Scientific Program of the XXII International conference on Chemical Reactors CHEMREACTOR-22

London, United Kingdom, September 19-23, 2016

EFCE Event 736

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

University College London, United Kingdom

European Federation on Chemical Engineering

Scientific Council on Theoretical Fundamentals of Chemical Technology RAS Scientific Council on Catalysis RAS

http://conf.nsc.ru/CR_22

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SCIENTIFIC PROGRAM
XXII International Conference on Chemical Reactors
CHEMREACTOR-22

Advances in Chemical Reactor Fundamentals

Chemical Reaction Kinetics

Energy & Mass Transfer in Chemical Reactors and first principles calculations

Fundamentals of Hydrodynamics and Fluid Flow in Chemical Reactors

Chemical Reaction Engineering and Reactor Design – Novel Experimental Approaches, Modeling, Scale-Up and Optimization

Mathematical Simulation: Multiscale Analytic and Computational Studies of Chemical Reactors

Development of Chemical Reactors and Flow-Sheeting of Reactive Processes

New Chemical Reactor Designs (e.g., Structured Reactors, Membrane Reactors, Microreactors)

Process Intensification and Novel Approaches in Multifunctional Reaction Processes (e.g., Microwave/Induction Heated Reactors, Ultrasonic Reactors, Unsteady-State Forcing and Sorption Enhancement in Chemical Reactors, Multifunctional Reactors, Nature-Inspired Engineering of Reaction Processes, High-gravity, High-Shear Reactors)

Chemical Reactors and Technologies for Targeted Applications

Environmental Protection and Utilization of Waste

Reactors for Polymers and Other Novel Materials with Targeted Properties

Processing of Biomass and Renewable Feedstocks

Electrochemical and Photochemical Reaction Engineering

Engineering and Use of Novel Structured Catalytic Materials

Biochemical Engineering

CO_2 Sequestration and Utilisation

Advanced Processing of Conventional and Unconventional Hydrocarbon Feedstocks

Modern Reactive Technologies for Natural Gas, Oil and Coal Processing

Chemical Processes for Intensification of Fuel Production

Chemical Reactors for In Situ Processing of Oil and Coal in Deposits

Chemical Reactors and Processes for Treatment of Heavy Hydrocarbon Feedstock and Shale Oil

September 19, Monday
Morning Session

BREWER & SMITH Hall

8.45 Conference opening

PLENARY LECTURES

Chairperson: Professor Marc-Oliver Coppens, United Kingdom

9.00
PL-1
Professor Gilbert Froment
A Professor Mikhail Slin'ko Honorary Lecture:
ADVANCED FUNDAMENTAL KINETICS FOR HYDROCARBON PRODUCTION AND CONVERSION PROCESSES
Texas A&M University, TX, USA

10.00
PL-2
Professor Jinghai Li
REALIZING VIRTUAL REALITY OF CHEMICAL REACTORS: THE PATH IS AT MESOSCALES
Institute of Process Engineering CAS, Beijing, China

11.00 Coffee-break

Chairperson: Professor Dan Luss, USA

KEYNOTE LECTURES

11.20
KL-1
Professor Michail Stamatakis
ACCURATE AND EFFICIENT COMPUTATIONAL FRAMEWORKS FOR REACTION KINETICS: TOWARD FIRST-PRINCIPLES BASED REACTOR DESIGN
University College London, UK

11.50
KL-2
Professor Frerich Keil
MULTISCALE MODELING OF REACTION AND DIFFUSION WITH IMPACTS ON CHEMICAL REACTOR ANALYSIS AND DESIGN
Hamburg University of Technology, Germany

ORAL PRESENTATIONS

Section I.
Advances in Chemical Reactors Fundamentals

12.20
OP-I-1
Yablonsky G.[1], Constales D.[2], **Branco P.D.[2]**, Galvita V.[2], Redekop E.[3], