Scientific program

23.9. 2019, Monday

9.00- 12.20
Registration

12.20- 13.20
Lunch

13.20-13.40
Opening

Chairpersons: Tapio Salmi, Dmitry Murzin

13.40- 14.40  PL1
Chemical manufacturing of renewable bioproducts from diverse feedstocks
Dionisios G. Vlachos
University of Delaware, USA.

14.40-15.20  KNi
E2P2L: An open innovation lab in sustainable chemistry
Stephane Streiff
Solvay (China) Co., Ltd, China

15.20-15.40. Coffee break

Chairpersons: Bright Kusema, Raffaele Pirone

15.40-16.00. O-1.
Applications of CO₂/H₂O system in the bio-based platform molecules conversion,
Fei Liu, Qiaoqun Liu, Aiqin Wang, Tao Zhang,
State Key Laboratory of Catalysis, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China.

16.00-16.20. O-2.
Catalytic lignocellulose biorefining in butanol/water: A one-pot approach toward phenolics, polyols, and cellulose,
E. Cooreman, T. Renders, S. Van den Bosch, S.-F. Koelewiijn, T. Vangeel, B. F. Sels,
KU Leuven, Heverlee, Belgium

One-pot hydrolysis-oxidation of starch to formic acid in the presence of soluble and solid heteropolyacids
Nikolay V. Gromov¹,², Oxana P. Taran¹,³,⁴, Tatiana B. Medvedeva¹, Yulia A. Rodikova¹, Elena G. Zhizhina¹, Ksenia N. Sorokina¹, Valentin N. Parmon¹
¹Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia; ² Novosibirsk State Technical University, Novosibirsk, Russia; ³ Institute of Chemistry and Chemical Technology SB RAS, Krasnoyarsk, Russia
Are sugar alcohols or furanics the better starting point for hydrodeoxygenation to high-value chemicals?
Marcel Schlaff*, Maryanne Stones¹, Gabriel Hart Slater-Eddy¹, Diana Quintao Lima², Igor Tadeu da Cunha¹, Megan Magee¹, Elnaz Latifi¹, Elise Chung¹, Aidan England¹.
¹Dept. of Chemistry, University of Guelph; ²Dept. de Química Centro Federal de Educação Tecnológica de Minas Gerais, Belo Horizonte, Brazil

17.00-17.20. O-5.
Catalytic oxidative transformation of betulin to its valuable oxo-derivatives over gold supported catalysts: effect of support nature
Päivi Mäki-Arvela¹, Ekaterina Kolobova², Anna Buachidze², Ekaterina Pakrieva², Sonia Carabineiro³, Alexey Pestryakov², Dmitry Yu. Murzin¹.
¹Johan Gadolin Process Chemistry Centre, Åbo Akademi University, Turku/Åbo, Finland; ²Research School of Chemistry & Applied Biomedical Sciences, Tomsk Polytechnic University, Tomsk, Russia; ³Laboratory of Catalysis and Materials (LCM), Associate Laboratory LSRE-LCM, Department of Chemical Engineering, Faculty of Engineering, University of Porto

17.20-17.40. O-6.
Catalytic upgrading of a bio-derived hydroxy fatty acid to alkanes and alcohols
Joel B. Mensah, Matthias Fischer, Sebastian Brosch, Jens Artz, Regina Palkovits
RWTH Aachen University, Aachen, Germany.

Dehydration of aqueous glycerol to acetol on copper catalysts
R. J. Chimentão¹, P. Hirunsit², M. Borges³, A. Urakawa³, C. Torres¹, J.L.G. Fierro⁴, D. Ruiz¹
¹Universidad de Concepción, Facultad de Ciencias Químicas, Edmundo Larenas 129, Casilla 160C, Chile; ²National Nanotechnology Center (NANOTEC), Thailand Science Park, Pathum Thani, 12120 Thailand; ³Institute of Chemical Research of Catalonia (ICIQ), 43007 Tarragona, Spain; ⁴Institute of Catalysis and Petrochemistry (CSIC), Cantoblanco, 28049, Madrid, Spain

18.00-
Welcome reception
Chairpersons: Nadine Essayem, Alexey Tsyganenko

24.9. 2019, Tuesday

9.00-10.00. PL2
Selectivity in biomass catalytic transformation
Michèle Besson, Noémie Perret, Catherine Pinel
IRCELYON, France

