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

Conference Co-Chairs

Professor Konstantinos Triantafyllidis
Aristotle University of Thessaloniki
Greece

Professor Vadim Yakovlev
Boreskov Institute of Catalysis SB RAS
Russia
Conference Proceedings:
Special Issue
CATALYSIS TODAY
ELSEVIER

CATALYSIS FOR SUSTAINABLE ENERGY
(de Gruyter Open access)
International Scientific Committee
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Thessaloniki, Greece

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"Krasnoyarsk Science Center" SB RAS, Krasnoyarsk, Russia
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 CO₂ 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 Parasuraman 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.1, Heracleous E.1,2, Papapetrou M.1, Lappas A.1
EFFICIENT CATALYTIC CONVERSION OF MEVALONOLACTONE TO ISOPRENE OVER SiO2/Al2O3 CATALYSTS
1Chemical Process and Energy Resources Institute / Centre of Research and Technology Hellas (CPERI/CERTH), Thessaloniki, Greece
2School of Science & Technology, International Hellenic University, Thessaloniki, Greece

12.40
OP-IV-2
Taran O.P.1,2, Timofeeva M.N.2,3, Gromov N.2,3, Zhdanok A.A.4, Medvedeva T.B.2, Lukoyanov I.A.2,3, Parmon V.N.2
HYDROLYSIS-HYDROGENOLYSIS OF CELLULOSE TO ETHYLENE GLYCOL AND PROPYLENE GLYCOL OVER BIFUNCTIONAL CATALYSTS
1Institute of Chemistry and Chemical Technology of SB RAS, FRC "Krasnoyarsk Science Center"
SB RAS, Krasnoyarsk, Russia
2Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
3Novosibirsk State Technical University, Russia
4Institute 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.1,2, Perminova L.1, Beklemishev A.1,3
BIOCATALYTICAL INTERESTERIFICATION OF VEGETABLE OIL TRIGLYCERIDES AND ESTERIFICATION OF FATTY ACIDS FOR PRODUCTION OF VALUABLE CHEMICALS
1Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
2Novosibirsk State University, Russia
3Institute 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
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.¹, Markova M.¹,², Matveeva V.¹,², Sidorov A.¹, Sulman M.¹, Sulman E.¹
SUPERCritical CONVERSION OF Fatty Acids in the Presence of Polymeric Catalysts
Synthesized by Hydrothermal Deposition
¹Tver State Technical University, Tver, Russia
²Tver State University, Tver, Russia

17.40
Dr.-Ing. Alexandros Yfantis, SYCHEM 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 Geem¹, Gonzalez-Quiroga A.¹, De Vos D.², Ronsse F.¹, Prins W.¹, Boerjan W.¹, Marin G.¹
¹Ghent University, Ghent, Belgium
²Catholic University of Leuven, Leuven, Belgium
OPPORTUNITIES AND CHALLENGES FOR BIOMASS CONVERSION PROCESSES

10.00
PL-4
Lee C.-W.¹, Lin P.-Y.¹, Professor Bing-Hung Chen¹, Kukushkin R.G.², Yakovlev V.A.²
¹National Cheng Kung University, Tainan, Taiwan
²Boreskov 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.³, Sharypov V.I.¹, Baryshnikov S.V.³, Beregovtsova N.G.¹, Miroshnikova A.V.¹, Yakovlev V.², Djakovitch L.³
¹Institute of Chemistry and Chemical Technology SB RAS, Federal Research Center "Krasnoyarsk Science Center SB RAS", Krasnoyarsk, Russia
²Boreskov Institute of Catalysis SB RAS, Russia, Novosibirsk, Russia
³Institute of Researchers on Catalysis and Environment in Lyon, Villeurbanne, France
CATALYTIC PROCESSING OF NATIVE AND ORGANOSOLV LIGNINS OF ASPEN-WOOD TO LIQUID BIOFUELS IN SUPERCRITICAL ETHANOL
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.1,2, Yeletsky P.1, Grassin C.3, Chen B.4, Yakovlev V.A.1,2
BIFUNCTIONAL Ni-BASED CATALYSTS FOR ONE-POT PRODUCTION OF ISO-ALKANES FROM VEGETABLE OILS
1Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
2Novosibirsk State University, Russia
3National Graduate School of Engineering Chemistry of Lille, Lille, France
4National 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.1,2, Bashkirov V.N.1,2, Zabelkin S.A.1,2, Makarov A.A.1,2, Pushkin S.A.1,
Burenkov S.V.1,2, Zemskov I.G.1, Iakovleva A.Ye.1,2, Bikbulatova G.M.1,2
A FAST ABLATIVE PYROLYSIS PLANT FOR BIOMASS PROCESSING INTO BIOCHAR AND BIOOIL
1LLC "EnergoLesProm", Kazan, Russia
2Kazan National Research Technological University, Kazan, Russia
Alekseeva M.\textsuperscript{1,2}, Grachev A.\textsuperscript{3}, Yakovlev V.\textsuperscript{1,2}

CATALYTIC UPGRADING OF PYROLYSIS LIQUID FROM SEWAGE SLUDGE: EFFECT OF PROCESS TEMPERATURE
\textsuperscript{1}Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
\textsuperscript{2}Novosibirsk State University, Novosibirsk, Russia
\textsuperscript{3}LLC "EnergoLesProm", Kazan, Russia

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

Arutyunov V.S.\textsuperscript{1}, Nikitin A.\textsuperscript{1}, Strekova L.\textsuperscript{1}, Savchenko V.\textsuperscript{2}, Sedov I.\textsuperscript{2}

THE POSSIBILITY OF UTILIZATION OF RENEWABLE SOURCES OF HYDROCARBON GASES IN SMALL-SCALE PRODUCTION OF LIQUID FUELS
\textsuperscript{1}Semenov Institute of Chemical Physics RAS, Moscow, Russia
\textsuperscript{2}Institute of Problems of Chemical Physics RAS, Chernogolovka, Moscow region, Russia

Spadaro L.\textsuperscript{1}, Palella A.\textsuperscript{1}, Arena F.\textsuperscript{2}

CO\textsubscript{2}-to-FUELS VIA COPPER-CERIA BASED CATALYTIC HYDROGENATION
\textsuperscript{1}National Research Council (CNR), Messina, Italy
\textsuperscript{2}University of Messina, Italy

\textbf{16.40 Coffee-break}
Chair – Professor Vladimir Arutyunov, Semenov Institute of Chemical Physics RAS, Moscow, Russia

17.00
OP-III-13
Kazachenko A.S., Baryshnikov S.V., Chudina A.I., Malyar Y.N., Sychev V.V., Taran O.P., Djakovitch L., Kuznetsov B.N.
HYDROGENATION OF ABIES WOOD AND ETHANOL-LIGNIN TO LIQUID BIOFUELS IN SUPERCRITICAL ETHANOL OVER BIFUNCTIONAL Ru/C CATALYST
1Institute of Chemistry and Chemical Technology SB RAS, FRC "Krasnoyarsk Science Center" SB RAS, Krasnoyarsk, Russia
2Siberian Federal University, Krasnoyarsk, Russia
3Institute of Researchers on Catalysis and Environment in Lyon, Villeurbanne, France

17.20
OP-III-14
Piazzi 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
ORAL SESSION
Section IV.
CATALYTIC PROCESSING FOR VALUABLE CHEMICALS PRODUCTION

Chair – Dr. Zhiquan 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.¹, Tsarouchi E.¹, Zacharopoulou V.¹, Lemonidou A.A.¹,²
ONE-STEP GLYCEROL HYDRODEOXYGENATION TO PROPYLENE OVER Mo-BASED CATALYSTS
¹Aristotle University of Thessaloniki, Thessaloniki, Greece
²Chemical Process Engineering Research Institute, Thessaloniki, Greece

12.00
OP-IV-10
Selishcheva S.¹,², Smirnov A.¹,², Fedorov A.¹,², Saraev A.¹,², Bulavchenko O.¹,², Yakovlev V.¹,²
SELECTIVE HYDROGENATION OF FURFURAL TO FURFURYL ALCOHOL OVER Cu-Fe-CONTAINING CATALYSTS
¹Novosibirsk State University, Novosibirsk, Russia
²Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

12.20
OP-IV-11
Ion S.¹, Tudorache M.¹, Lite C.¹, Zgura I.², Galca A.², Bodescu A.³, Enache M.⁴, Maria G.⁴, Parvulescu V.¹
BIO-CATALYSIS FOR DESIGNING LIGNIN STRUCTURES - MONOLIGNOLS
OXI-(CO)POLYMERIZATION USING ENZYME CATALYST
¹University of Bucharest, Bucharest, Romania
²National Institute of Materials Physics, Magurele, Romania
³"Aurel Vlaicu" University, Arad, Romania
⁴Institute 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 TiO2 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.¹, Arena F.², Di Chio R.², Spadaro L.¹
EFFECTIVE LOW-TEMPERATURE CATALYTIC METHANE COMBUSTION OVER Mn-CeO₂ CATALYTIC COMPOSITIONS
¹National Research Council (CNR), Messina, Italy
²University 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 LaVO₃ and LaVO₄
Peoples' Friendship University of Russia, Moscow, Russia

16.20
OP-V-5
Wang W.¹, Duong-Viet C.¹, Ba H.¹, Nhut J.M.¹, Pham-Huu C.¹, Tuci G.², Giambastiani G.¹,²
ENHANCED CATALYTIC PERFORMANCE FOR CO₂ METHANATION ON Ni/OCF CATALYST POWERED BY INDUCTION HEATING
¹Institute of Chemistry and Processes for Energy, Environment and Health, CNRS-University of Strasbourg, France
²Institute 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.\textsuperscript{1,2}, Chibiryaev A.\textsuperscript{1,2}, Martyanov O.\textsuperscript{1,2}
ECO-FRIENDLY PARTIAL DEAROMATIZATION of PAHs IN TRANSFER HYDROGENATION CATALYZED BY Raney\textsuperscript{®} NICKEL
\textsuperscript{1}Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
\textsuperscript{2}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 Kubička
University of Chemistry and Technology, Prague, Czech Republic
SELECTIVE AND NON-SELECTIVE APPROACHES TO LIGNOCÉLLULOSE BIOMASS UPGRADE 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  
CHEMOCATALYTIC CONVERSIONS OF GLYCEROL TO LACTIC ACID

