



**Scientific Program of the  
Fifth International Conference  
CATALYSIS FOR RENEWABLE SOURCES:  
FUEL, ENERGY, CHEMICALS  
CRS-5**

**Agios Nikolaos, Crete, Greece, September 2-6, 2019**

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

**Aristotle University of Thessaloniki, Greece**

**<http://conf.nsc.ru/CRS5>**

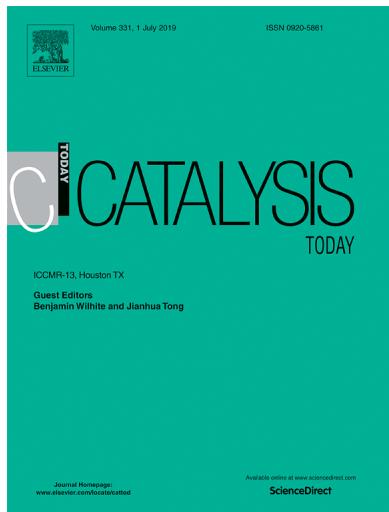
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Aristotle University of Thessaloniki  
Greece**

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

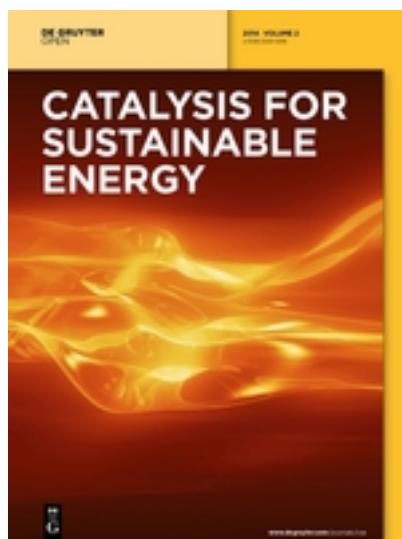


**Conference Proceedings:  
Special Issue  
CATALYSIS TODAY  
ELSEVIER**



**ELSEVIER**

**CATALYSIS FOR SUSTAINABLE ENERGY  
(de Gruyter Open access)**



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*Chemical Process & Energy Resources Institute  
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**Professor Dr. Mario Meneghetti, University Federal of Alagoas, Maceió, Brazil**

**Professor Mark Tsodikov, A.V. Topchiev Institute of Petrochemical Synthesis RAS, Moscow, Russia**

## **SCIENTIFIC SECTIONS**

### **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 interesterification 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*

**September 2, Monday**  
**OLYMPUS Hall**

**08.45 Opening**

**PLENARY SESSION**

*Chair – Professor Kevin Van Geem, Ghent University, Belgium*

**09.00**

**PL-1**

**Dr. Angelos Lappas**

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

**IN-SITU AND EX-SITU BIOMASS CATALYTIC PYROLYSIS TOWARDS PRODUCTION OF HIGH QUALITY BIO-OIL. THE ROLE OF CATALYST DEACTIVATION**

**10.00**

**PL-2**

**Professor Mark Tsodikov, Fedotov A.S., Chistyakov A.V.**

*A.V. Topchiev Institute of Petrochemical Synthesis RAS, Moscow, Russia*

**STRUCTURALLY - DIMENSIONAL EFFECTS IN SELECTIVE HETEROGENEOUS CATALYSIS OF RENEWABLE BIOMASS INTO IMPORTANT PRODUCTS OF PETROCHEMISTRY**

**11.00 Coffee-break**

**KEYNOTE SESSION**  
**ORAL SESSION. Section IV**

***Chairs:***

***Professor Parusuraman Selvam, Indian Institute of Technology-Madras, Chennai, India***

***Professor Vadim Yakovlev, Boreskov Institute of Catalysis, Novosibirsk, Russia***

**11.20**

**KL-1**

**Dr. David Kubička**

*University of Chemistry and Technology, Prague, Czech Republic*

**BIOMASS-DERIVED FUELS AND CHEMICALS BY ALDOL CONDENSATION**

**11.50**

**KL-2**

**Professor Ivan Kozhevnikov**

*University of Liverpool, Liverpool, United Kingdom*

**SYNTHESIS OF CHEMICALS FROM RENEWABLE FEEDSTOCKS CATALYZED BY HETEROPOLY ACIDS**

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

**12.20**

**OP-IV-1**

Pachatouridou E.<sup>1</sup>, Heracleous E.<sup>1,2</sup>, Papapetrou M.<sup>1</sup>, Lappas A.<sup>1</sup>

**EFFICIENT CATALYTIC CONVERSION OF MEVALONOLACTONE TO ISOPRENE OVER SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub>**

**CATALYSTS**

<sup>1</sup>*Chemical Process and Energy Resources Institute / Centre of Research and Technology Hellas (CPERI/CERTH), Thessaloniki, Greece*

<sup>2</sup>*School of Science & Technology, International Hellenic University, Thessaloniki, Greece*

**12.40**

**OP-IV-2**

Taran O.P.<sup>1,2</sup>, Timofeeva M.N.<sup>2,3</sup>, Gromov N.<sup>2,3</sup>, Zhdanok A.A.<sup>4</sup>, Medvedeva T.B.<sup>2</sup>, Lukoyanov I.A.<sup>2,3</sup>, Parmon V.N.<sup>2</sup>

**HYDROLYSIS-HYDROGENOLYSIS OF CELLULOSE TO ETHYLENE GLYCOL AND PROPYLENE GLYCOL OVER BIFUNCTIONAL CATALYSTS**

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

<sup>2</sup>*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

<sup>3</sup>*Novosibirsk State Technical University, Russia*

<sup>4</sup>*Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia*

**13.00 Lunch**

**OLYMPUS Hall**  
**ORAL SESSION**

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

*Chair – Dr. Lorenzo Spadaro, National Research Council (CNR), Messina, Italy*

**15.00**

**OP-IV-3**

Lopez-Isunza F., Esparza-Isunza T.

**SYNTHESIS OF CHIRAL AMINES VIA THE COUPLING OF TRANSAMINASE AND OPPENAUER REACTIONS**

*Universidad Autonoma Metropolitana – Iztapalapa, Mexico City, Mexico*

**15.20**

**OP-IV-4**

Kovalenko G.<sup>1,2</sup>, Perminova L.1, Beklemishev A.<sup>1,3</sup>

**BIOCATALYTICAL INTERESTERIFICATION OF VEGETABLE OIL TRIGLYCERIDES AND ESTERIFICATION OF FATTY ACIDS FOR PRODUCTION OF VALUABLE CHEMICALS**