10.00-10.20 Coffee break
Chairpersons:

10.20-10.40. O8
Sol-gel Ru-based catalysts for hydrogenation reactions
Martino Di Serio¹, Vincenzo Russo¹, Riccardo Tesser¹, Serena Esposito², Brigida Silvestri¹, Barbara Bonelli², Alessandro Vergara¹, Claudio Imparato¹, Antonio Aronne¹
¹Chemical Science Department, University of Naples “Federico II”, Via Cintia, 80126-Naples, Italy; Torino-Politecnico, IT-10129 Torino, Italy

10.40-11.00. O-9
Breaking the limit of lignin monomer production via cleavage of interunit carbon-carbon linkages
Lin Dong¹, Longfei Lin², Xiaohui Liu¹, Yong Guo¹, Sihai Yang²* and Yanqin Wang¹*
¹Research Institute of Industrial Catalysis, School of Chemistry and Molecular Engineering, East China University of Science and Technology, Shanghai, 200237, China; ² School of Chemistry, the University of Manchester, Manchester, M13 9PL, UK

11.00-11.20. O-10.
Solvent incorporated fast pyrolysis of lignin for facile depolymerisation of lignin to monomers and low molecular weight oligomers
Masih Rashidi¹, Swathi Mukundan² and Jorge Beltramini³,4
¹AIBN, The University of Queensland, Brisbane, Australia; ²Department of Applied Chemistry, Cochin University of Science and Technology, Kochi, Kerala, India; ³Centre for Tropical Crops and Biocommodities, Queensland University of Technology, Brisbane, Australia; ⁴IROAST, Department of Chemistry, Faculty of Advanced Science and Technology, Kumamoto University, Kumamoto, Japan.

From technical lignins to aromatics: a study on oxidative depolymerization in batch and continuous reactor
Antonio Hernández-Mañas¹,², S. Mangematin¹, L. Vilcocq², P. Fongarland², L. Djakovitch¹
¹IRCELYON, UMR 5256, CNRS-Université de Lyon 1, F-69626 Villeurbanne Cedex, Lyon, France; ²LGPC, UMR 5285, CNRS-CPE-Université de Lyon 1, 69616 Villeurbanne Cedex, France

11.40-12.00. O-12.
Catalytic valorization of lignin to monomers
J. Pu¹,², Laurenti D.¹, C. Lorentz¹, I. Pitault², M. Tayakout², C. Geantet¹
Effect of the heat treatment and pH on particle size of sodium lignosulfonate solutions and hydrolized lignin extracts
Nikolay N. Tolkachev1,2, Aleksey E. Koklin2, Victor I. Bogdan1,2
1Lomonosov State University, 119992, Moscow, Russia; 2 Zelinsky Institute of Organic Chemistry, 119991, Moscow Russia

Lunch
Chairpersons: Heather Trajano, Martino DiSerio

Enhanced acidity properties of KIT6_Zr as solid catalyst for the dehydration of sorbitol to isosorbide
M. J. Ginés-Molina, J. Santamaría-González, P. Maireles–Torres
Universidad de Málaga, Departamento de Química Inorgánica, Cristalografía y Mineralogia (Unidad Asociada al ICP-CSIC), Facultad de Ciencias, Campus de Teatinos, 29071 Málaga, España

Highly stable Pt/CoAl2O4 catalysts for the aqueous phase reforming of glycerol
Alberto J. Reynoso1, Jose Luis Ayastuy1, Unai Iriarte-Velasco2, Miguel Ángel Gutiérrez-Ortiz1
1 Dept. of Chemical Engineering, Faculty of Science and Technology, UPV/EHU, Leioa, Spain; 2 Dept. of Chemical Engineering, Faculty of Pharmacy, UPV/EHU, Vitoria, Spain

Aqueous phase reforming of sugar-based biorefinery streams: from the simplicity of model compounds to the complexity of real feeds
Giulia Zoppi1, Giuseppe Pipitone1, Alessandra Frattini2, Raffaele Pirone1, Samir Bensaid1
1Department of Applied Science and Technology, Politecnico di Torino, , 10129, Turin, Italy; 2 Biochemtex SpA, Grp Mossi & Ghisolfi, I-15050 Rivalta Scrivia, AL, Italy.

