



**Preliminary Scientific Program of the  
Sixth International Conference  
CATALYSIS FOR RENEWABLE SOURCES:  
FUEL, ENERGY, CHEMICALS  
*Carcavelos, Lisbon, June 14-18, 2021***

**Borekov Institute of Catalysis of the Siberian Branch  
of the Russian Academy of Sciences, Novosibirsk, Russia**

**Instituto Superior Técnico Lisboa, Lisbon, Portugal**

**<http://conf.nsc.ru/CRS6>**

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Instituto Superior Técnico Lisboa,  
University of Lisbon, Portugal**

**Professor Vadim Yakovlev  
Borekov Institute of Catalysis SB RAS  
Russia**



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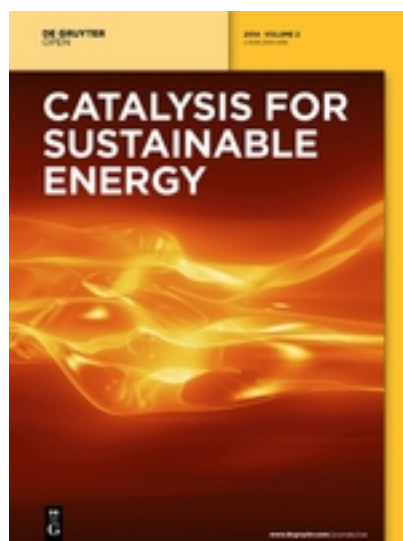
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**Conference Proceedings:  
Special Issue  
CATALYSIS TODAY  
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**CATALYSIS FOR SUSTAINABLE ENERGY  
(de Gruyter Open access)**



## **PLENARY LECTURES**

**PL-1. Professor Anker Degn Jensen**

*Technical University of Denmark, Lyngby, Denmark*

**CATALYTIC HYDROLYSIS OF BIOMASS FOR PRODUCTION OF GREEN FUELS**

**PL-2. Dr. Catherine Pinel**

*Research Institute for Catalysis and Environment of Lyon (IRCELYON), Lyon, France*

**TO BE SPECIFIED**

**PL-3. Professor Alírio E. Rodrigues**

*University of Porto, Porto, Portugal*

**ADDED-VALUE CHEMICALS (VANILLIN, SYRINGALDEHYDE, DCA ; DHA AND SOLKETAL)  
FROM BIORENEWABLES (LIGNIN AND GLYCEROL)**

**PL-4. Professor Dr. P.C.A. (Pieter) Bruijninx**

*Utrecht University, Utrecht, the Netherlands*

**TO BE SPECIFIED**

**PL-5. Professor Rafael Luque**

*University of Cordoba, Cordoba, Spain*

**BENIGN-BY-DESIGN METHODOLOGIES FOR A MORE SUSTAINABLE FUTURE: FROM  
NANOCATALYSIS TO BIOMASS/WASTE VALORIZATION FOR FUELS AND CHEMICALS  
PRODUCTION**

**PL-6. Professor Can Li**

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

**SOLAR FUEL PRODUCTION VIA ARTIFICIAL PHOTOSYNTHESIS WITH RENEWABLE ENERGY**

## KEYNOTE LECTURES

**KL-1. Dr. Nolven Guilhaume**

*Research Institute for Catalysis and Environment of Lyon, (IRCELYON, CNRS-University of Lyon), Lyon, France*

**CATALYSTS DEVELOPMENT AND CHARACTERIZATION FOR THE TREATMENT OF PYROLYSIS VAPORS TO PRODUCE IMPROVED BIO-OILS**

**KL-2. Professor Boris Kuznetsov<sup>1</sup>, Taran O.P.<sup>1</sup>, Sudakova I.G.<sup>1</sup>, Garyntseva N.V.<sup>1</sup>, Baryshnikov S.V.<sup>1</sup>, Miroshnikova A.V.<sup>1</sup>, Kazachenko A.S.<sup>1</sup>, Lavrenov A.V.<sup>2</sup>**

**BIOREFINERY OF BIRCH WOOD BASED ON BIOMASS FRACTIONATION WITH THE USE OF OPTIMIZED CATALYTIC AND EXTRACTION PROCESSES**

<sup>1</sup>*Institute of Chemistry and Chemical Technology SB RAS, FRC KSC SB RAS, Krasnoyarsk, Russia*

<sup>2</sup>*Center of New Chemical Technologies Boreskov Institute of Catalysis, Omsk, Russia*

**KL-3. Dr. Tomas Ramirez Reina**

*University of Surrey, Guildford, United Kingdom*

**INVESTIGATION MULTIFUNCTIONAL CATALYSTS TO ENABLE NEW ROUTES FOR BIOMASS CONVERSION**

**KL-4. Assistant Professor, Dr. Eleni Heracleous**

*Chemical Process & Energy Resources Institute, Centre for Research and Technology Hellas (CPERI/CERTH),*

*International Hellenic University, Thessaloniki, Greece*

**EFFICIENT CONVERSION OF BIODERIVED LACTONES TO HIGH-ADDED VALUE CHEMICALS**

**KL-5. Professor Jordi Llorca**

*Polytechnic University of Catalonia, Barcelona, Spain*

**CATALYST APPLICATION FOR CLEAN SYNGAS AND CLEAN HYDROGEN PRODUCTION**

**KL-6. Associate Professor, Dr. Juan Carlos Colmenares, Abdul Qayyum<sup>1</sup>, Dariusz Łomot<sup>1</sup>, Dmytro Lisovytskiy<sup>1</sup>, Teresa J. Bandosz<sup>2</sup>, Dimitrios A. Giannakoudakis<sup>1</sup>**