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

12.20  
OP-I-1  
Margellou A.¹, Triantafyllidis K.¹,²  
CATALYTIC HYDROGENOLYSIS OF KRAFT LIGNIN TOWARDS SUBSTITUTED PHENOLICS  
¹Aristotle University of Thessaloniki, Thessaloniki, Greece  
²Chemical 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_{10}-C_{13} 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\textsuperscript{1}, Andersson G.\textsuperscript{2}, Metha G.\textsuperscript{3}, Marshall A.\textsuperscript{1}, Yip A.\textsuperscript{1}, Salehifar M.\textsuperscript{2}, Al Qahtani H.\textsuperscript{2}, Alvino J.\textsuperscript{3}, Bennett T.\textsuperscript{3}, Ahangari H.\textsuperscript{1}, Hashemizadeh I.\textsuperscript{1}, Steven J.\textsuperscript{1}, Anderson D.\textsuperscript{1}, Donoeva B.\textsuperscript{1}, Ovoshchnikov D.\textsuperscript{1}, Ruzicka J.-Y.\textsuperscript{1}, Abu Bakar F.\textsuperscript{1}, Adnan R.\textsuperscript{1}, Tesana S.\textsuperscript{1}, Sharma S.\textsuperscript{1},
Kimoto K.\textsuperscript{4}, Nakayama T.\textsuperscript{4}
\textsuperscript{1}University of Canterbury, Christchurch, New Zealand
\textsuperscript{2}Affiliation Flinders Centre for NanoScale Science and Technology, Flinders University, Adelaide, Australia
\textsuperscript{3}The University of Adelaide, Australia
\textsuperscript{4}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 NANO METAL 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.1,2, Pavlova S.1, Simonov M.1,2, Bobin A.1,2, Glazneva T.1,2, Rogov V.1,2, Ishchenko A.1,2, Melgunov M.1,2, Smal E.1, Bobrova L.1, Fedorova V.1, Lukashevich A.1, Smorygo O.3, Parkhomenko K.4, Roger A.4  
STRUCTURED CATALYSTS FOR TRANSFORMATION OF BIOGAS/BIOFUELS INTO SYNGAS WITH MESOPOROUS NANOCOMPOSITE ACTIVE COMPONENTS LOADED ON HEAT-CONDUCTING SUBSTRATES: DESIGN AND PERFORMANCE  
1Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia  
2Novosibirsk State University, Russia  
3Institute of Powder Metallurgy, Minsk, Belarus  
4Laboratoire 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 CO2-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 HYDROTHERMOLYSIS AND PHOTOCATALYTIC HYDROLYSIS OF AMMONIA BORANE  
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

12.20  
OP-V-11  
Costa C.S.1, Hernandez M.M.2, Ribeiro M.R.1, Silva J.M.1,3  
HYDROCRACKING OF HDPE WITH MICRO AND MESOPOROUS CATALYSTS BY THERMOGRAVIMETRIC ANALYSIS  
1Instituto Superior Técnico, Lisboa, Portugal  
2Universidad Rey Juan Carlos, Madrid, Spain  
3Instituto 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.¹, Garcia E.², Fernandes A.³, Baltazar R.³, Ribeiro F.³
SYNTHESIS OF MODIFIED TiO₂-BASED CATALYSTS FOR THE PHOTOCATALYTIC PRODUCTION OF SOLAR FUELS
¹KU Leuven (Catholic University of Leuven), Leuven, Belgium
²University of Granada, Spain
³Instituto Superior Técnico, Lisboa, Portugal

15.20
OP-V-14
Selishchev D.S.¹,², Kovalevskiy N.S.¹,², Selishcheva S.¹,², Solovyeva M.I.¹,², Kozlov D.V.¹,²
NOVEL MULTIFUNCTIONAL PHOTOCATALYSTS FOR ENVIRONMENTAL PROTECTION AND HUMAN HEALTH CARE
¹Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
²Novosibirsk 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.1, dos Santos Dias D.F.2, Perez V.H.2, Silveira Junior E.G.2, da Silva E.d.3, Toro J.S.4, Cardona C.A.4

TECHNO-ECONOMIC AND ENVIRONMENTAL IMPACT ANALYSIS OF THE INTEGRATED BIOETHANOL-BIODIESEL PROCESS AND BIOMASS THERMOCHEMICAL CONVERSION
1Estácio de Sá University, Rio de Janeiro, Brazil
2State University of Northern of Rio de Janeiro, Campos dos Goytacazes, Brazil
3Bioethanol Plant Production - SJC Bioenergy, Goiania, Brazil
4National 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.1, Fotopoulos A.1, Giannopoulos G.1, Triantafyllidis K.1,2
CATALYTIC CONDENSATION OF BIOMASS DERIVATIVES TOWARDS EPOXY RESIN MONOMERS
1Aristotle University of Thessaloniki, Greece
2Chemical Process and Energy Resources Institute, Centre for Research and Technology Hellas, Thessaloniki, Greece