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

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

<sup>3</sup>*Institute of Biochemistry, Novosibirsk, Russia*

**15.40**

**OP-IV-5**

**Helaja T., Reinikainen M.**

**ADDING VALUE TO BIOMASS THROUGH CATALYTIC TRANSFORMATION**

*VTT Technical Research Centre of Finland Ltd, Espoo, Finland*

**16.00**

**OP-IV-6**

**Isupova L., Kovalenko O., Kruglyakov V., Glazyrin A.**

**CATALYSTS AND DESSICANTS BASED ON ACTIVE ALUMINA**

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

**16.20**

**OP-IV-7**

**Yu Z., Liu S., Wang Y., Sun Z., Liu Y., Li X., Wang A.**

**MoP AS A HIGH-PERFORMANCE CATALYST FOR THE DEHYDRATION OF GLYCEROL TO ACROLEIN**

*Dalian University of Technology, China*

### **16.40 Coffee-break**

## **OLYMPUS Hall ORAL SESSION**

### **Section III.**

## **CATALYTIC PROCESSES FOR BIOFUELS PRODUCTION**

**Chair – Dr. Alberto Veses, Institute of Carbochemistry (ICB-CSIC), Zaragoza, Spain**

**17.00**

**OP-III-1**

**Aranda D., Muchave G.J., Andrade L.C., Filho J.F., Almeida J.M., Romano P.N.**

**INNOVATIVE HEFA and ATJ PROCESSES TO RENEWABLE HYDROCARBONS**

*Greentec-Federal University of Rio de Janeiro, Brazil*

**17.20**

**OP-III-2**

Stepacheva A.<sup>1</sup>, Markova M.<sup>1,2</sup>, Matveeva V.<sup>1,2</sup>, Sidorov A.<sup>1</sup>, Sulman M.<sup>1</sup>, Sulman E.<sup>1</sup>

**SUPERCritical CONVERSION OF FATTY ACIDS IN THE PRESENCE OF POLYMERIC CATALYSTS**

**SYNTHESIZED BY HYDROTHERMAL DEPOSITION**

<sup>1</sup>*Tver State Technical University, Tver, Russia*

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

**17.40**

**Dr.-Ing. Alexandros Yfantis, SYCHEMA Group Company, President & Managing Director**

**TECHNICAL BIOENERGY CRETE (TBC) Presentation**

*Athens, Greece*

### **19.00 Welcome Reception**

**September 3, Tuesday**  
**OLYMPUS Hall**

**PLENARY SESSION**

**Chair – Professor Oleg Martyanov, Boreskov Institute of Catalysis, Novosibirsk, Russia**

**09.00**

**PL-3**

**Professor Kevin Van Geem<sup>1</sup>, Gonzalez-Quiroga A.<sup>1</sup>, De Vos D.<sup>2</sup>, Ronsse F.<sup>1</sup>, Prins W.<sup>1</sup>, Boerjan W.<sup>1</sup>, Marin G.<sup>1</sup>**

<sup>1</sup>*Ghent University, Ghent, Belgium*

<sup>2</sup>*Catholic University of Leuven, Leuven, Belgium*

**OPPORTUNITIES AND CHALLENGES FOR BIOMASS CONVERSION PROCESSES**

**10.00**

**PL-4**

**Lee C.-W.<sup>1</sup>, Lin P.-Y.<sup>1</sup>, Professor Bing-Hung Chen<sup>1</sup>, Kukushkin R.G.<sup>2</sup>, Yakovlev V.A.<sup>2</sup>**

<sup>1</sup>*National Cheng Kung University, Tainan, Taiwan*

<sup>2</sup>*Boreskov Institute of Catalysis SB RAS, Russia, Novosibirsk, Russia*

**HYDRODEOXYGENATION OF FATTY ACIDS AND TRIGLYCERIDES TO LIQUID FUELS OVER ZEOLITE-SUPPORTED NICKEL CATALYSTS**

**11.00 Coffee-break**

**OLYMPUS Hall**  
**ORAL SESSION**

**Section III.**

**CATALYTIC PROCESSES FOR BIOFUELS PRODUCTION**

**Chair – Professor Felipe Lopez-Isunza, Universidad Autonoma Metropolitana - Mexico City, Mexico**

**11.20**

**OP-III-3**

**Kuznetsov B.N.<sup>1</sup>, Sharypov V.I.<sup>1</sup>, Baryshnikov S.V.<sup>1</sup>, Beregovtsova N.G.<sup>1</sup>, Miroshnikova A.V.<sup>1</sup>, Yakovlev V.<sup>2</sup>, Djakovitch L.<sup>3</sup>**

**CATALYTIC PROCESSING OF NATIVE AND ORGANOSOLV LIGNINS OF ASPEN-WOOD TO LIQUID BIOFUELS IN SUPERCRITICAL ETHANOL**

<sup>1</sup>*Institute of Chemistry and Chemical Technology SB RAS, Federal Research Center "Krasnoyarsk Science Center SB RAS", Krasnoyarsk, Russia*

<sup>2</sup>*Boreskov Institute of Catalysis SB RAS, Russia, Novosibirsk, Russia*

<sup>3</sup>*Institute of Researchers on Catalysis and Environment in Lyon, Villeurbanne, France*

**11.40**

**OP-III-4**

Aliu E.A., Hart A., Wood J.

**CATALYTIC CONVERSION OF VANILLIN A BIO-OIL MODEL COMPOUND TO CREOSOL A POTENTIAL FUTURE FUEL**

*University of Birmingham, Birmingham, United Kingdom*

**12.00**

**OP-III-5**

Smirnov A., Alekseeva M., Shilov I., Yakovlev V.

**HYDROTREATMENT OF FAST PYROLYSIS OIL AND ITS MODEL COMPOUNDS OVER Cr-MODIFIED CATALYSTS WITH HIGH Ni CONTENT**

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

**12.20**

**OP-III-6**

Itkulova Sh., Valishevskiy K., Boleubayev Y., Abilmagzhanov A.

**HIGH STABLE MULTICOMPONENT Co-BASED SUPPORTED CATALYSTS FOR SYNGAS PRODUCTION FROM BIOGAS**

*D.V. Sokolsky Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan*

**12.40**

**OP-III-7**

Kukushkin R.<sup>1,2</sup>, Yeletsky P.<sup>1</sup>, Grassin C.<sup>3</sup>, Chen B.<sup>4</sup>, Yakovlev V.A.<sup>1,2</sup>

**BIFUNCTIONAL Ni-BASED CATALYSTS FOR ONE-POT PRODUCTION OF ISO-ALKANES FROM VEGETABLE OILS**

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

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

<sup>3</sup>*National Graduate School of Engineering Chemistry of Lille, Lille, France*

<sup>4</sup>*National Cheng Kung University, Tainan, Taiwan*

**13.00 Lunch**

**ORAL SESSION  
OLYMPUS Hall**

**Section III.**

**CATALYTIC PROCESSES FOR BIOFUELS PRODUCTION**

**Chair – Professor Francisco Lemos, Instituto Superior Técnico, Lisboa, Portugal**

**15.00**

**OP-III-8**

Grachev A.N.<sup>1,2</sup>, Bashkirov V.N.<sup>1,2</sup>, Zabelkin S.A.<sup>1,2</sup>, Makarov A.A.<sup>1,2</sup>, Pushkin S.A.<sup>1</sup>,

Burenkov S.V.<sup>1,2</sup>, Zemskov I.G.<sup>1</sup>, Iakovleva A.Ye.<sup>1,2</sup>, Bikbulatova G.M.<sup>1,2</sup>

**A FAST ABLATIVE PYROLYSIS PLANT FOR BIOMASS PROCESSING INTO BIOCHAR AND BIOOIL**

<sup>1</sup>*LLC "EnergoLesProm", Kazan, Russia*

<sup>2</sup>*Kazan National Research Technological University, Kazan, Russia*

**15.20**

**OP-III-9**

**Alekseeva M.<sup>1,2</sup>, Grachev A.<sup>3</sup>, Yakovlev V.<sup>1,2</sup>**

**CATALYTIC UPGRADING OF PYROLYSIS LIQUID FROM SEWAGE SLUDGE: EFFECT OF PROCESS TEMPERATURE**

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

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

<sup>3</sup>*LLC "EnergoLesProm", Kazan, Russia*

**15.40**

**OP-III-10**

**Veses A., Sanahuja-Parejo O., López J.M., Murillo R., Callén M.S., García T.**

**CATALYTIC CO-PYROLYSIS OF AGRICULTURAL RESIDUES AND WASTE POLYSTYRENE FOR**

**THE PRODUCTION OF ADVANCED BIO-OILS IN A PILOT SCALE AUGER REACTOR**

*Institute of Carbochemistry (ICB-CSIC), Zaragoza, Spain*

**16.00**

**OP-III-11**

**Arutyunov V.S.<sup>1</sup>, Nikitin A.<sup>1</sup>, Strekova L.<sup>1</sup>, Savchenko V.<sup>2</sup>, Sedov I.<sup>2</sup>**

**THE POSSIBILITY OF UTILIZATION OF RENEWABLE SOURCES OF HYDROCARBON GASES IN SMALL-SCALE PRODUCTION OF LIQUID FUELS**

<sup>1</sup>*Semenov Institute of Chemical Physics RAS, Moscow, Russia*

<sup>2</sup>*Institute of Problems of Chemical Physics RAS, Chernogolovka, Moscow region, Russia*

**16.20**

**OP-III-12**

**Spadaro L.<sup>1</sup>, Palella A.<sup>1</sup>, Arena F.<sup>2</sup>**

**CO<sub>2</sub>-to-FUELS VIA COPPER-CERIA BASED CATALYTIC HYDROGENATION**

<sup>1</sup>*National Research Council (CNR), Messina, Italy*

<sup>2</sup>*University of Messina, Italy*

**16.40 Coffee-break**

**ORAL SESSION  
OLYMPUS Hall**

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

***Chair – Professor Vladimir Arutyunov, Semenov Institute of Chemical Physics RAS,  
Moscow, Russia***

**17.00**

**OP-III-13**

**Kazachenko A.S.<sup>1</sup>, Baryshnikov S.V.<sup>1</sup>, Chudina A.I.<sup>1</sup>, Malyar Y.N.<sup>1,2</sup>, Sychev V.V.<sup>1</sup>, Taran O.P.<sup>1,2</sup>,  
Djakovitch L.<sup>3</sup>, Kuznetsov B.N.<sup>1,2</sup>**

**HYDROGENATION OF ABIES WOOD AND ETHANOL-LIGNIN TO LIQUID BIOFUELS IN  
SUPERCritical ETHANOL OVER BIFUNCTIONAL Ru/C CATALYST**

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

*FRC "Krasnoyarsk Science Center" SB RAS, Krasnoyarsk, Russia*

<sup>2</sup>*Siberian Federal University, Krasnoyarsk, Russia*

<sup>3</sup>*Institute of Researchers on Catalysis and Environment in Lyon, Villeurbanne, France*

**17.20**

**OP-III-14**

**Piazz S., Ail S.S., Benedetti V., Patuzzi F., Baratieri M.**

**INFLUENCES OF SUPPORTED CATALYST SYNTHESIS METHOD ON FISCHER-TROPSCH SYSTEM  
PERFORMANCES**

*Free University of Bozen-Bolzano, Bolzano, Italy*

***18.00 Guide Excursion around Agios Nikolaos***

**September 3, Tuesday**  
**POSEIDON Hall**

**ORAL SESSION**  
**Section IV.**

**CATALYTIC PROCESSING FOR VALUABLE CHEMICALS PRODUCTION**

*Chair – Dr. Zhiqian Yu, Dalian University of Technology, Dalian, China*

**11.20**

**OP-IV-8**

Mustapha S.I., Isa Y.M., Bux F.

**SYNTHESIS AND CHARACTERIZATION OF LIPID EXTRACTED ALGAE DERIVED NANO - CATALYST  
FOR BIODIESEL PRODUCTION**

*Durban University of Technology, South Africa*

**11.40**

**OP-IV-9**

Yfanti V.<sup>1</sup>, Tsarouchi E.<sup>1</sup>, Zacharopoulou V.<sup>1</sup>, Lemonidou A.A.<sup>1,2</sup>

**ONE-STEP GLYCEROL HYDRODEOXYGENATION TO PROPYLENE OVER Mo-BASED CATALYSTS**

<sup>1</sup>*Aristotle University of Thessaloniki, Thessaloniki, Greece*

<sup>2</sup>*Chemical Process Engineering Research Institute, Thessaloniki, Greece*

**12.00**

**OP-IV-10**

Selishcheva S.<sup>1,2</sup>, Smirnov A.<sup>1,2</sup>, Fedorov A.<sup>1,2</sup>, Saraev A.<sup>1,2</sup>, Bulavchenko O.<sup>1,2</sup>, Yakovlev V.<sup>1,2</sup>

**SELECTIVE HYDROGENATION OF FURFURAL TO FURFURYL ALCOHOL OVER Cu-Fe-CONTAINING  
CATALYSTS**

<sup>1</sup>*Novosibirsk State University, Novosibirsk, Russia*

<sup>2</sup>*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

**12.20**

**OP-IV-11**

Ion S.<sup>1</sup>, Tudorache M.<sup>1</sup>, Lite C.<sup>1</sup>, Zgura I.<sup>2</sup>, Galca A.<sup>2</sup>, Bodescu A.<sup>3</sup>, Enache M.<sup>4</sup>, Maria G.<sup>4</sup>, Parvulescu V.<sup>1</sup>

**BIO-CATALYSIS FOR DESIGNING LIGNIN STRUCTURES - MONOLIGNOLS**

**OXI-(CO)POLYMERIZATION USING ENZYME CATALYST**

<sup>1</sup>*University of Bucharest, Bucharest, Romania*

<sup>2</sup>*National Institute of Materials Physics, Magurele, Romania*

<sup>3</sup>*"Aurel Vlaicu" University, Arad, Romania*

<sup>4</sup>*Institute of Biology Bucharest of the Romanian Academy, Bucharest, Romania*

**12.40**

**OP-IV-12**

Matveeva V., Sulman E., Salnikova K., Sulman M.

**THE TREATMENT OF THE LIGNOCELLULOSIC BIOMASS FOR OBTAINING TO THE ORGANIC  
SYNTHESIS PRODUCTS**

*Tver State Technical University, Tver, Russia*

**13.00 Lunch**

**POSEIDON Hall**

**ORAL SESSION**

**Section V.**

**CATALYSIS FOR ENVIRONMENT AND SUSTAINABILITY**

*Chair – Professor David Simakov, University of Waterloo, Canada*

**15.00**

**OP-V-1**

Dosa M., Piumetti M., Bensaid S., Fino D., Russo N.

**PHOTOCATALYTIC ABATEMENT OF VOCs via TiO<sub>2</sub> BASED MATERIALS**

*Politecnico di Torino, Italy*

**15.20**

**OP-V-2**

Maslenkova S., Chuklina S., Pylinina A.

**STUDIES OF THE EFFECT OF THE ACTIVE PHASE STATE OF Cu-CONTAINING Zr-Al OXIDES**

**CATALYSTS IN ETHANOL DEHYDROGENATION REACTION**

*Peoples' Friendship University of Russia, Moscow, Russia*

**15.40**

**OP-V-3**

Palella A.<sup>1</sup>, Arena F.<sup>2</sup>, Di Chio R.<sup>2</sup>, Spadaro L.<sup>1</sup>

**EFFECTIVE LOW-TEMPERATURE CATALYTIC METHANE COMBUSTION OVER Mn-CeO<sub>2</sub> CATALYTIC COMPOSITIONS**

<sup>1</sup>*National Research Council (CNR), Messina, Italy*

<sup>2</sup>*University of Messina, Messina, Italy*

**16.00**

**OP-V-4**

Cherednichenko A.G., Markova E.B., Sheshko T., Morozova E.