<sup>1</sup>*Institute of Physical Chemistry PAS, Warsaw, Poland*

<sup>2</sup>*Department of Chemistry and Biochemistry, The City College of New York, New York, NY, USA*

**ULTRASOUND-DRIVEN SYNTHESIS OF A MULTIPHASE HETEROGENEOUS NANO- DESIGNED PHOTOCATALYST: SUSTAINABLE ENVIRONMENTAL APPLICATIONS**

# ORAL PRESENTATIONS

## SECTION I.

### CATALYSIS FOR BIOMASS DEPOLYMERIZATION AND DOWN-STREAM UPGRADING

*Catalytic systems for hemicellulose, cellulose and lignin depolymerization*

*Catalytic processing of tall oil and tar*

*Selective conversion of biomass derived sugars and phenolics to fuels, chemicals and polymers*

*Catalysis in dendrochemistry for valuable products*

## SECTION II.

### BIOMASS DERIVATIVES IN PETROCHEMISTRY

*Catalyst application for clean syn-gas and clean hydrogen production*

*Lipids in petrochemical synthesis*

*Co-processing of biomass derivatives and oil feedstock*

## SECTION III.

### CATALYTIC PROCESSES FOR BIOFUELS PRODUCTION

*Catalytic transesterification and hydrocracking of lipids to kerosene and diesel fractions*

*Catalytic approaches to biomass pyrolysis processes*

*Conversion of carbon rich unconventional fossil resources and biomass feedstock into biofuel*

## SECTION IV.

### CATALYTIC PROCESSING FOR VALUABLE CHEMICALS PRODUCTION

*Bio-catalysis for chemicals production*

*Lipids conversion to valuable products*

*Electrochemical biomass conversion*

*Catalytic transformations of CO<sub>2</sub> to lignin cellulose*

## SECTION V.

### CATALYSIS FOR ENVIRONMENT AND SUSTAINABILITY

*Catalytic processes for energy efficiency and ecology*

*Catalytic processing of waste*

*Photo-catalysis for environmental protection*

**June 14, Monday  
Hall 1**

**Section I.  
CATALYSIS FOR BIOMASS DEPOLYMERIZATION  
AND DOWN-STREAM UPGRADING**

- OP-I-1 Antunes M.M.<sup>1</sup>, Silva A.<sup>1</sup>, Fernandes A.<sup>2</sup>, Pillinger M.<sup>1</sup>, Ribeiro F.<sup>2</sup>, Valente A.<sup>1</sup>**  
**EFFICIENT MULTIFUNCTIONAL CATALYSTS FOR THE VALORIZATION OF FURFURAL TO GAMMA-VALEROLACTONE**  
*<sup>1</sup>CICECO- Aveiro Institute of Materials, University of Aveiro, Aveiro, Portugal*  
*<sup>2</sup>Instituto Superior Técnico, Lisboa, Portugal*
- OP-I-2 Taran O.P.<sup>1</sup>, Baryshnikov S.V.<sup>1</sup>, Miroshnikova A.V.<sup>1</sup>, Kazachenko A.S.<sup>1</sup>, Sychev V.V.<sup>1</sup>, Kuznetsov B.N.<sup>1</sup>, Lavrenov A.V.<sup>2</sup>**  
**REDUCTIVE BIOREFINERY OF LARCH WOOD WITH THE USE OF BIFUNCTIONAL Ru and Pt – CONTAINING CATALYSTS**  
*<sup>1</sup>Institute of Chemistry and Chemical Technology of SB RAS, FRS KSC SB RAS, Krasnoyarsk, Russia*  
*<sup>2</sup>Center of New Chemical Technologies Boreskov Institute of Catalysis, Omsk, Russia*
- OP-I-3 Margellou A.<sup>1</sup>, Iakovou G.<sup>1</sup>, Lazaridis P.<sup>1</sup>, Charisteidis I.<sup>1</sup>, Fotopoulos A.<sup>1</sup>, Ipsakis D.<sup>3</sup>, Triantafyllidis K.S.<sup>1,2</sup>**  
**CATALYTIC FAST PYROLYSIS OF LIGNIN FOR THE PRODUCTION OF GREEN AROMATICS AND PHENOLICS: AN EXPERIMENTAL AND PROCESS SIMULATION STUDY**  
*<sup>1</sup>Aristotle University of Thessaloniki, Thessaloniki, Greece*  
*<sup>2</sup>Chemical Process and Energy Resources Institute, Centre for Research and Technology Hellas, Thessaloniki, Greece*  
*<sup>3</sup>Technical University of Crete, Chania, Greece*
- OP-I-4 Ruijten D., Sels B.**  
**TERTIARY AMINES FROM LIGNIN-DERIVED AROMATIC ALCOHOLS BY HYDROGEN BORROWING AMINATION**  
*KU Leuven, Leuven, Belgium*
- OP-I-5 Lugovoy Y., Chalov K., Kosivtsov Y., Sulman M.**  
**THE INFLUENCE OF TRANSITION METAL COMPOUNDS ON THE PYROLYSIS OF FLAX PRODUCTION WASTE**  
*Tver State Technical University, Tver, Russia*
- OP-I-6 Calderon Ardila S.<sup>1</sup>, Van Huffel B.<sup>1</sup>, Péruch O.<sup>2</sup>, Morvan D.<sup>2</sup>, Bellière-Baca V.<sup>2</sup>, Dusselier M.<sup>1</sup>, Sels B.<sup>1</sup>**  
**CATALYTIC CONVERSION OF TETROSES TO SULFIDES OF ALPHA-HYDROXY ESTERS**  
*<sup>1</sup>KU Leuven, Leuven, Belgium*  
*<sup>2</sup>Adisseo France SAS, Lyon, France*
- OP-I-7 Karlinskii B., Ananikov V.**  
**CATALYTIC C–H FUNCTIONALIZATION OF RENEWABLE FURANIC PLATFORM CHEMICALS**  
*N.D. Zelinsky Institute of Organic Chemistry RAS, Moscow, Russia*
- OP-I-8 Turkin A.<sup>1</sup>, Makshina E.<sup>1</sup>, Sels B.<sup>1</sup>**  
**CONVERSION OF BIOBASED HMF TO DMF AND DMTHF FOR LIQUID FUELS**  
*KU Leuven, Leuven, Belgium*