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 Fe3O4 NANOCOMPOSITE FOR PHARMACEUTICAL WASTEWATER TREATMENT
Kuwait University, Kuwait city, Kuwait
PP-7. Do Huu Nghi¹², An Verberckmoes³, Le Mai Huong¹², Pham Van Linh¹, Nguyen Thi Hong Van¹, Pham Quoc Long¹²
VALORIZATION OF LIGNIN BY DEVELOPMENT OF SELECTIVE ENZYMATIC DEGRADATION, CHEMICAL CATALYSIS AND SEPARATION OF INNOVATIVE CHEMICAL BIO-AROMATICS
¹Institute of Natural Products Chemistry, Vietnam Academy of Science and Technology, Hanoi, Vietnam
²Graduate University of Science and Technology, Vietnam Academy of Science and Technology, Hanoi, Vietnam
³Ghent University, Ghent, Belgium

PP-8. Duong-Viet C.¹, Wang W.¹, Ba H., Nhu J.M.¹, Nguyen-Dinh L.², Truong-Huu T.²
CARBON-BASED METAL-FREE CATALYST FOR SELECTIVE OXIDATION OF H₂S IN THE PRESENCE OF AROMATICS
¹Institute of Chemistry and Processes for Energy, Environment and Health, CNRS-University of Strasbourg, France
²The 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 "Zhaly" LLP, Almaty, Kazakhstan

PP-10. Gogin L., Zhizhina E., Pai Z.
ONE-POT PROCESSES OF NAPHTHOQUINONES SYNTHESIS IN THE PRESENCE OF HETEROPOLY ACID SOLUTIONS AS BIFUNCTIONAL CATALYSTS
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

DEVELOPMENT OF CATALYSTS ON THE BASIS OF WASTE HEAT GENERATION FOR ENERGY EFFICIENCY AND ECOLOGY
"Scientific and Production Technical Center "Zhaly" LLP, Almaty, Kazakhstan

PP-12. Jeldybayeva I.¹, Itkulova Sh.², Kustov L.³, Boleubayev Y.², Valishevskiy K.²
STEAM REFORMING OF BIOGAS OVER Fe-Co BASED ALUMINA SUPPORTED CATALYSTS
¹Al-Farabi Kazakh National University, Almaty, Kazakhstan
²D.V. Sokolsky Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan
³National University of Science and Technology MISiS, Moscow, Russia

TECHNO-ECONOMIC AND ENVIRONMENTAL IMPACT ANALYSIS OF THE INTEGRATED BIOETHANOL-BIODIESEL PROCESS AND BIOMASS THERMOCHEMICAL CONVERSION
¹Estácio de Sá University, Rio de Janeiro, Brazil
²State University of Northern of Rio de Janeiro, Campos dos Goytacazes, Brazil
³Bioethanol Plant Production - SJC Bioenergy, Goiania, Brazil
⁴National University of Colombia, Manizales, Colombia

PP-14. Kondrasheva N.¹, Eremeeva A.³, Kondrashev D.¹, Nelkembaum K.²
POSSIBILITY OF USING BIODIESEL FUEL IN REGIONS WITH A COLD CLIMATE
¹Saint Petersburg Mining University, St. Petersburg, Russia
²Institute of Petroleum Chemistry and Catalysis RAS, Ufa, Russia
PP-15. Lemos F.\textsuperscript{1}, Kucharzyk K.\textsuperscript{1,2}, Santos E.\textsuperscript{1}, Lemos M.\textsuperscript{1}, Samojeden B.\textsuperscript{2} 
TG/DSC ANALYSIS OF THE KINETICS OF CATALYTIC PYROLYSIS OF ALGAL BIOMASS USING HYDROTALCITE
\textsuperscript{1}Instituto Superior Técnico, Lisboa, Portugal
\textsuperscript{2}AGH University of Science and Technology, Krakow, Poland