**THERMAL-CATALYTIC DESTRUCTION OF POLYOLEPHIN POLYMERS IN PRESENCE**

**OF LaVO<sub>3</sub> and LaVO<sub>4</sub>**

*Peoples' Friendship University of Russia, Moscow, Russia*

**16.20**

**OP-V-5**

Wang W.<sup>1</sup>, Duong-Viet C.<sup>1</sup>, Ba H.1, Nhut J.M.<sup>1</sup>, Pham-Huu C.<sup>1</sup>, Tuci G.<sup>2</sup>, Giambastiani G.<sup>1,2</sup>

**ENHANCED CATALYTIC PERFORMANCE FOR CO<sub>2</sub> METHANATION ON Ni/OCF CATALYST POWERED BY INDUCTION HEATING**

<sup>1</sup>*Institute of Chemistry and Processes for Energy, Environment and Health, CNRS-University of Strasbourg, France*

<sup>2</sup>*Institute of Chemistry of Organometallic Compounds, Florence, Italy*

**16.40 Coffee-break**

**POSEIDON Hall**

**ORAL SESSION**

**Section V.**

**CATALYSIS FOR ENVIRONMENT AND SUSTAINABILITY**

***Chair – Dr. Vladimir Golovko, University of Canterbury, Christchurch, New Zealand***

**17.00**

**OP-V-6**

Lemos M., Santos E., Rijo B., Lemos F.

**CATALYTIC REACTIVE DISTILLATION OF POLYETHYLENE**

*Instituto Superior Técnico, Lisboa, Portugal*

**17.20**

**OP-V-7**

Philippov A.<sup>1,2</sup>, Chibiryakov A.<sup>1,2</sup>, Martyanov O.<sup>1,2</sup>

**ECO-FRIENDLY PARTIAL DEAROMATIZATION of PAHs IN TRANSFER HYDROGENATION**

**CATALYZED BY Raney® NICKEL**

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

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

***18.00 Guide Excursion around Agios Nikolaos***

**September 4, Wednesday**

**OLYMPUS Hall**

**PLENARY SESSION**

**Chair – Professor Donato Aranda, Greentec-Federal University of Rio de Janeiro, Brazil**

**09.00**

**PL-5**

**Professor Parasuraman Selvam**

*Indian Institute of Technology, Madras, India*

**MORPHOLOGICALLY-CONTROLLED NANOMATERIALS AND PERIODIC NANOPOROUS MOLECULAR SIEVES FOR SUSTAINABILITY**

**10.00**

**CROSS-TALK (DEBATES)**

**NOVEL TRENDS IN CATALYTIC PROCESSING OF WOOD-BASED BIOMASS INTO FINE CHEMICALS AND FUELS**

**Chair – Professor Claude Mirodatos, Institute of Research on Catalysis and Environment in Lyon, France**

**Co-Chairs – Moderators' Committee members**

**INTRODUCTION:**

**Professor Claude Mirodatos, IRCELYON, France**

**Professor Vadim Yakovlev, Boreskov Institute of Catalysis, Russia**

**SHORT PRESENTATIONS:**

**Professor David Kubíčka**

*University of Chemistry and Technology, Prague, Czech Republic*

**SELECTIVE AND NON-SELECTIVE APPROACHES TO LIGNOCELLULOSE BIOMASS UPGRADING INTO FUELS AND CHEMICALS**

**Professor Konstantinos Triantafyllidis**

*Aristotle University of Thessaloniki, Greece*

**CATALYTIC FAST PYROLYSIS FOR THE VALORIZATION OF BIOMASS PROCESSING SIDE STREAMS VS. PARENT BIOMASS PYROLYSIS**

**Professor Boris Kuznetsov**

*Institute of Chemistry and Chemical Technology of SB RAS,  
Federal Research Center "Krasnoyarsk Science Center SB RAS", Russia*

**CHEMICAL PROCESSING OF WOOD BIOMASS IN RUSSIA:  
BRILLIANT PAST, MODEST PRESENT AND PROMISING FUTURE**

**DEBATES**

**11.00 Coffee-break**

**OLYMPUS Hall**  
**KEYNOTE SESSION**  
**ORAL SESSION. Section I.**

**Chairs:**

**Professor Eleni Heracleous, Chemical Process & Energy Resources Institute (CPERI),  
Centre for Research and Technology Hellas (CERTH), Thessaloniki, Greece**

**Professor David Kubička, University of Chemistry and Technology, Prague, Czech  
Republic**

**11.20**

**KL-3**

**Professor Simoni Margareti Plentz Meneghetti, Meneghetti M.R., Bortoluzzi J.H.,  
dos Santos T.V., dos Santos T.G.**

*Universidade Federal de Alagoas, Institute of Chemistry and Biotechnology, Maceió-AL, Brazil*  
**CATALYSIS FOR BIOMASS CONVERSION**

**11.50**

**KL-4**

**Tang Z., Pescarmona P., Professor Erik Heeres**

*University of Groningen, the Netherlands*

**CHEMO CATALYTIC CONVERSIONS OF GLYCEROL TO LACTIC ACID**

**Section I.**

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

**12.20**

**OP-I-1**

**Margellou A.<sup>1</sup>, Triantafyllidis K.<sup>1,2</sup>**

**CATALYTIC HYDROGENOLYSIS OF KRAFT LIGNIN TOWARDS SUBSTITUTED PHENOLICS**

<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*

**12.40**

**OP-I-2**

**Galkin K.**

**WILL THE "SLEEPING GIANT" OF SUSTAINABLE CHEMISTRY AWAKEN?**

*N.D. Zelinsky Institute of Organic Chemistry RAS, Moscow, Russia*

**13.00 Lunch**

**OLYMPUS Hall**  
**ORAL SESSION**  
**Section I.**  
**CATALYSIS FOR BIOMASS DEPOLYMERIZATION AND**  
**DOWN-STREAM UPGRADING**

*Chair – Professor Ivan Kozhevnikov, University of Liverpool, United Kingdom*

**15.00**

**OP-I-3**

Iliopoulou E.F., Kalogiannis K., Lappas A.A.

**CATALYTIC UPGRADING OF OLIVE MILL WASTE BIOMASS OVER OXIDE KETONIZATION CATALYSTS**

*Chemical Process and Energy Resources Institute / Centre of Research and Technology Hellas (CPERI/CERTH), Thessaloniki, Greece*

**15.20**

**OP-I-4**

Nesterov N., Smirnov A., Yakovlev V., Martyanov O.

**ADVANCED GREEN APPROACHES FOR THE SYNTHESIS OF HYDRODEOXYGENATION**

**Ni-Cu-CONTAINING CATALYSTS**

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

**15.40**

**OP-I-5**

Shimanskaya E., Sulman E., Tiamina I., Sulman M.

**CATALYTIC HYDROGENOLYSIS OF SOFTWOOD SAWDUST**

*Tver State Technical University, Tver, Russia*

**16.00**

**OP-I-6**

Afreen G., Upadhyayula S.

**BIOMASS DERIVED PHENOLICS CONVERSION to C<sub>10</sub>-C<sub>13</sub> RANGE FUEL PRECURSORS OVER STRONG LEWIS ACIDIC CATALYSTS**

*Indian Institute of Technology, New Delhi, India*

**16.20**

**OP-I-7**

Shmakov A., Vinokurov Z., Selyutin A.

