Ivan Ivanov and Petar Kaleychev
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P-35 Sustainable production of Electricity from biomass-Demonstration results of a mobile agro-biomass gasification-ICE unit for decentralized CHP production
D. Mertzis[1], St. Tsiakmakis[1], P. Manara[2], A. Zabaniotou[2] and Z. Samaras[1]
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P-36 The investigation on catalytic mineral fiber production by plasma technology and application in thermal gasification of biomass
Viktorija Grigaitienė, Vitas Valinčius, Romualdas Kėželis and Mindaugas Milieška
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P-37 The influence of plasma state and initial powder mixture composition on the activity of deposited catalytic coating employed for thermal biomass treatment
Vitas Valinčius, Viktorija Grigaitienė and Vilma Snapkauskienė
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P-38 Pure hydrogen production via PROX reaction over Au and Au-Pd catalysts on Fe-modified ceria

L. Ilieva[1], G. Pantaleo[2], T. Tabakova[1], I. Ivanov[1], G. Avdeev[3], R. Zanella[4], D. Paneva[1], N. Velinov[1] and A.M. Venezia[2]

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P-39 Hydrogenation of carbon monoxide to higher alcohols over modified CuZnAl catalysts

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P-40 Differently prepared Pr-doped ceria supports of gold catalysts for WGSR

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P-41 Aqueous phase reforming of xylitol over Pt-Re bimetallic catalysts

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P-42 Aldol Condensation of Furfural and Acetone on Layered Double Hydroxides

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P-43 Experimental and Theoretical Approach of the Biogas Reforming Reaction over nickel supported catalysts

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P-44 Life cycle assessment of biogas catalytic and electro-catalytic processes utilization

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P-45 Techno-economic analysis of biodiesel production through glycerol utilization

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P-46 Process optimization for the production of biobased polyhydroxybutyrate

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P-47 Synthesis of alkyd resin on the basis of camelina oil

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P-48 New ionic liquids – very active catalysts for transesterification of FAME with polyols

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P-49 Hemicellulose modification for paper applications

Fatima-Zohra Belmokaddem,[1,2] Virginie Bigand,[1,3] Patrick Huber,[2] Denilson DaSilva Perez,[3] Franck Rataboul,[1] Michel Petit-Conil[2,3] and Catherine Pinel[1]
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P-50 Use of stabilized oils for the sustainable production of polyurethane foams

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P-51 Microwave-assisted synthesis of chitosan hydrogel for application in heavy industry plant wastewater treatment

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P-52 Studies on the Removal of Cadmium and Chromium from Aqueous Solution by using Palm Shell Activated

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P-53 Testing of catalytic properties of tetrabutylammonium salts of W(VI) and Mo(VI) in oxidation reactions

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P-54 Polyoxometalate $Na_{12}[WZn_3(H_2O)_2][ZnW_9O_{34})_2]$ as an efficient catalyst in microwave assisted oxidation reactions

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P-55 Catalytic conversion of bio-ethanol into 1,3-butadiene

Carlo Angelici, Pieter Bruijnincx and Bert M. Weckhuysen
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P-56 Highly efficient solvent-free epoxidation of vegetable oils over Ti-mesoporous materials
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P-57 Catalytic Conversion of Glucose to 5-Hydroxymethylfurfural in a Novel Ionic Liquid Media
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P-58 Catalytic dehydration of xylose in the aqueous phase
Filoklis Pileidis, Christos Nitsos, Eva Karandrea, Swtiria Aggelakaki, Aikaterini Panteli, Kalliopi Avramidou, Kostas S. Triantafyllidis
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P-59 Degradation of biomass saccharides to commercially valuable analogues: arabinose
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P-60 Sustainable production of glycerol carbonate from glycerol and CO_2 at high temperatures and high pressures
Tom De Baerdemaeker, Wouter Van Hecke and Kathy Elst
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P-61 New adding value to Bio-Glycerol – Biocatalytic synthesis of Glycerol Carbonate
Madalina Tudorache, Andreea Nae, Alina Negoi and Vasile I. Parvulescu
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P-62 New concepts for process intensification in the conversion of glycerol carbonate to glycidol
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P-63 Screening of supported Pt metal catalysts for glycerol hydrogenolysis: Role of catalytic support
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P-64 Glycerol valorization by consecutive catalytic reactions using metal supported materials
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P-65 Glycerol chlorination kinetics with hydrochloric acid
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P-66 Glycerol based biorefinery

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P-67 Combination of supercritical carbon dioxide and ionic liquid in terpene processing

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P-68 Biological pathways of isoprene production

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