**OP-I-9 Malyar Y.N., Borovkova V.S., Chudina A.I., Sudakova I.G., Kazachenko A.S.**  
**INFLUENCE OF CATALYSTS ON STRUCTURAL CHARACTERISTICS OF HEMICELLULOSES ISOLATED  
IN THE PROCESS OF OXIDATIVE CATALYTIC DELIGNIFICATION OF SPRUCE WOOD**  
*Institute of Chemistry and Chemical Technology SB RAS, Krasnoyarsk, Russia*

**OP-I-10 Abusuek D.<sup>1,2</sup>, Nikoshvili L.<sup>1</sup>, Matveeva V.<sup>1,2</sup>**  
**SYNTHESIS OF GAMMA-VALEROLACTONE USING RUTHENIUM-CONTAINING PARTICLES  
SUPPORTED ON ZEOLITES**  
<sup>1</sup>*Tver State Technical University, Tver, Russia*  
<sup>2</sup>*Tver State University, Tver, Russia*

**June 14, Monday  
Hall 1**

**Section II.  
BIOMASS DERIVATIVES IN PETROCHEMISTRY**

**OP-II-1 Chesnokov V.V., Dik P.P., Chichkan A.V.**  
**FORMIC ACID AS A HYDROGEN DONOR FOR CATALYTIC TRANSFORMATIONS OF TAR**  
*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

**OP-II-2 Vutolkina A.V.<sup>1</sup>, Baygildin I.G.<sup>1</sup>, Maksimov A.L.<sup>1,2</sup>, Karakhanov E.A.<sup>1</sup>**  
**TRANSITION METAL SULFIDES IN HYDROPROCESSING OF UNCONVENTIONAL WATER-  
CONTAINING FEEDS: DISPERSED CATALYSTS VS MESOPOROUS SUPPORTED ONES**  
<sup>1</sup>*Lomonosov Moscow State University, Moscow, Russia*  
<sup>2</sup>*Topchiev Institute of Petrochemical Synthesis RAS, Moscow, Russia*

**OP-II-3 Godinho T.d.<sup>1</sup>, Rijo B.<sup>1</sup>, Briceno Torres J.F.<sup>1</sup>, Lemos M.<sup>1</sup>, Carabineiro H.<sup>2</sup>,  
Tarelho L.<sup>3</sup>, Lemos F.<sup>1</sup>**  
**CATALYTIC CO-PYROLYSIS OF MIXED PLASTIC WASTE WITH VACUUM GAS OIL**  
<sup>1</sup>*Instituto Superior Técnico Lisboa, Lisbon, Portugal*  
<sup>2</sup>*Galp, Sines, Portugal*  
<sup>3</sup>*Universidade de Aveiro, Aveiro), Portugal*

**OP-II-4 Sadykov V.<sup>1</sup>, Krasnov A.<sup>1</sup>, Bepalko Y.<sup>1</sup>, Ereemeev N.<sup>1</sup>, Smorygo O.<sup>2</sup>**  
**CATALYTIC MEMBRANE REACTORS FOR BIOFUELS TRANSFORMATION INTO SYNGAS  
AND HYDROGEN**  
<sup>1</sup>*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*  
<sup>2</sup>*Powder Metallurgy Institute, Minsk, Belarus*

**OP-II-5 Stepacheva A.<sup>1</sup>, Dmitrieva A.<sup>2</sup>, Markova M.<sup>1</sup>, Schipanskaya E.<sup>2</sup>, Lugovoy Y.<sup>1</sup>,  
Matveeva V.<sup>1</sup>, Sulman M.<sup>1</sup>**  
**CATALYTIC CO-PROCESSING OF PYROLYSIS OIL AND HEAVY OIL COMPOUNDS IN  
SUPERCRITICAL SOLVENTS**  
<sup>1</sup>*Tver State Technical University, Tver, Russia*  
<sup>2</sup>*Tver State University, Tver, Russia*

**OP-II-6 Fedorova V., Simonov M., Bepalko Y., Valeev K., Smal E., Sadykov V.**  
**CATALYSTS BASED ON CERIA-ZIRCONIA OBTAINED IN SUPERCRITICAL MEDIUM FOR METHANE  
DRY REFORMING**  
*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*



**June 15, Tuesday  
Hall 1**

**Section III.  
CATALYTIC PROCESSES FOR BIOFUELS PRODUCTION**

- OP-III-1** López-Aguado Sánchez C., Paniagua M., Morales G., Melero J.A., Cuevas F., Juárez P.  
**SOLID ACID CATALYSTS FOR THE SOLVENT-FREE PRODUCTION OF BIO-JET FUEL PRECURSORS VIA ALDOL DIMERIZATION OF LEVULINIC ACID**  
*Universidad Rey Juan Carlos, Madrid, Spain*
- OP-III-2** Vassou M.<sup>1,2</sup>, Heracleous E.<sup>1,2</sup>, Lappas A.A.<sup>1</sup>, Chiaberge S.<sup>3</sup>, Bianchi D.<sup>3</sup>  
**INSIGHTS IN THE COMPLEX HYDROTREATING REACTIONS OF HYDROTHERMAL LIQUEFACTION BIOCRUDE FROM SEWAGE SLUDGE VIA ADVANCED PRODUCT CHARACTERIZATION**  
<sup>1</sup>*Chemical Process & Energy Resources Institute, Centre for Research and Technology Hellas (CPERI/CERTH), Thessaloniki, Greece*  
<sup>2</sup>*International Hellenic University, Thessaloniki, Greece*  
<sup>3</sup>*Eni s.p.a. Renewable Energy & Environmental R&D, Novara, Italy*
- OP-III-3** Melero J.A., de la Flor D., López-Aguado C., Paniagua M., Morales G.  
**Zr-BASED CATALYSTS FOR THE PRODUCTION OF BIO-JET FUEL PRECURSORS VIA ALDOL CONDENSATION OF FURFURAL AND MIBK**  
*Universidad Rey Juan Carlos, Madrid, Spain*
- OP-III-4** Glotov A.<sup>1</sup>, Zasyalov G.O.<sup>1</sup>, Boev S.S.<sup>1</sup>, Nedolivko V.V.<sup>1</sup>, Vinokurov V.A.<sup>1</sup>, Lvov Y.M.<sup>1,2</sup>  
**NATURAL CLAY NANOTUBES SUPPORTED CATALYSTS FOR BIO-OIL COMPONENTS HYDROUPGRADING**  
<sup>1</sup>*Gubkin Russian State University of Oil and Gas, Moscow, Russia*  
<sup>2</sup>*Institute for Micromanufacturing, Louisiana Tech University, Ruston, LA, USA*
- OP-III-5** Reynoso Estevez A.<sup>1</sup>, Ayastuy J.<sup>1</sup>, Iriarte Velasco U.<sup>1</sup>, Vivier L.<sup>2</sup>, Especel C.<sup>2</sup>, Gutierrez Ortiz M.<sup>1</sup>  
**AQUEOUS-PHASE TRANSFORMATION OF SORBITOL OVER COBALT ALUMINATE-BASED CATALYSTS**  
<sup>1</sup>*University of the Basque Country UPV/EHU, Bilbao, Spain*  
<sup>2</sup>*Université de Poitiers, Poitiers, France*
- OP-III-6** Hernando H.<sup>1</sup>, Feroso J.<sup>1</sup>, Ochoa-Hernández C.<sup>3</sup>, Čejka J.<sup>4</sup>, Serrano D.P.<sup>1,2</sup>  
**ENHANCED BIO-OIL DEOXYGENATION OVER MULTIFUNCTIONAL SBA-15 BASED TECHNICAL CATALYSTS**  
<sup>1</sup>*IMDEA Energy Institute, Móstoles, Spain*  
<sup>2</sup>*Rey Juan Carlos University, Móstoles, Spain*  
<sup>3</sup>*Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr, Germany*  
<sup>4</sup>*Charles University in Prague, Prague, Czech Republic*
- OP-III-7** Rijo B., Briceno Torres J.F., Godinho T.d., Lemos F., Lemos M.  
**PLASTIC WASTE PYROLYSIS WITH A MIXTURE OF CATALYSTS IN A REACTIVE DISTILLATION SYSTEM**  
*Instituto Superior Técnico Lisboa, Lisbon, Portugal*

- OP-III-8** Alekseeva M.<sup>1,2</sup>, Sukhorukov D.A.<sup>1,2</sup>, Zaikina O.O.<sup>1</sup>, Kazakov M.O.<sup>1</sup>, Grachev A.N.<sup>3</sup>, Kikhtyanin O.<sup>4</sup>, Kubička D.<sup>4</sup>, Yakovlev V.A.<sup>1,2</sup>  
**CATALYTIC HYDROCONVERSION OF SLUDGE PYROLYSIS BIO-OIL AND ITS MODEL COMPOUNDS**  
<sup>1</sup>*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*  
<sup>2</sup>*Novosibirsk State University, Novosibirsk, Russia*  
<sup>3</sup>*Kazan National Research Technological University, Kazan, Russia*  
<sup>4</sup>*University of Chemistry and Technology Prague, Czech Republic*
- OP-III-9** Briceno Torres J.F., Rijo B., Godinho T.d., Lemos F., Lemos M.  
**EFFECT OF HBeta ZEOLITE CATALYST ON PYROLYSIS OF WASTE POLYMER MIXTURES**  
*Instituto Superior Técnico Lisboa, Lisbon, Portugal*
- OP-III-10** Artillo F.<sup>1</sup>, Moreno J.<sup>1</sup>, Pizarro P.<sup>1,2</sup>, Serrano D.<sup>1,2</sup>  
**CATALYTIC HYDROLYSIS OF LIGNOCELLULOSIC BIOMASS UNDER MILD PRESSURES USING Ni<sub>2</sub>P-BASED CATALYSTS**  
<sup>1</sup>*IMDEA Energy Institute, Móstoles, Madrid, Spain*  
<sup>2</sup>*ESCET, Universidad Rey Juan Carlos, Móstoles, Madrid, Spain*