**SYNCHROTRON X-RAY DIAGNOSTICS OF HETEROGENEOUS CATALYSTS AND CATALYTIC PROCESSES**

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

**16.40**

**Coffee/beer break**

**Flash presentations**

**Poster Session**

**19.30**

**Gala Dinner-Banquet**

**September 5, Thursday**  
**OLYMPUS Hall**

**KEYNOTE SESSION**

***Chairs:***

***Professor Simoni Plentz Meneghetti, Federal University of Alagoas, Maceió, Brazil***

***Professor Erik Heeres, University of Groningen, The Netherlands***

**10.00**

**KL-5**

**Professor Vladimir Golovko<sup>1</sup>, Andersson G.<sup>2</sup>, Metha G.<sup>3</sup>, Marshall A.<sup>1</sup>, Yip A.<sup>1</sup>, Salehifar M.<sup>2</sup>, Al Qahtani H.<sup>2</sup>, Alvino J.<sup>3</sup>, Bennett T.<sup>3</sup>, Ahangari H.<sup>1</sup>, Hashemizadeh I.<sup>1</sup>, Steven J.<sup>1</sup>, Anderson D.<sup>1</sup>, Donoeva B.<sup>1</sup>, Ovoshchnikov D.<sup>1</sup>, Ruzicka J.-Y.<sup>1</sup>, Abu Bakar F.<sup>1</sup>, Adnan R.<sup>1</sup>, Tesana S.<sup>1</sup>, Sharma S.<sup>1</sup>, Kimoto K.<sup>4</sup>, Nakayama T.<sup>4</sup>**

<sup>1</sup>*University of Canterbury, Christchurch, New Zealand*

<sup>2</sup>*Affiliation Flinders Centre for NanoScale Science and Technology, Flinders University, Adelaide, Australia*

<sup>3</sup>*The University of Adelaide, Australia*

<sup>4</sup>*National Institute for Materials Science, Tsukuba, Japan*

**ADVANCED PHOTO-/ELECTRO-CATALYSTS FOR ENVIRONMENTAL PROTECTION**

**10.30**

**KL-6**

**Professor Ch. Subrahmanyam**

*Indian Institute of Technology, Hyderabad, Kandi, India*

**PLASMONIC NANOMETAL DECORATED PHOTOANODES FOR EFFICIENT  
PHOTOELECTROCHEMICAL WATER SPLITTING**

**11.00 Coffee-break**

**ORAL SESSION**  
**Section V.**  
**CATALYSIS FOR ENVIRONMENT AND SUSTAINABILITY**

**Chair – Professor Rodger Beatson, British Columbia Institute of Technology,  
Burnaby, Canada**

**11.20**

**OP-V-8**

**Sadykov V.<sup>1,2</sup>, Pavlova S.<sup>1</sup>, Simonov M.<sup>1,2</sup>, Bobin A.<sup>1,2</sup>, Glazneva T.<sup>1,2</sup>, Rogov V.<sup>1,2</sup>, Ishchenko A.<sup>1,2</sup>,  
Melgunov M.<sup>1,2</sup>, Smal E.<sup>1</sup>, Bobrova L.<sup>1</sup>, Fedorova V.<sup>1</sup>, Lukashevich A.<sup>1</sup>, Smorygo O.<sup>3</sup>, Parkhomenko K.<sup>4</sup>, Roger A.<sup>4</sup>**

**STRUCTURED CATALYSTS FOR TRANSFORMATION OF BIOGAS/BIOFUELS INTO SYNGAS WITH  
MESOPOROUS NANOCOMPOSITE ACTIVE COMPONENTS LOADED ON HEAT-CONDUCTING  
SUBSTRATES: DESIGN AND PERFORMANCE**

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

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

<sup>3</sup>*Institute of Powder Metallurgy, Minsk, Belarus*

<sup>4</sup>*Laboratoire des Matériaux Surfaces et Procédés pour la Catalyse, University of Strasbourg,  
Strasbourg, France*

**11.40**

**OP-V-9**

**Sun G., Yu Y., Yhuang Y., Simakov D.**

**REVERSE MICROEMULSION SYNTHESIZED METAL CARBIDES FOR CATALYTIC PROCESSING OF  
BIOgenic CO<sub>2</sub>-RICH STREAMS**

*University of Waterloo, Canada*

**12.00**

**OP-V-10**

**Simagina V., Komova O., Gorlova A., Kayl N., Netskina O.**

**CATALYSIS FOR HYDROGEN EVOLUTION BY HYDROTERMOLYSIS AND PHOTOCATALYTIC  
HYDROLYSIS OF AMMONIA BORANE**

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

**12.20**

**OP-V-11**

**Costa C.S.<sup>1</sup>, Hernandez M.M.<sup>2</sup>, Ribeiro M.R.<sup>1</sup>, Silva J.M.<sup>1,3</sup>**

**HYDROCRACKING OF HDPE WITH MICRO AND MESOPOROUS CATALYSTS BY  
THERMOGRAVIMETRIC ANALYSIS**

<sup>1</sup>*Instituto Superior Técnico, Lisboa, Portugal*

<sup>2</sup>*Universidad Rey Juan Carlos, Madrid, Spain*

<sup>3</sup>*Instituto Politécnico de Lisboa, Portugal*

**12.40**

**OP-V-12**

**Dubinin Y.V., Simonov A.D., Yazykov N.A., Yakovlev V.A.**

**COMBUSTION OF RENEWABLE WASTES IN A FLUIDIZED BED OF CATALYST – ECOLOGICAL AND  
ECONOMIC BENEFITS**

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

**13.00 Lunch**

## **OLYMPUS Hall**

### **ORAL SESSION**

#### **Section V.**

#### **CATALYSIS FOR ENVIRONMENT AND SUSTAINABILITY**

**Chair – Professor Bing-Hung Chen, National Cheng Kung University, Tainan, Taiwan**

**15.00**

**OP-V-13**

Indekeu A.<sup>1</sup>, Garcia E.<sup>2</sup>, Fernandes A.<sup>3</sup>, Baltazar R.<sup>3</sup>, Ribeiro F.<sup>3</sup>

#### **SYNTHESIS OF MODIFIED TiO<sub>2</sub>-BASED CATALYSTS FOR THE PHOTOCATALYTIC PRODUCTION OF SOLAR FUELS**

<sup>1</sup>*KU Leuven (Catholic University of Leuven), Leuven, Belgium*

<sup>2</sup>*University of Granada, Spain*

<sup>3</sup>*Instituto Superior Técnico, Lisboa, Portugal*

**15.20**

**OP-V-14**

Selishchev D.S.<sup>1,2</sup>, Kovalevskiy N.S.<sup>1,2</sup>, Selishcheva S.<sup>1,2</sup>, Solovyeva M.I.<sup>1,2</sup>, Kozlov D.V.<sup>1,2</sup>

#### **NOVEL MULTIFUNCTIONAL PHOTOCATALYSTS FOR ENVIRONMENTAL PROTECTION AND HUMAN HEALTH CARE**

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

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

**15.40**

**OP-V-15**

Puzari P., Borah H., Gogoi S., Kalita S., Hazarika R.