Modeling Fischer-Tropsch kinetics for optimized BTL plant design
Magne Hillestad1, Anders Runningen1, Kumar R Rout1,2, Umesh Pandey1, Koteswara R. Putta1, Ljubisa Gavrilovic1, Erik Andreas Jørgensen1, Erling Rytter1, Edd A. Blekkan1
1Norwegian University of Science and Technology, Department of Chemical Engineering, 7491, Trondheim, Norway; 2 SINTEF Industry, Norway

ECO Oil AB: Green gasoline for combustion engine: imagine a world without fossil dependency
J.-P. Mikkola
Umeå University, Sweden

Coffee break
Chairpersons: Edd Blekkan, Yongdan Li
Gas phase glycerol valorisation over ceria nanocrystals with well-defined morphologies.
Louise Smith\textsuperscript{a}, Nicholas F. Dummer\textsuperscript{a}, Mark Douthwaite\textsuperscript{a}, David Willock\textsuperscript{a}, Stuart H. Taylor\textsuperscript{a}, Graham J. Hutchings\textsuperscript{a}
\textsuperscript{a}Cardiff Catalysis Institute, Cardiff University, Cardiff, CF10 3AT

Selective hydrogenolysis of glycerol to 1,3-propanediol over Pt-W based catalysts
Aiqin Wang
State Key Laboratory of Catalysis, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China

Direct carboxylation of crude glycerol over La$_2$O$_3$ and impact of impurities
N. Razali\textsuperscript{1}, M. Conte\textsuperscript{2}, J. McGregor\textsuperscript{3}
\textsuperscript{1}School of Ocean Engineering, University Malaysia Terengganu, 21300, Kuala Terengganu, Malaysia; \textsuperscript{2}Department of Chemistry, University of Sheffield, Brook Hill, Sheffield S3 7HF, UK; \textsuperscript{3}Department of Chemical and Biological Engineering, University of Sheffield, Mappin Street, Sheffield S1 3JD, UK

Heterogeneous hydroconversion of $\gamma$-valerolactone over supported Co catalysts: Effect of support acidity on the reaction pathways
Magdolna R. Mihályi\textsuperscript{1}, Gyula Novodárszki\textsuperscript{1}, Jenő Hancsók\textsuperscript{2}, József Valyon\textsuperscript{1}
\textsuperscript{1}Research Centre for Natural Sciences, Hungarian Academy of Sciences, Budapest 1117, Hungary; \textsuperscript{2}University of Pannonia, Institute of Chemical and Process Engineering, Veszprém H-8201, Hungary

17.00-17.20. O-22.
Dehydration of glucose to 5-hydroxymethylfurfural using zirconium doped mesoporous silica as catalyst
Sandra Mérida-Morales, Cristina García-Sancho, María José Ginés-Molina, Juan Antonio Cecilia, Ramón Moreno-Tost, Pedro Maireles-Torres
Departamento de Química Inorgánica, Cristalografía y Mineralogía (Unidad Asociada al ICP-CSIC), Facultad de Ciencias, Universidad de Málaga, Campus de Teatinos, 29071 Málaga, Spain

17.20-17.40. O-23.
Multifunctional catalyst induced cascade reaction of simulated bio-oil to high yield jet fuel range aromatic production
I. Yeboah\textsuperscript{1}, X. Feng\textsuperscript{1}, Z. Cai\textsuperscript{1}, D. Spinu\textsuperscript{1}, K. R. Rout\textsuperscript{1,2}, D. Chen\textsuperscript{1}
\textsuperscript{1}Department of Chemical Engineering, Norwegian University of Science and Technology, Trondheim, Norway; \textsuperscript{2}SINTEF Industry, Trondheim, Norway

Poster session with refreshments
25.9. 2019, Wednesday

Chairpersons: Narendra Kumar, Jesus Requies Martinez

9.00-10.00. PL3
Production of functional food ingredient plant stanol ester
Ville Nieminen
Raisio, Finland

10.00-10.20 Coffee break

10.20-10.40. O24
Reactivity of different Re and Mo species in deoxydehydration of polyols
Christian Landini1, Regina Palkovits
Institut für Technische und Makromolekulare Chemie (ITMC), RWTH Aachen University, Aachen, 52074, Germany