**June 15, Tuesday**  
**Hall 2**

**Section IV.**

**CATALYTIC PROCESSING FOR VALUABLE CHEMICALS PRODUCTION**

- OP-IV-1** Bols M.L.<sup>1</sup>, Plessers D.<sup>1</sup>, Snyder B.<sup>2</sup>, Rhoda H.<sup>2</sup>, Devos J.<sup>1</sup>, Dusselier M.<sup>1</sup>, Schoonheydt R.<sup>1</sup>, Solomon E.<sup>2</sup>, Sels B.<sup>1</sup>  
**METHANOL FUEL FROM RENEWABLE, SMALL SCALE METHANE SOURCES USING IRON ZEOLITE CATALYSTS**  
<sup>1</sup>*KU Leuven, Leuven, Belgium*  
<sup>2</sup>*Stanford University, Stanford, USA*
- OP-IV-2** EL Mohammad S., Larmier K., Chizallet C.  
**REACTIVITY OF GLUCOSE OVER HOMOGENEOUS TUNGSTEN- AND MOLYBDENUM-BASED CATALYSTS**  
*IFP-Lyon, Solaize, France*
- OP-IV-3** El Fergani M.A., Podolean I., Coman S., Parvulescu V., Candu N.  
**SYNTHESIS OF DICARBOXYLIC ACIDS USING AN EFFICIENT MULTIFUNCTIONAL MAGNETIC CORE-SHELL CATALYST**  
*University of Bucharest, Bucharest, Romania*
- OP-IV-4** Morales G., Paniagua M., López-Aguado C., Melero J.A., Vidal N.M.  
**SYNTHESIS OF DIPHENOLIC ACID (DPA) FROM RENEWABLE LEVULINIC ACID OVER ACID SOLID CATALYSTS**  
*Universidad Rey Juan Carlos, Madrid, Spain*

**June 16, Wednesday  
Hall 1**

**Section IV.  
CATALYTIC PROCESSING FOR VALUABLE CHEMICALS PRODUCTION**

- OP-IV-5 Santos J., Sels B., Makshina E.**  
**METHYL METHOXY PROPIONATE, AN ALTERNATIVE ROUTE FOR THE HIGH SELECTIVE ALKYL ACRYLATE PRODUCTION FROM LACTATE ESTER**  
*KU Leuven University, Leuven, Belgium*
- OP-IV-6 Matveeva V.<sup>1</sup>, Salnikova K.<sup>1</sup>, Larichev Y.<sup>2</sup>, Bykov A.<sup>1</sup>, Sidorov A.<sup>1</sup>, Sulman M.<sup>1</sup>**  
**SELECTIVE HYDROGENATION OF LIGNOCELLULOSE BIOMASS DERIVED FURFURAL: IMPROVED CATALYTIC PERFORMANCE OF METAL NANOPARTICLES IN POROUS POLYMER**  
<sup>1</sup>*Tver State Technical University, Tver, Russia*  
<sup>2</sup>*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*
- OP-IV-7 Lemos F., Santos E., Briceno Torres J.F., Rijo B., Godinho T.d., Kol R., Pereira P., Martins M., Lemos M.**  
**SIZE MATTERS – USING REACTIVE DISTILLATION TO CONTROL THE MOLECULAR WEIGHT OF PRODUCTS OF PLASTIC PYROLYSIS**  
*Instituto Superior Técnico Lisboa, Lisbon, Portugal*
- OP-IV-8 Wu X., Bai S., Van Aelst K., Vermandel W., Liao Y., Sels B.**  
**PRODUCING RENEWABLE CATECHOL FROM WOODY BIOMASS**  
*KU Leuven, Leuven, Belgium*
- OP-IV-9 Nuzhdin A.L.<sup>1</sup>, Wang Y.<sup>2</sup>, Shamanaev I.V.<sup>1</sup>, Bukhtiyarova G.A.<sup>1</sup>**  
**REDUCTIVE AMINATION OF ETHYL LEVULINATE TO N-HEXYL-5-METHYL-2-PYRROLIDONE OVER NICKEL PHOSPHIDE CATALYSTS IN A FLOW REACTOR**  
<sup>1</sup>*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*  
<sup>2</sup>*Novosibirsk State University, Novosibirsk, Russia*
- OP-IV-10 Podolean I., Marinica S., El Fergani M., Parvulescu V., Coman S., Candu N.**  
**Ru-BASED MAGNETIC CATALYSTS FOR SELECTIVE OXIDATION AND REDUCTIVE AMINATION OF BIOMASS**  
*University of Bucharest, Bucharest, Romania*
- OP-IV-11 Veryasova N., Sels B., Makshina E.**  
**DESIGN OF EXPERIMENT AS A TOOL FOR TUNING OPERATION CONDITIONS: CONVERSION OF BIOMASS INTO ETHYL LEVULINATE**  
*KU Leuven, Leuven, Belgium*
- OP-IV-12 Zasyalov G., Glotov A., Boev S., Nedolivko V., Ivanov E., Vinokurov V.**  
**Ru-CONTAINING CATALYSTS TEMPLATED ON CLAY NANOTUBES FOR HYDRODEOXYGENATION OF GUAIACOL**  
*Gubkin Russian State University of Oil and Gas, Moscow, Russia*