#### **GLUTATHION-S-TRANSFERASE CATALYSED REACTION BETWEEN GLUTATHIONE AND**

#### **1-CHLORO-2,4- DINITROBENZENE FOR DISCRIMINATION OF PESTICIDE CLASSES**

*Tezpur University, Tezpur, Assam State, India*

**16.00**

#### **CLOSING & FAREWELL REFRESHMENT (Coffee-break)**

**17.30 Neapoli Town & Kristi Village Tour**

## **POSTER SESSION**

### **FLASH PRESENTATION**

**OLYMPUS Hall**

**16.40**

**Justo O.R.<sup>1</sup>, dos Santos Dias D.F.<sup>2</sup>, Perez V.H.<sup>2</sup>, Silveira Junior E.G.<sup>2</sup>, da Silva E.d.<sup>3</sup>,  
Toro J.S.<sup>4</sup>, Cardona C.A.<sup>4</sup>**

#### **TECHNO-ECONOMIC AND ENVIRONMENTAL IMPACT ANALYSIS OF THE INTEGRATED BIOETHANOL-BIODIESEL PROCESS AND BIOMASS THERMOCHEMICAL CONVERSION**

<sup>1</sup>*Estácio de Sá University, Rio de Janeiro, Brazil*

<sup>2</sup>*State University of Northern of Rio de Janeiro, Campos dos Goytacazes, Brazil*

<sup>3</sup>*Bioethanol Plant Production - SJC Bioenergy, Goiania, Brazil*

<sup>4</sup>*National University of Colombia, Manizales, Colombia*

## **POSTER PRESENTATIONS**

**PP-1.** Abusuek D., Protsenko I., Grigorev M., Bykov A., Nikoshvili L., **Matveeva V.**, Sulman E.  
**HYDROGENATION OF LEVULINIC ACID TO GAMMA-VALEROLACTONE USING POLYMER-SUPPORTED PARTICLES OF RUTHENIUM DIOXIDE**

*Tver State Technical University, Tver, Russia*

**PP-2.** Akritidou A.<sup>1</sup>, Fotopoulos A.<sup>1</sup>, Giannopoulos G.<sup>1</sup>, **Triantafyllidis K.**<sup>1,2</sup>  
**CATALYTIC CONDENSATION OF BIOMASS DERIVATIVES TOWARDS EPOXY RESIN MONOMERS**

<sup>1</sup>*Aristotle University of Thessaloniki, Greece*

<sup>2</sup>*Chemical Process and Energy Resources Institute, Centre for Research and Technology Hellas, Thessaloniki, Greece*

**PP-3.** Begimova G.U., Tungatarova S.A., Sarsenova P.O.  
**A COMPOSITE MATERIALS FOR CATALYTIC REFORMING METHANE TO SYNTHESIS-GAS**  
*JSC "D.V. Sokolsky Institute of Fuel, Catalysis and Electrochemistry", Almaty, Kazakhstan*

**PP-4.** Cannilla C., Bonura G., Todaro S., Frusteri F.  
**ZEOLITE-ASSISTED ETHERIFICATION OF GLYCEROL WITH SHORT-CHAIN ALCOHOLS IN A TANDEM REACTOR-MEMBRANE SETUP**  
*CNR ITAE Nicola Giordano, Messina, Italy*

**PP-5.** Chesnokov V.V., Chichkan A.S., Paukshtis E.A., Parmon V.N.  
**EFFECT OF CARBON NANOTUBE ADMIXTURE ON ANTHRACENE COKING**  
*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

**PP-6.** D'Cruz B., Madkour M., Amin M., Al-Hetlani E.  
**MAGNETIC NANOADSORBENT BASED ON CARBONACEOUS Fe<sub>3</sub>O<sub>4</sub> NANOCOMPOSITE FOR PHARMACEUTICAL WASTEWATER TREATMENT**  
*Kuwait University, Kuwait city, Kuwait*

**PP-7.** Do Huu Nghi<sup>1,2</sup>, An Verberckmoes<sup>3</sup>, Le Mai Huong<sup>1,2</sup>, Pham Van Linh<sup>1</sup>,  
Nguyen Thi Hong Van<sup>1</sup>, Pham Quoc Long<sup>1,2</sup>

**VALORIZATION OF LIGNIN BY DEVELOPMENT OF SELECTIVE ENZYMATIC DEGRADATION,  
CHEMICAL CATALYSIS AND SEPARATION OF INNOVATIVE CHEMICAL BIO-AROMATICS**

<sup>1</sup>*Institute of Natural Products Chemistry, Vietnam Academy of Science and Technology,  
Hanoi, Vietnam*

<sup>2</sup>*Graduate University of Science and Technology, Vietnam Academy of Science and Technology,  
Hanoi, Vietnam*

<sup>3</sup>*Ghent University, Ghent, Belgium*

**PP-8.** Duong-Viet C.<sup>1</sup>, Wang W.<sup>1</sup>, Ba H., Nhut J.M.<sup>1</sup>, Nguyen-Dinh L.<sup>2</sup>, Truong-Huu T.<sup>2</sup>,  
Pham-Huu C.<sup>1</sup>

**CARBON-BASED METAL-FREE CATALYST FOR SELECTIVE OXIDATION OF H<sub>2</sub>S IN THE PRESENCE  
OF AROMATICS**

<sup>1</sup>*Institute of Chemistry and Processes for Energy, Environment and Health, CNRS-University of  
Strasbourg, France*

<sup>2</sup>*The University of Da-Nang, University of Science and Technology, Da-Nang, Viet-Nam*

**PP-9.** Dossumova B., Yemelyanova V., Jatkambayeva U.

**THE DEVELOPMENT OF NANOSCALE, MAGNETICALLY CONTROLLED CATALYSTS FOR  
THE OXIDATION OF METHANOL TO FORMALDEHYDE ON THE BASIS OF THE ENERGY  
ASH OF THE TTP**

*"Scientific and Production Technical Center "Zhalyn" LLP, Almaty, Kazakhstan*

**PP-10.** Gogin L., Zhizhina E., Pai Z.

**ONE-POT PROCESSES OF NAPHTHOQUINONES SYNTHESES IN THE PRESENCE OF HETEROPOLY  
ACID SOLUTIONS AS BIFUNCTIONAL CATALYSTS**

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

**PP-11.** Jatkambayeva U., Yemelyanova V., Shakiyeva T.

**DEVELOPMENT OF CATALYSTS ON THE BASIS OF WASTE HEAT GENERATION FOR ENERGY  
EFFICIENCY AND ECOLOGY**

*"Scientific and Production Technical Center "Zhalyn" LLP, Almaty, Kazakhstan*

**PP-12.** Jeldybayeva I.<sup>1</sup>, Itkulova Sh.<sup>2</sup>, Kustov L.<sup>3</sup>, Boleubayev Y.<sup>2</sup>, Valishevskiy K.<sup>2</sup>

**STEAM REFORMING OF BIOGAS OVER Fe-Co BASED ALUMINA SUPPORTED CATALYSTS**

<sup>1</sup>*Al-Farabi Kazakh National University, Almaty, Kazakhstan*

<sup>2</sup>*D.V. Sokolsky Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan*

<sup>3</sup>*National University of Science and Technology MISiS, Moscow, Russia*

**PP-13.** Justo O.R.<sup>1</sup>, dos Santos Dias D.F.<sup>2</sup>, Perez V.H.<sup>2</sup>, Silveira Junior E.G.<sup>2</sup>, da Silva E.d.<sup>3</sup>,  
Toro J.S.<sup>4</sup>, Cardona C.A.<sup>4</sup>