10.40-11.00. O-25
Electrocatalytic hydrogenation of lignin dimers and Derivatives: C-O Cleavage and reduction over Raney® Nickel cathodes
Yuting Zhou, Pengchao “Linus” Hao, James E. “Ned” Jackson
Department of Chemistry, Michigan State University; East Lansing, Michigan 48824-1322 USA

Spinel–Type catalysts for hydrogenation of furfural to furfuryl alcohol
Kajornsak Faungnawakij1, Chuleeporn Luadthong1, Tanasan Intana1, Pussana Hirunsit1, Sutarat Thongratkaew1, Sirapassorn Kiatphuengpor1, Papapida Pornsuriyasak2, Wikanda Techanan2
1National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency (NSTDA), 111 Thailand Science Park, Paholyothin Rd., Klong Laung, Pathumthani 12120, Thailand; 2 PTT Global Chemicals PCL, Energy Complex Tower A, Chatuchak, Bangkok 10900, Thailand

From triglycerides-based feedstocks to green diesel: towards hydrolysis-reforming-hydrogenation-deoxygenation in one-pot
Camilo A. B. Crisóstomo1, Ocineria F. Oliveira2, Keven K. M. Ribeiro2, Vinicius Rossa2, Kallyu M. de Souza2, Thais S. S. Almeida2, Marina C. F. Avila2, Ricardo R. Soares1,2
1Institute of Chemistry – Federal University of Uberlandia, Uberlandia, 38408-144, Brasil; 2School of Chemical Engineering - Federal University of Uberlandia, Uberlandia, 38408-144, Brasil
SiO2-supported Ni-phosphide catalysts for methyl palmitate HDO: experimental and kinetic study

Ivan Shamanaev, Irina Deliy, Evgeny Gerasimov, Vera Pakharukova, Evgenii Kodenev, Ilya Yakovlev, Olga Lapina, Pavel Aleksandrov, Sergey Reshetnikov, Galina Bukhtiyarova

Boreskov Institute of Catalysis, Lavrentiev Ave. 5, Novosibirsk, 630090, Russia

Lunch

Chairpersons: David Chadwick, Boris Kuznetsov

Synthesis of 1,4-cyclohexanedimethanol, 1,4-cyclohexane-dicarboxylic acid and 1,2-cyclohexanedicarboxylates with formaldehyde, crotonaldehyde and unsaturated ester

Ning Li, Yancheng Hu, Zhitong Zhao, Aiqin Wang, Feng Wang, Tao Zhang

Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China

Levulinic acid and furfural aldol condensation catalyzed by ZSM-5

Jennifer Cueto, Valery Korobka, Laura Faba, Eva Díaz, Salvador Ordóñez

Department of Chemical and Environmental Engineering, University of Oviedo, Oviedo, 33006, Spain

Bimetallic Ni-Cu/ZrO2 catalysts optimization for the production of biofuels

Nerea Viar, Jesus Requies, Ion Agirre, Aitziber Iriondo, Pedro Luis Arias

Chemical and Environmental Engineering Department, Engineering Faculty of Bilbao, University of the Basque Country (UPV/EHU), 48013 Bilbao, Spain

Solid acid foams for continuous dehydration of xylose to furfural in a biphasic extractive media

M. Fernanda Neira D’Angelo, D. Perez Ferrandez, P. Ruiz Lopez, Vladan Krzelj

Eindhoven University of Technology

Heteropoly acid catalysis in upgrading of biorenewables: transformations of terpenes

Elena Gusevskaya

Federal University of Minas Gerais, Belo Horizonte, Brazil

Sustainable lubricant basestocks from epoxidized vegetable oils

Rosa Turco1, Rosa Vitiello1, Vincenzo Russo1,2, Martino Di Serio1,2, Riccardo Tesser1

1Department of Chemical Sciences, University of Naples Federico II, Complesso Universitario di Monte Sant’Angelo, 80126 Naples, Italy; 2Laboratory of Industrial Chemistry and Reaction Engineering, Åbo Akademi University, FI-20500 Turku. 3International Research Organization
for Advanced Science and Technology (IROAST), University of Kumamoto, 860-8555 Kumamoto, Japan.