PP-16. Madkour M.\textsuperscript{1}, Ali A.A.\textsuperscript{2}, Abdel Nazeer A.\textsuperscript{1}, Al Sagheer F.\textsuperscript{1} 
A NOVEL NATURAL SUNLIGHT ACTIVE PHOTOCATALYST OF ZnS BASED HETEROSTRUCTURE FOR WASTEWATER TREATMENT
\textsuperscript{1}Kuwait University, Kuwait city, Kuwait
\textsuperscript{2}College of Basic Studies, Public Authority of Applied Education and Training (PAAET), Kuwait city, Kuwait

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\textsubscript{4+}HYDROCARBONS AND FEATURES OF FORMATION OF THE STRUCTURE MoO\textsubscript{3}(WO\textsubscript{3})/ZrO\textsubscript{2} 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 PEROXTUNGSTATE COMPLEXES AND THEIR REACTIVITY TO GREEN CHEMISTRY PROCESSES
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

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

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

PP-22. Razzaq R., Sang R., Jackstell R., Beller M. 
HIGHLY SELECTIVE CONVERSION OF CO\textsubscript{2} to CO on Cu NANOPIRACLES
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\textsubscript{3}O\textsubscript{4}, CoFe\textsubscript{2}O\textsubscript{4} 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.1, Perez V.H.1, dos Santos N.F.1, Justo O.R.2
BIO DIESEL PRODUCTION BY MAGNETIC CATALYST IN REACTOR ASSISTED BY MAGNETIC FIELD
1State University of Northern of Rio de Janeiro, Campos dos Goytacazes, Brazil
2Estácio de Sá University, Rio de Janeiro, Brazil

PP-26. Snytnikov P.V.1,2,3, Rogozhnikov V.N.1, Potemkin D.I.1,3, Simonov A.D.1,
Shilov V.A.1,3, Ruban N.V.1,3, Sobyanin V.A.1
Rh/Ce0.75Zr0.25O2-δ-η-Al2O3/FeCrAl STRUCTURED CATALYST IN REFORMING OF FOSSIL AND
RENEWABLE FUELS
1Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
2UNICAT Ltd, Novosibirsk, Russia
3Novosibirsk State University, Novosibirsk, Russia

PP-27. Suarez P.A.Z.1, Oliveira L.P.1, de A. Montenegro M.1, Lima S.A.1, da Silva E.C.2,
Meneghetti M.R.2, Meneghetti S.M.P.2
PROPERTIES OF BIOFUELS - METHYL-ESTERS AND BIO-OILS (HYDROCARBONS) - from Pachira
aquatic Aubl and Magonia pubescens A St-Hil
1University of Brasília, Institute of Chemistry, Brasília, Brazil
2Universidade Federal de Alagoas, Institute of Chemistry and Biotechnology, Maceió-AL, Brazil

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
Tver State Technical University, Tver, Russia

PP-30. Taran O.P.1,2,3, Gromov N.1,4, Medvedeva T.B.1, Rodikova Y.A.1, Zhizhina E.G.1,
Sorokina K.N.1, Parmon V.N.1
HYDROLYSIS-OXIDATION OF STARCH TO FORMIC ACID WITH SOLUBLE AND SOLID
HETEROPOLYACID CATALYSTS
1Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
2Institute of Chemistry and Chemical Technology of SB RAS, FRC "Krasnoyarsk Science Center"
SB RAS, Krasnoyarsk, Russia
3Novosibirsk State University, Novosibirsk, Russia

PP-31. Uskov S.1,2, Potemkin D.I.1,2, Shigarov A.1, Snytnikov P.V.1,2, Kirillov V.1,2, Sobyanin V.A.1
FLARE GASES UTILIZATION VIA LOW-TEMPERATURE STEAM REFORMING REACTION
1Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
2Novosibirsk State University, Novosibirsk, Russia