**TECHNO-ECONOMIC AND ENVIRONMENTAL IMPACT ANALYSIS OF THE INTEGRATED  
BIOETHANOL-BIODIESEL PROCESS AND BIOMASS THERMOCHEMICAL CONVERSION**

<sup>1</sup>*Estácio de Sá University, Rio de Janeiro, Brazil*

<sup>2</sup>*State University of Northern of Rio de Janeiro, Campos dos Goytacazes, Brazil*

<sup>3</sup>*Bioethanol Plant Production - SJC Bioenergy, Goiania, Brazil*

<sup>4</sup>*National University of Colombia, Manizales, Colombia*

**PP-14.** Kondrasheva N.<sup>1</sup>, Eremeeva A.<sup>1</sup>, Kondrashev D.<sup>1</sup>, Nelkembau K.<sup>2</sup>

**POSSIBILITY OF USING BIODIESEL FUEL IN REGIONS WITH A COLD CLIMATE**

<sup>1</sup>*Saint Petersburg Mining University, St. Petersburg, Russia*

<sup>2</sup>*Institute of Petroleum Chemistry and Catalysis RAS, Ufa, Russia*

**PP-15. Lemos F.<sup>1</sup>, Kucharzyk K.<sup>1,2</sup>, Santos E.<sup>1</sup>, Lemos M.<sup>1</sup>, Samojeden B.<sup>2</sup>**  
**TG/DSC ANALYSIS OF THE KINETICS OF CATALYTIC PYROLYSIS OF ALGAL BIOMASS USING HYDROTALCITE**

<sup>1</sup>*Instituto Superior Técnico, Lisboa, Portugal*

<sup>2</sup>*AGH University of Science and Technology, Krakow, Poland*

**PP-16. Madkour M.<sup>1</sup>, Ali A.A.<sup>2</sup>, Abdel Nazeer A.<sup>1</sup>, Al Sagheer F.<sup>1</sup>**  
**A NOVEL NATURAL SUNLIGHT ACTIVE PHOTOCATALYST OF ZnS BASED HETEROSTRUCTURE FOR WASTEWATER TREATMENT**

<sup>1</sup>*Kuwait University, Kuwait city, Kuwait*

<sup>2</sup>*College of Basic Studies, Public Authority of Applied Education and Training (PAAET), Kuwait city, Kuwait*

**PP-17. Matos I., Nogueira M., Ventura M., Bernardo M., Vital J., Fonseca I.M.**  
**COMPOSITE MEMBRANES OF BIOPOLYMER AND ACTIVATED CARBON AS EFFICIENT GREEN CATALYSTS FOR THE TRANSFORMATION OF FURFURAL**  
*New University of Lisbon, Lisboa, Portugal*

**PP-18. Omarov Sh., Pakhomov N.**  
**ALKYLATION AND OLIGOMERIZATION C<sub>4</sub>-HYDROCARBONS AND FEATURES OF FORMATION OF THE STRUCTURE MoO<sub>3</sub>(WO<sub>3</sub>)/ZrO<sub>2</sub> CATALYSTS**  
*St. Petersburg State Institute of Technology (Technical University), Russia*

**PP-19. Pai Z., Yushchenko D., Selivanova D., Berdnikova P.**  
**SYNTHESIS OF BIFUNCTIONAL CATALYSTS BASED ON PEROXOTUNGSTATE COMPLEXES AND THEIR REACTIVITY TO GREEN CHEMISTRY PROCESSES**  
*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

**PP-20. Park C.<sup>1</sup>, Roy P.<sup>1</sup>, Song J.<sup>2,3</sup>, Kim K.<sup>3</sup>, Kim J-M.<sup>3</sup>, Raju A.S.K.<sup>1</sup>**  
**Pd-Rh/METAL-FOAM CATALYST DEVELOPMENT FOR BIOGAS CONVERSION**  
<sup>1</sup>*University of California, Riverside, USA*  
<sup>2</sup>*R & D Center, Heesung Catalysts Corp., South Korea*  
<sup>3</sup>*Yeungnam University, Gyeongsan, South Korea*

**PP-21. Perez V.H.<sup>1</sup>, Silveira Junior E.G.<sup>1</sup>, Justo O.R.<sup>2</sup>, David G.F.<sup>1</sup>, Fernandes S.A.<sup>3</sup>**  
**THERMOCHEMICAL CONVERSION OF PEANUT SHELL BY FAST PYROLYSIS TO LEVOGLUCOSAN PRODUCTION**  
<sup>1</sup>*State University of Northern of Rio de Janeiro, Campos dos Goytacazes, Brazil*  
<sup>2</sup>*Estácio de Sá University, Rio de Janeiro, Brazil*  
<sup>3</sup>*Universidade Federal de Viçosa, Brazil*

**PP-22. Razzaq R., Sang R., Jackstell R., Beller M.**  
**HIGHLY SELECTIVE CONVERSION OF CO<sub>2</sub> to CO on Cu NANOPARTICLES**  
*Leibniz Institute for Catalysis, University of Rostock, Germany*

**PP-23. Shakiyev E., Yemelyanova V., Dossumova B.**  
**OBTENTION OF NANOSCALE MAGNETIC COMPOSITES ON THE BASE OF Fe<sub>3</sub>O<sub>4</sub>, CoFe<sub>2</sub>O<sub>4</sub> STABILIZED BY MICROSPHERICAL ALUMINOSILICATES OF FLY ASH OF CHP**  
*"Scientific and Production Technical Center "Zhalyn" LLP, Almaty, Kazakhstan*

**PP-24. Shakiyeva T., Yemelyanova V., Shakiyev E.**  
**THE USE OF CHP FLY ASH TO OBTAIN OF MULTIFUNCTIONAL POROUS MAGNETOCONTROLLABLE NANOSCALE MATERIALS**  
*"Scientific and Production Technical Center "Zhalyn" LLP, Almaty, Kazakhstan*

**PP-25.** Silveira Junior E.G.<sup>1</sup>, Perez V.H.<sup>1</sup>, dos Santos N.F.<sup>1</sup>, Justo O.R.<sup>2</sup>

**BIODIESEL PRODUCTION BY MAGNETIC CATALYST IN REACTOR ASSISTED BY MAGNETIC FIELD**

<sup>1</sup>*State University of Northern of Rio de Janeiro, Campos dos Goytacazes, Brazil*

<sup>2</sup>*Estácio de Sá University, Rio de Janeiro, Brazil*

**PP-26.** Snytnikov P.V.<sup>1,2,3</sup>, Rogozhnikov V.N.<sup>1</sup>, Potemkin D.I.<sup>1,3</sup>, Simonov A.D.<sup>1</sup>,  
Shilov V.A.<sup>1,3</sup>, Ruban N.V.<sup>1,3</sup>, Sobyanin V.A.<sup>1</sup>

**Rh/Ce<sub>0.75</sub>Zr<sub>0.25</sub>O<sub>2-δ</sub>-η-Al<sub>2</sub>O<sub>3</sub>/FeCrAl STRUCTURED CATALYST IN REFORMING OF FOSSIL AND  
RENEWABLE FUELS**

<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*

**PP-27.** Suarez P.A.Z.<sup>1</sup>, Oliveira L.P.<sup>1</sup>, de A. Montenegro M.<sup>1</sup>, Lima S.A.<sup>1</sup>, da Silva E.C.<sup>2</sup>,  
Meneghetti M.R.<sup>2</sup>, Meneghetti S.M.P.<sup>2</sup>