16.00-16.20. O-35.
Epoxidation of tall oil fatty acids for sustainable intermediates and bio-lubricants
Adriana Freites1, Pasi Tolvanen1, Sebastien Leveneur1,2, Tapio Salmi1
1Åbo Akademi University, Industrial Chemistry & Reaction Engineering, Biskopsgatan 8, Turku 20500, Finland.
2Normandie Université LSPC-Laboratoire de Sécurité des Procédés Chimiques, EA4704, INSA/Université Rouen, BP08, Avenue de l’Université, 76801 Saint-Etienne-du-Rouvray, France

The influence of composition of reconstructed hydrotalcites on their physico-chemical properties and activity in aldol condensation
David Kubíčka1, Adriana Panasewicz2, Oleg Kikhyanin1, Lada Dubnová2
1Technopark Kralupy, University of Chemistry and Technology Prague, 278 01 Kralupy nad Vltavou, Czech Republic; 2Department of Physical Chemistry, Faculty of Chemical Technology, University Pardubice, 532 10 Pardubice, Czech Republic

Melamine based mesoporous resins as cost-effective and efficient catalysts for the production of cyclic carbonates from epoxides and CO2
Thai Q. Bui1, Lakhya J. Konwar1, Jyri-Pekka Mikkola1,2
1Technical Chemistry, Department of Chemistry, Chemical-Biological Centre, Umeå University, SE-90187 Umeå, Sweden;
2Industrial Chemistry & Reaction Engineering, Department of Chemical Engineering, Johan Gadolin Process Chemistry Centre, Åbo Akademi University, FI-20500 Åbo-Turku, Finland

17.00-17.20. O-38.
Reductive amination of bio-based furanic aldehydes in aqueous solution over versatile Ni4AlO5 catalysts
Bright T. Kusema1, Zhen Yan1, Stéphane Streiff1, Marc Pera-Titus1, Hangkong Yuan2, Feng Shi3
1Eco-Efficient Products and Processes Laboratory (E2P2L), UMI 3464 CNRS – Solvay, 3966 Jindu Road, Xin Zhuang Industrial Zone, 201108 Shanghai, China; 2State Key Laboratory for Oxo Synthesis and Selective Oxidation, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, China

Selective hydrogenation of amides to alcohols over CeO2-supported Ru catalyst
Masazumi Tamura, Susumu Ishikawa, Yoshinao Nakagawa, Keiichi Tomishige
Graduate School of Engineering, Tohoku University, Aoba 6-6-07, Aramaki, Aoba-ku, Sendai, 980-8579, Japan.

Poster session with refreshments
Chairpersons: Oxana Taran, David Kubicka

9.00-10.00. PL4
Catalysis for conversion of bio-renewables to value added chemicals
Raghunath V. Chaudhari
Chemical & Petroleum Engineering Department, University of Kansas, Lawrence, USA

10.00-10.20 Coffee break

Marine ulvan polysaccharide as a valuable pool of rare sugars
I. Podolean1, S. M. Coman1, S. Kikionis2, E. Ioannou2, V. Roussis2, A. Primo3, H. Garcia3, V. I. Parvulescu1
1Department of Organic Chemistry, Biochemistry and Catalysis, Faculty of Chemistry, University of Bucharest, Bucharest 030018, Romania
2Department of Pharmcognosy and Chemistry of Natural Products, Faculty of Pharmacy, National and Kapodistrian University of Athens, Panepistimiopolis Zografou, Athens 15771, Greece
3Instituto Universitario de Tecnologia Quimica, Universitat Politècnica de Valencia-Consejo Superior de Investigaciones Científicas, Universidad Politècnica de Valencia, 46022 Valencia, Spain

Protein engineering in designing tailored enzymes to improve plant biomass degradation – The case of a GH1 β-glucosidase of Trichoderma harzianum
Clelton A. Santos1,2, Mariana A. B. Morais3, Oliver M.Terrett2, Jan J. Lyczakowski2, Leticia M. Zanphorlin1, Jaire A. Ferreira-Filho1, Celisa C. C.Tonoli4, Mario T. Murakami3, Paul Duprec2 & Anete P. Souza1
1Centro de Biologia Molecular e Engenharia Genética, Universidade Estadual de Campinas, Campinas, SP, Brazil; 2University of Cambridge, Department of Biochemistry, Cambridge, UK; 3Laboratório Nacional de Ciência e Tecnologia do Bioetanol, Centro Nacional de Pesquisa em Energia e Materiais, Campinas, SP, Brazil; 4Laboratório Nacional de Biociências, Centro Nacional de Pesquisa em Energia e Materiais, Campinas, SP, Brazil.