PP-32. Vlasova E.1,2, Shamanaev I.1,2, Aleksandrov P.V.1,2, Bukhtiyarova G.1,2
SELECTIVE Mo-BASED CATALYSTS TO CONTROL THE CARBON OXIDES PRODUCTION IN THE
HDO OF ALIPHATIC OXYGENATES
1Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
2Novosibirsk National Research University, Russia

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.1,2, Kaumenova G.1,3, Kassymkhan K.1, Xanthopoulou G.4, Baizhumanova T.1,3, Tungatarova S.1,3, Begimova G.1,5
OXIDATIVE DIMERIZATION OF METHANE TO C2-HYDROCARBONS
1D.V. Sokolsky Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan
2Satbayev University, Almaty, Kazakhstan
3Al-Farabi Kazakh National University, Almaty, Kazakhstan
4Institute of Nanoscience and Nanotechnology, Athens, Greece
5Kazakhstan Engineering Technological University, Almaty, Kazakhstan

PP-36. Zhumabek M.1,2, Zhang X.1,3, Xanthopoulou G.4, Baizhumanova T.1,3, Tungatarova S.1,3, Murzin D.5, Vekinis G.4, Begimova G.1,6
BIOGAS REFORMING OVER Mg-Mn-Al-Co CATALYST PREPARED BY SOLUTION COMBUSTION SYNTHESIS METHOD
1D.V. Sokolsky Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan
2Satbayev University, Almaty, Kazakhstan
3Al-Farabi Kazakh National University, Almaty, Kazakhstan
4Institute of Nanoscience and Nanotechnology, Athens, Greece
5Åbo Akademi University, Turku, Finland
6Kazakhstan Engineering Technological University, Almaty, Kazakhstan

PP-37. Ziyadullaev O.E.1, Otamuhamedova G.2, Samatov S.1, Nurmanov S.2, Turabdjanov S.3, Abdurakhmanova S.1, Ikramov A.4
SYNTHESIS OF ACETYLENIC ALCOHOLS IN THE PRESENCE OF DIFFERENT CATALYTICAL SYSTEMS
1Chirchik State Pedagogical Institute, Tashkent, Uzbekistan
2National University of Uzbekistan, Tashkent, Uzbekistan
3Tashkent State Technical University, Tashkent, Uzbekistan
4Tashkent Chemical Technological Institute, Tashkent, Uzbekistan
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.¹, Efendiev M.²
ELECTROMAGNETIC INSTALLATION FOR NEUTRALIZATION OF WASTEWATER PRODUCTION OF OLIVE OILS
¹N.D. Zelinsky Institute of Organic Chemistry RAS, Moscow, Russia
²Gubkin 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.¹,², Ergazieva G.¹, Telbayeva M.¹, Myltykbayeva L.²
DRY REFORMING OF METHANE OVER Co-CONTAINING CATALYSTS
¹Institute of Combustion Problems, Almaty, Kazakhstan
²Al-Farabi Kazakh National University, Centre of Physical and Chemical Methods of Investigation and Analysis, Almaty, Kazakhstan

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.¹, Dossumov K.¹,², Ermagambet B.², Mironenko A.¹, Kassenova Z.³, Mambetova M.³
NANOPHASE Co-CONTAINING CATALYSTS, SYNTHESIZED BY THE SOLUTION COMBUSTION METHOD
¹Institute of Combustion Problems, Almaty, Kazakhstan
²Al-Farabi Kazakh National University, Almaty, Kazakhstan
³LLP Institute Chemistry of Coal and Technology, Astana, Kazakhstan

BIFUNCTIONAL ZEOLITIC CATALYST FOR BUTANOL PRODUCTION FROM BIOETHANOL
M.V. Lomonosov Moscow State University, Moscow, Russia

VP-8. Palankoev T., Dementev K., Khadzhiev S.†
MODELING OF BIO-OIL CATALYTIC CRACKING REACTIONS IN HYDROCARBON MEDIUM
A.V. Topchiev Institute of Petrochemical Synthesis RAS, Moscow, Russia