**June 17, Thursday  
Hall 1**

**Section IV.**

**CATALYTIC PROCESSING FOR VALUABLE CHEMICALS PRODUCTION**

**OP-IV-13** Dusselier M.J., Khalil I., Ivanushkin G.

**CUSTOM ZEOLITES FOR CATALYZING THE ISOMERIZATION OF BIOBASED PLATFORM CHEMICALS: FLIPPING CONJUGATED DOUBLE BONDS IN MUCONIC ACID**

*KU Leuven, Leuven, Belgium*

**OP-IV-14** Miroshnikova A.V.<sup>1</sup>, Kazachenko A.S.<sup>1</sup>, Tarabanko V.E.<sup>1</sup>, Sychev V.V.<sup>1</sup>, Skripnikov A.M.<sup>1</sup>, Malyar Y.N.<sup>1</sup>, Baryshnikov S.V.<sup>1</sup>, Taran O.P.<sup>2</sup>

**REDUCTIVE CATALYTIC FRACTIONATION OF FLAX SHIVE OVER Ru/C CATALYSTS IN SUB- AND SUPERCRITICAL SOLVENTS**

<sup>1</sup>*Institute of Chemistry and Chemical Technology of SB RAS, Krasnoyarsk, Russia*

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**OP-IV-15** Banzaraksaeva S., Surmina M., Ovchinnikova E., Chumachenko V.

**THE EFFECT OF IMPURITIES IN MISCANTHUS-DERIVED ETHANOL ON ETHYLENE PRODUCTION**

*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

**June 17, Thursday  
Hall 1**

**Section V.**

**CATALYSIS FOR ENVIRONMENT AND SUSTAINABILITY**

**OP-V-1** Uskov S.<sup>1</sup>, Potemkin D.<sup>1,2</sup>, Snytnikov P.<sup>1</sup>

**THE NEXUS BETWEEN FLARE GAS CONDITIONING, ELECTRICITY GENERATION, CRYPTOCURRENCY MINING, CARBON DIOXIDE CAPTURE AND ENHANCED OIL RECOVERY**

<sup>1</sup>*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

<sup>2</sup>*Novosibirsk State University, Novosibirsk, Russia*

**OP-V-2** Plessers D.<sup>1</sup>, Rhoda H.<sup>2</sup>, Bols M.L.<sup>1</sup>, Heyer A.<sup>2</sup>, Schoonheydt R.<sup>1</sup>, Solomon E.<sup>2</sup>, Sels B.<sup>1</sup>

**SPECTROSCOPIC INVESTIGATION OF THE COPPER-OXYGEN ACTIVE SITES IN Cu-CHA FOR SMALL MOLECULE ACTIVATION**

<sup>1</sup>*KU Leuven, Leuven, Belgium*

<sup>2</sup>*Stanford University, Stanford, USA*

**OP-V-3** Selishchev D., Kovalevskiy N., Asmedianova A., Lyulyukin M., Kozlov D.

**NANOCOMPOSITE SEMICONDUCTING MATERIALS FOR PHOTOCATALYTIC DEGRADATION OF POLLUTANTS AND WATER SPLITTING**

*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

- OP-V-4** Giannakoudakis D.A.<sup>1</sup>, Qayyum A.<sup>1</sup>, Nair V.<sup>1,2</sup>, Khan A.<sup>1</sup>, Pradhan S.<sup>1</sup>, Prekodravac J.<sup>1,3</sup>, Rekos K.<sup>5</sup>, LaGrow A.<sup>4</sup>, Bondarchuk O.<sup>4</sup>, Lomot D.<sup>1</sup>, Triantafyllidis K.<sup>5</sup>, Colmenares J.C.<sup>1</sup>  
**SURFACE DECORATION OF TiO<sub>2</sub> NANOPARTICLES WITH CuO<sub>x</sub> NANOCLUSTERS FOR ADDITIVES FREE PHOTOCATALYSIS: H<sub>2</sub> PRODUCTION AND SELECTIVE OXIDATION OF BIOMASS-DERIVED MODEL COMPOUNDS**  
<sup>1</sup>*Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland*  
<sup>2</sup>*National Institute of Technology Karnataka, Surathkal, Mangalore, India*  
<sup>3</sup>*Vinča Institute of Nuclear Sciences – National Institute of the Republic of Serbia, University of Belgrade Belgrade, Belgrade, Serbia*  
<sup>4</sup>*International Iberian Nanotechnology Laboratory, Braga, Portugal*  
<sup>5</sup>*Aristotle University of Thessaloniki, Thessaloniki, Greece*
- OP-V-5** Bulushev D.A.<sup>1</sup>, Golub F.S.<sup>1</sup>, Beloshapkin S.<sup>2</sup>, Parmon V.N.<sup>1</sup>  
**HYDROGEN PRODUCTION FROM BIOMASS DERIVED FORMIC ACID OVER Pd CATALYSTS: MODIFICATION OF THE CARBON SUPPORT BY N-SPECIES THROUGH DEPOSITION OF MELAMINE**  
<sup>1</sup>*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*  
<sup>2</sup>*University of Limerick, Limerick, Ireland*
- OP-V-6** Saeed M., Baig A.  
**Co<sub>3</sub>O<sub>4</sub>-Bi<sub>2</sub>O<sub>3</sub> HETEROJUNCTION; AN EFFECTIVE PHOTOCATALYST FOR PHOTODEGRADATION OF RHODAMINE B DYE**  
*Government College University Faisalabad Pakistan, Faisalabad, Pakistan*
- OP-V-7** Gorlova A.M.<sup>1</sup>, Potemkin D.I.<sup>1,2,3</sup>, Simonov P.A.<sup>1,2</sup>, Snytnikov P.V.<sup>1</sup>, Sobyenin V.A.<sup>1</sup>  
**PLATINUM-BASED CATALYSTS FOR LOW-TEMPERATURE WATER GAS SHIFT REACTION**  
<sup>1</sup>*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*  
<sup>2</sup>*Novosibirsk State University, Novosibirsk, Russia*  
<sup>3</sup>*Novosibirsk State Technical University, Novosibirsk, Russia*
- OP-V-8** Nesterov N., Philippov A., Martyanov O.  
**SUPERCRITICAL FLUID APPROACHES FOR THE SYNTHESIS OF CATALYST FOR H<sub>2</sub>-FREE BIOFUEL HYDRODEOXYGENATION**  
*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