11.00-11.20. O-42.
Development of green biorefinery of birch wood and larch wood based on the use of solid catalysts
Boris N. Kuznetsov1, Irina G. Sudakova1, Natalya V. Garyntseva1, Olga V. Yatsenkova1, Alexander S. Kazachenko1, Andrey M. Skripnikov1, Laurent Djakovitch2
1Institute of Chemistry and Chemical Technology SB RAS, FRC KSC SB RAS, 50/24Akademgorodok, 660036, Krasnoyarsk, Russia; 2IRCELYON, 69626 Villeurbanne Cedex, Lyon, France
Wine shoots integrated valorization: polyphenols extraction, biochar based catalysts and catalytic sugar derivatives upgrade
Andreia F. Peixoto¹, Manuela M. Moreira², Ruben Ramos¹, Ana S. Mestre¹,³, Olena Dorosh², Cristina Delerue-Matos², Cristina Freire¹
¹LAQV-REQUIMTE, Dep. de Química e Bioquímica, Faculdade de Ciências, Universidade do Porto, 4169-007 Porto
²LAQV-REQUIMTE, Instituto Superior de Engenharia do Instituto Politécnico do Porto, 4249-015 Porto, Portugal
³Centro de Química e Bioquímica and Centro de Química Estrutural, Faculdade de Ciências, Universidade de Lisboa, 1749-016 Lisboa, Portugal

11.40-12.00. O-44.
Novel oxide carbon coupling catalysts for the thermochemical valorization of lignocellulosic biomass and biomass wastes
Konstantinos Kalogiannis, Eleni Iliopoulou, Chrysa Mihailof, Angelos Lappas
Chemical Process and Energy Resources Institute / Centre for Research and Technology Hellas (CPERI/CERTH), 6th Km Harilaou-Thermi Road, Thessaloniki, GR-57001 Greece

12.00-12.20. O-45.
Conversion of inulin over Ru-Fe₃O₄-SiO₂ magnetically recoverable catalyst
Oleg Manaenkov, Olga Kislitsa, Ekaterina Ratkevich, Valentina Matveeva, Ester Sulman, Mikhail Sulman
Tver State Technical University, Tver, Russia 170026

Lunch
Chairpersons: Vasile Parvulescu, Libor Capek

Catalytic fast pyrolysis of biomass by synthetic clays with tailored properties
L. Jia¹, T. Chilingaryan², Y. le Brech¹, L. Delmotte², J. Brendle², G. Mauviel¹, A. Dufour¹, R. Gadiou²
¹LRGP UMR CNRS 7274, F54000 Nancy France
²IS2M UMR CNRS-UHA 7361, F68057 Mulhouse France

Catalytic pyrolysis of biomass using hierarchical mesoporous ZSM-5 zeolite aggregates
Stylianos D. Stefanidis¹, Antonio Pineda², Antonio A. Romero², Alina M. Balu², Anthony V. Bridgwater¹
¹European Bioenergy Research Institute, Aston University, Birmingham, UK; ²Department of Organic Chemistry, University of Cordoba, Cordoba, Spain

Coke evolution in bio-oil aqueous fraction steam reforming using Co/SBA-15 catalyst
P.J. Megía, A.J. Vizcaíno, M. Ruiz-Abad, J.A. Calles, A. Carrero
Chemical and Environmental Group, ESCET, Rey Juan Carlos University, Spain
Aqueous phase reforming of fruit juice industrial wastewater: effect of pH and salinity
Adriana S. Oliveira*, Blanca Saenz de Miera, José A. Baeza, Luisa Calvo, Juan J. Rodriguez,
Miguel A. Gilarranz
Department of Chemical Engineering, Universidad Autónoma de Madrid, 28049 Madrid, Spain

14.40-15.20 KN4
Selectivity control in acid-base catalysis for valorization of several biomass-derived oxygenates
Boqiing Xu
Tsinghua University, China

15.20-15.40. Coffee break
Chairpersons: J.-P. Mikkola, Satu Ojala

Effect of mesoporous zeolites for the selective conversion of carbohydrates into methyl lactate.
A. Sacchetti¹, I. Tosi ², T. Tabanelli¹, F. Cavani¹, A. Riisager²
¹Università di Bologna Alma Mater Studiorum, dipartimento di Chimica Industriale Toso Montanari, 40136, Bologna, Italy; ²Technical University of Denmark, Department of Chemistry, Kemitorvet, 2800-Kgs. Lyngby, Denmark

16.00-16.20. O-51.
Glucose isomerization over Mg-promoted Na-exchanged zeolites in water and aqueous alcohol solutions
I. Graça, R. Zhang, S. Sheen, D. Lui, D. Chadwick
Department of Chemical Engineering, Imperial College London, Exhibition Road, London SW7 2AZ, UK

Selective catalytic conversion of xylose for producing bio-based lactic acid over alumina catalysts
Sirapassorn Kiatphuengporn, Pongtanawat Khemthong, Sutarat Thongratkaew, Kajornsak Faungnawakij
National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency (NSTDA), Klong Laung, Pathumthani 12120, Thailand

Depolymerization of enzymatic hydrolysis lignin in alcohols under the synergistic effect of MoS₂ and B-containing FeNi alloyed catalysts
Kai Wu¹, Yicheng Zhao¹, Hong Chen², Yongdan Li¹,³
¹State Key Laboratory of Chemical Engineering, Tianjin Key Laboratory of Applied Catalysis Science and Technology, School of Chemical Engineering, Tianjin University and Collaborative Innovation Center of Chemical Science and Engineering, Tianjin, 300072, China; ² School of Environmental Science and Engineering, Tianjin University, Tianjin
17.00-17.20. O-54.
Synthesis of butyl glucoside over sulfated Zr-SBA-15 and tungstophosphoric acid incorporated SBA-15 catalysts
Vahide Nuran Mutlu, Selahattin Yilmaz
Izmir Institute of Technology Chemical Engineering Department, Gulbahce, Urla Izmir, Turkey

17.20-17.40. O-55.
Carbonaceous materials for the selective hydrogenation of HMF
Stefano Cattaneo¹, Andrea Jouvé¹, Sofia Capelli¹, Marta Stucchi¹, Claudio Evangelisti², Alberto Villa¹, Laura Prati¹
¹Dipartimento di Chimica, Università degli Studi di Milano, 20133 Milan, Italy
²National Council of the Research, CNR-ISTM, 20138 Milan, Italy

17.40-18.00. O-56.
Catalytic screening for levulinic acid esterification reaction with different alkyl alcohols
C. Rossano¹, V. Russo¹,², R. Vitiello¹, R. Turco¹, R. Tesser¹, T. Salmi², Martino Di Serio¹
¹Chemical Science Department, University of Naples “Federico II”, 80126-Naples, Italy
²Laboratory of Industrial Chemistry and Reaction Engineering, Åbo Akademi University, 20540- Åbo/Turku, Finland

20.00 – 24.00 Conference banquet at Turku Castle
Chairpersons: Henrik Grenman, Marcel Schlaf

9.00-10.00. PL5
Heterogeneous deoxydehydration catalysts to produce biomass-derived chemicals using hydrogen as a reductant
Keiichi Tomishige
Tohoku University, Japan

10.00-10.20 Coffee break

Catalytic partial oxidation of ethanol over Rh investigated by the axially revolved sampling technique.
Roberto Batista¹, Abdelrahman Mostafa¹, Yağız Uysal¹, G. Moroni¹, Anna Ferretti², Lidia Castoldi¹, Gianpiero Groppi¹, Alessandra Beretta¹
¹ Dipartimento di Energia, Politecnico di Milano, via La Masa 34, 20156 Milano, Italy; ²Istituto di Scienze e Tecnologie Molecolari, CNR, via C. Golgi 19, I-20133 Milano, Italy

Base-free selective conversion of 5-HMF to FDCA over CoOₓ-CeOₓ composite catalysts
Mengmeng Jin¹, Linhao Yu¹, Xueli Ma², Hong Chen², Yicheng Zhao¹, Yongdan Li¹,³
¹Collaborative Innovation Center of Chemical Science and Engineering, Tianjin Key Laboratory of Applied Catalysis Science and Technology, State Key Laboratory of Chemical Engineering, School of Chemical Engineering, Tianjin University, Tianjin 300072, China; ²School of Environmental Science and Engineering, Tianjin University, Tianjin 300072, China; ³Department of Chemical and Metallurgical Engineering, Aalto University, FI-00076, Finland