**PROPERTIES OF BIOFUELS - METHYL-ESTERS AND BIO-OILS (HYDROCARBONS) - from *Pachira  
aquatica* Aubl and *Magonia pubescens* A St-Hil**

<sup>1</sup>*University of Brasília, Institute of Chemistry, Brasília, Brazil*

<sup>2</sup>*Universidade Federal de Alagoas, Institute of Chemistry and Biotechnology, Maceió-AL, Brazil*

**PP-28.** Sulman E., Chalov K., Lugovoy Y., Kosivtsov Y., Tiamina I., Stepacheva A.

**INFLUENCE OF ALUMINOSILICATES ON THE PROCESS OF THERMAL DESTRUCTION OF HEAVY  
HYDROCARBONS OF OIL AND BIOMASS**

*Tver State Technical University, Tver, Russia*

**PP-29.** Sulman E., Lugovoy Y., Chalov K., Kosivtsov Y., Sulman M.

**CATALYTIC REFINING OF VOLATILE PRODUCTS OF PLANT BIOMASS PYROLYSIS**

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**PP-30.** Taran O.P.<sup>1,2,3</sup>, Gromov N.<sup>1,4</sup>, Medvedeva T.B.<sup>1</sup>, Rodikova Y.A.<sup>1</sup>, Zhizhina E.G.<sup>1</sup>,  
Sorokina K.N.<sup>1</sup>, Parmon V.N.<sup>1</sup>

**HYDROLYSIS-OXIDATION OF STARCH TO FORMIC ACID WITH SOLUBLE AND SOLID  
HETEROPOLYACID CATALYSTS**

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**PP-31.** Uskov S.<sup>1,2</sup>, Potemkin D.I.<sup>1,2</sup>, Shigarov A.<sup>1</sup>, Snytnikov P.V.<sup>1,2</sup>, Kirillov V.<sup>1,2</sup>, Sobyanin V.A.<sup>1</sup>

**FLARE GASES UTILIZATION VIA LOW-TEMPERATURE STEAM REFORMING REACTION**

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**PP-32.** Vlasova E.<sup>1,2</sup>, Shamanaev I.<sup>1,2</sup>, Aleksandrov P.V.<sup>1,2</sup>, Bukhtiyarova G.<sup>1,2</sup>

**SELECTIVE Mo-BASED CATALYSTS TO CONTROL THE CARBON OXIDES PRODUCTION IN THE  
HDO OF ALIPHATIC OXYGENATES**

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**PP-33.** Wang D., Liu Z., Liu Q.

**SYNTHESIS OF 1-BUTANOL FROM ETHANOL OVER CALCIUM ETHOXIDE: EXPERIMENTAL AND  
DFT SIMULATION**

*Beijing University of Chemical Technology, China*

**PP-34.** Yang J., Liu J., Jackstell R., Beller M.

**PALLADIUM-CATALYZED AEROBIC OXIDATIVE CARBONYLATION OF ALKYNES WITH AMINES: A GENERAL ACCESS TO SUBSTITUTED MALEIMIDES**

*Leibniz Institute for Catalysis, University of Rostock, Germany*

**PP-35.** Zhumabek M.<sup>1,2</sup>, Kaumenova G.<sup>1,3</sup>, Kassymkhan K.<sup>1</sup>, Xanthopoulou G.<sup>4</sup>, Baizhumanova T.<sup>1,3</sup>, Tungatarova S.<sup>1,3</sup>, **Begimova G.**<sup>1,5</sup>

**OXIDATIVE DIMERIZATION OF METHANE TO C<sub>2</sub>-HYDROCARBONS**

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**PP-36.** Zhumabek M.<sup>1,2</sup>, Zhang X.<sup>1,3</sup>, Xanthopoulou G.<sup>4</sup>, Baizhumanova T.<sup>1,3</sup>, Tungatarova S.<sup>1,3</sup>, Murzin D.<sup>5</sup>, Vekinis G.<sup>4</sup>, **Begimova G.**<sup>1,6</sup>

**BIOGAS REFORMING OVER Mg-Mn-Al-Co CATALYST PREPARED BY SOLUTION COMBUSTION SYNTHESIS METHOD**

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**PP-37.** Ziyadullaev O.E.<sup>1</sup>, Otamuhamedova G.<sup>2</sup>, Samatov S.<sup>1</sup>, Nurmanov S.<sup>2</sup>, Turabdjanov S.<sup>3</sup>, Abdurakhmanova S.<sup>1</sup>, Ikramov A.<sup>4</sup>

**SYNTHESIS OF ACETYLENIC ALCOHOLS IN THE PRESENCE OF DIFFERENT CATALYTICAL SYSTEMS**

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## VIRTUAL PRESENTATIONS

**VP-1.** Aksenov D., Echevski G.

**CONVERSION OF POLYETHYLENE WASTE TO MOTOR FUELS AND BASIC OIL OVER ZEOLITE CATALYSTS**

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

**VP-2.** Bachurikhin A.<sup>1</sup>, Efendiev M.<sup>2</sup>

**ELECTROMAGNETIC INSTALLATION FOR NEUTRALIZATION OF WASTEWATER PRODUCTION OF OLIVE OILS**

<sup>1</sup>*N.D. Zelinsky Institute of Organic Chemistry RAS, Moscow, Russia*

<sup>2</sup>*Gubkin Russian State University of Oil and Gas, Moscow, Russia*

**VP-3.** Chernyshev D., Dubrovsky V., Varlamova E., Suchkov Y., Kozlovsky R.

**THE CALCIUM HYDROXYAPATITE CATALYTIC ACTIVITY IN THE DEHYDRATION REACTION OF METHYL LACTATE**

*D. Mendeleyev University of Chemical Technology of Russia, Moscow, Russia*

**VP-4.** Dossumov K.<sup>1,2</sup>, Ergazieva G.<sup>1</sup>, Telbayeva M.<sup>1</sup>, Myltykbayeva L.<sup>2</sup>

**DRY REFORMING OF METHANE OVER Co-CONTAINING CATALYSTS**

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**VP-5.** Echevski G.

**THE DEVELOPMENT OF BIFUNCTIONAL CATALYSTS BASED ON SAPO MOLECULAR SIEVES FOR SINGLE-STAGE PRODUCTION OF LOW POUR POINT DIESEL FUELS FROM VEGETABLE OILS**

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

**VP-6.** Ergazieva G.<sup>1</sup>, Dossumov K.<sup>1,2</sup>, Ermagambet B.<sup>2</sup>, Mironenko A.<sup>1</sup>, Kassenova Z.<sup>3</sup>, Mambetova M.<sup>1</sup>

**NANOPHASE Co- CONTAINING CATALYSTS, SYNTHESIZED BY THE SOLUTION COMBUSTION METHOD**

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<sup>3</sup>*LLP Institute Chemistry of Coal and Technology, Astana, Kazakhstan*

**VP-7.** Kots P., Ivanova I.

**BIFUNCTIONAL ZEOLITIC CATALYST FOR BUTANOL PRODUCTION FROM BIOETHANOL**

*M.V. Lomonosov Moscow State University, Moscow, Russia*

**VP-8.** Palankoev T., Dementev K., Khadzhiev S.<sup>†</sup>

**MODELING OF BIO-OIL CATALYTIC CRACKING REACTIONS IN HYDROCARBON MEDIUM**

*A.V. Topchiev Institute of Petrochemical Synthesis RAS, Moscow, Russia*