## POSTER SESSION

- PP-1.** Abdurakhmanova S., **Ziyadullaev O.**, Otamukhamedova G., Tirkasheva S., Buriev F., Samatov S.  
**ETHINYLATION REACTIONS OF SOME ALDEHYDES IN HIGH-BASE CATALYTIC SYSTEMS**  
*Chirchik State Pedagogical Institute, Chirchik, Uzbekistan*
- PP-2.** **Allabergenova R.K.**, Ojigina A.R., Kryuchkova T.A., Hayrullina I.A., Sheshko T., Cherednichenko A.G.  
**SYNGAS PRODUCTION FROM CH<sub>4</sub> and CO<sub>2</sub> OVER Gd-Ni-Fe OXIDE SYSTEMS**  
*People's Friendship University of Russia, Moscow, Russia*
- PP-3.** **Borovkova V.S.**, Malyar Y.N., Kazachenko A.S., Miroshnikova A.  
**SOLVENT AND CATALYSTS INFLUENCE ON THE PROCESS OF TECHNICAL LIGNIN SULFATION**  
*Institute of Chemistry and Chemical Technology SB RAS, Krasnoyarsk, Russia*
- PP-4.** **Dubrovskiy V.**, Sapunov V.N., Kozlovskiy I., Zolotarev E., Grivin A., Medvedev V.  
**CATALYTIC CONVERSION OF ETHANOL TO ETHYL ACETATE**  
*D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia*
- PP-5.** **Gulyaeva Y.K.**, Alekseeva (Bykova) M., Bulavchenko O., Kremneva A., Yakovlev V., Kaichev V.  
**NICKEL-BASED SOL-GEL CATALYSTS FOR METHYLCYCLOHEXANE DEHYDROGENATION**  
*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*
- PP-6.** **Imizcoz M.**, Pellejero I., Navajas A., Gandía L.  
**NEW NICKEL-BORON COMPOSITES FOR THE PHOTOTHERMAL CO<sub>2</sub> CATALYTIC REDUCTION**  
*Public University of Navarre, Pamplona, Spain*
- PP-7.** Kakamouka K.<sup>1</sup>, **Giannakoudakis D.**<sup>2</sup>, Salonikidou E.<sup>1</sup>, Samanidou V.<sup>1</sup>, Triantafyllidis K.<sup>1</sup>, Deliyanni E.<sup>1</sup>  
**CATALYTIC OXIDATIVE DESULFURIZATION OF DIBENZOTHIOPHENE (DBT) CONTAINING MODEL FUEL BY METAL-FREE ACTIVATED CARBONS: THE KEY ROLE OF SURFACE CHEMISTRY**  
<sup>1</sup>*Aristotle University of Thessaloniki, Thessaloniki, Greece*  
<sup>2</sup>*Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland*
- PP-8.** Kazachenko A.S.<sup>1,2</sup>, **Malyar Yu.N.**<sup>1,2</sup>, Vasilieva N.Yu.<sup>1,2</sup>, Karacharov A.A.<sup>1</sup>, Antonov A.V.<sup>1</sup>, Fetisova O.Yu.<sup>1</sup>  
**CATALYTIC SULFATION OF GUAR AND XANTHAN GUMS WITH SULFAMIC ACID**  
<sup>1</sup>*Institute of Chemistry and Chemical Technology SB RAS, Krasnoyarsk, Russia*  
<sup>2</sup>*Siberian Federal University, Krasnoyarsk, Russia*
- PP-9.** **Kholin K.V.**, Nizameev I.R., Minzanova S.T., Kadirov M.K.  
**SODIUM POLYGALACTURONATE COMPLEX WITH MANGANESE IN THE CATALYTIC CARBON DIOXIDE ELECTROREDUCTION REACTION IN WATER**  
*Arbuzov Institute of Organic and Physical Chemistry, FRC Kazan Scientific Center, Russian Academy of Sciences, Kazan, Russia*
- PP-10.** **Kozlovskiy R.A.**, Kozlovskiy I., Voronov M., Kozlovskiy M., Ibatov Y.A., Brinko N.S.  
**KINETIC STUDY OF ESTERIFICATION OF AMMONIUM LACTATE WITH n-BUTANOL FOR BUTYL LACTATE PRODUCTION**  
*D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia*

- PP-11. Maâti H.<sup>1</sup>, Amadine O.<sup>1</sup>, Essamlali Y.<sup>1</sup>, Hassan El M.<sup>1</sup>, Zahouily M.<sup>1,2</sup>**  
**PdCeZrO<sub>2</sub> SOLID SOLUTION AS GREEN AND LIGAND FREE NANOCATALYST FOR SUZUKI-MIYaura CROSS-COUPling REACTION IN AQUEOUS MEDIA**  
<sup>1</sup>*Moroccan Foundation for Advanced Science, Innovation and Research, Rabat, Morocco*  
<sup>2</sup>*Laboratory of Materials Catalysis and Valorization of Natural Resources, Mohammedia, Morocco*
- PP-12. Maisterra M.<sup>1</sup>, Hablich K.<sup>1</sup>, Moreira R.<sup>2</sup>, Cornejo A.<sup>1</sup>, Bimbela F.<sup>1</sup>, Martínez-Merino V.<sup>1</sup>, Gandía L.M.<sup>1</sup>**  
**CATALYTIC DEPOLYMERIZATION OF POPULUS SALICACEAE SAWDUST AND ISOLATION OF LIGNIN TO LOW MOLECULAR WEIGHT AROMATICS USING  $\beta$ -Mo<sub>2</sub>C**  
<sup>1</sup>*Public University of Navarra, Pamplona, Spain*  
<sup>2</sup>*University of Coimbra, Portugal*
- PP-13. Manaenkov O., Kislitsa O., Matveeva V., Ratkevich E., Sulman M., Kosivtsov Y.**  
**WO<sub>3</sub>-ZSM-5 CATALYSTS FOR MONOSACCHARIDES DEHYDRATION**  
*Tver State Technical University, Tver, Russia*
- PP-14. Markova E.B.<sup>1</sup>, Cherednichenko A.<sup>1</sup>, Kravchenko G.<sup>2</sup>, Kuz'micheva G.<sup>2</sup>, Mushtakov A.<sup>1</sup>**  
**CATALYTIC SYSTEMS BASED ON HZSM-5 ZEOLITES WITH VARIOUS SILICATE MODULES (Si/Al = 12, 25, 40)**  
<sup>1</sup>*Peoples' Friendship University of Russia, Moscow, Russia*  
<sup>2</sup>*Russian Technological University (RTU MIREA), Moscow, Russia*
- PP-15. Matveeva V., Grigorev M., Manaenkov O., Sidorov A., Doluda V., Sulman M.**  
**CATALYTIC HYDROGENATION OF D-XYLOSE, D-MANNOSE and D-LACTOSE TO THE CORRESPONDING POLYOLS**  
*Tver State Technical University, Tver, Russia*
- PP-16. Qayyum A., Giannakoudakis D.A., Lomot D., Colmenares J.C.**  
**ULTRASONIC-ASSISTED SYNTHESIS OF TiO<sub>2</sub>: PHOTOCATALYTIC SELECTIVE OXIDATION OF BENZYL ALCOHOL TO BENZYL ALDEHYDE**  
*Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland*
- PP-17. Ruban N.<sup>1,3</sup>, Potemkin D.<sup>1,2,3</sup>, Gorlova A.M.<sup>1,3</sup>, Emelyanov V.A.<sup>4</sup>, Snytnikov P.<sup>1</sup>**  
**Ru/Ce<sub>0.75</sub>Zr<sub>0.25</sub>O<sub>2- $\delta$</sub> - $\eta$ -Al<sub>2</sub>O<sub>3</sub>/FeCrAl STRUCTURED CATALYST FOR CO<sub>2</sub> METHANATION**  
<sup>1</sup>*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*  
<sup>2</sup>*UNICAT Ltd, Novosibirsk, Russia*  
<sup>3</sup>*Novosibirsk State University, Novosibirsk, Russia*  
<sup>4</sup>*Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia*
- PP-18. Santos S.P.<sup>1</sup>, Puna J.F.<sup>1,2</sup>, Gomes J.F.<sup>1,2</sup>, Quinta-Ferreira R.M.<sup>3</sup>, Bordado J.C.<sup>1</sup>**  
**TOWARDS THE USE OF HETEROGENEOUS NANOCATALYSTS FOR THE OBTENTION OF BIODIESEL**  
<sup>1</sup>*Instituto Superior Técnico Lisboa, Lisbon, Portugal*  
<sup>2</sup>*Instituto Superior de Engenharia de Lisboa, Lisbon, Portugal*  
<sup>3</sup>*Coimbra University, Coimbra, Portugal*
- PP-19. Stepacheva A.<sup>1</sup>, Schipanskaya E.<sup>2</sup>, Rud D.<sup>1</sup>, Nikoshvili L.<sup>1</sup>, Kiwi-Minsker L.<sup>2</sup>, Matveeva V.<sup>1</sup>, Sulman M.<sup>1</sup>**  
**FATTY ACID DEOXYGENATION OVER SCHUNGITE-BASED CATALYSTS**  
<sup>1</sup>*Tver State Technical University, Tver, Russia*  
<sup>2</sup>*Tver State University, Tver, Russia*

**PP-20.** **Torrez-Herrera J., Korili S., Gil A.**

**CATALYTIC PERFORMANCE OF BIMETALLIC-BASED HEXAALUMINATES FROM ALUMINUM SALINE SLAG WASTES IN THE DRY REFORMING OF METHANE**

*Public University of Navarra, Pamplona, Spain*

**PP-21.** **Tungatarova S.<sup>1,2</sup>, Baizhumanova T.<sup>1,2</sup>, Xanthopoulou G.<sup>3</sup>, Murzin D.<sup>4</sup>, Vekinis G.<sup>3</sup>, Kotov S.<sup>5</sup>, Manabayeva A.<sup>6</sup>**

**BIOGAS REFORMING OVER Ni-Cr-Al-Mg CATALYST PREPARED BY SOLUTION COMBUSTION SYNTHESIS METHOD**

<sup>1</sup>*D.V. Sokolsky Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan*

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