11.00-11.20. O-59.
Understanding the role of Al/Zr ratio in Zr-Al-Beta zeolite: towards the one-pot production of GVL from glucose
Marta Paniagua, Clara López-Aguado, Jose Iglesias, Gabriel Morales, Juan A. Melero
Chem. & Env. Engineering Group. Universidad Rey Juan Carlos, ES28933, Móstoles, Madrid.

Aqueous phase reforming of birch and pine hemicellulose hydrolysates
Atte Aho¹, Juha Ahola², Kari Eränen¹, Jani Kangas², Dmitry Murzin¹, Jay-Pee Öna¹, Tapio Salmi¹, Irina Simakova³, Juha Tanskanen², Henrik Grénman¹
¹Laboratory of Industrial Chemistry and Reaction Engineering, Åbo Akademi University, Turku/Åbo, Finland; ²Chemical Process Engineering, University of Oulu, Oulu, Finland; ³Boreskov Institute of Catalysis, Novosibirsk, Russia

Lignin valorization by partial oxidation of pyrolysis vapors to produce valuable co-products for economic biorefineries
Matthew M. Yung, Calvin Mukarakate, Eric Tan, Mark R. Nimlos
National Bioenergy Center, National Renewable Energy Laboratory, Golden, CO, USA
12.00-12.20. O-62.
Production of dimethylether as a clean fuel for the future: an accessible dream thanks to the conversion of methanol on properly used Keggin heteropolyacid catalysts, mistakes to avoid and recipes to follow!
Josefine Schnee, Eric M. Gaigneaux
Institute of Condensed Matter and Nanosciences (IMCN), Université Catholique de Louvain (UCL), B-1348 Louvain-la-Neuve, Belgium

Lunch
Chairpersons: Pasi Tolvanen, Päivi Mäki-Arvela

Cascade biocatalysis for valorization of α-pinene
Madalina Tudorache¹, Sabina Ion¹, Andra Mirescu¹, Erica Ferrandi², Daniela Monti², Vasile I. Parvulescu¹
¹ University of Bucharest, ²Istituto di Chimica del Riconoscimento Molecolare, CNR, Italy

13.40-14.00. O-64.
Combination of bio- and chemocatalysis to valorize hemicelluloses: challenges and opportunities in xylan conversion
Gerd Hilpmann¹, Mick Miro Ayubi¹, Oliver Spadiut², Henrik Grénman³, Tapio Salmi³, Rüdiger Lange¹, Thomas Walther¹, Anett Werner⁴, Susanne Steudler⁴
¹Chair of Chemical Engineering and Process Plants, TU Dresden, 01062 Dresden; ²Res. Group: Integrated Bioprocess Development, Chair of Bioprocess Engineering, TU Vienna, 1060 Vienna; ³Laboratory of Industrial Chemistry and Reaction Engineering, Åbo Akademi University, 20500 Turku; ⁴Chair of Bioprocess Engineering, TU Dresden, 01062 Dresden

Hydrothermal and photocatalytic conversion of glucose with commercial titanium dioxide catalysts (TiO₂).
Insaf Abdouli, Frederic Dappoze, Marion Eternot, Chantal Guillard, Nadine Essayem
IRCELYON, 69100, Villeurbanne, France

Fast pyrolysis oil upgrading with hydrogen from glycerol aqueous phase reforming
Robertus Dhimas Dhewangga Putra¹, Heather L. Trajano¹, and Chang Soo Kim¹,²,*
¹ Department of Chemical and Biological Engineering, University of British Columbia, Vancouver, BC V6T 1Z3, Canada
² Clean Energy Research Center, Korea Institute of Science and Technology, 14 gil 5 Hwarang-ro Seongbuk-gu Seoul Korea 136-791

14.40-15.20 KN5
Molecular insights into ketone formation and its application in biorefineries
Michael Renz
Institute of Chemical Technology, Valencia, Spain

15.20 - Closing ceremony and farewell coffee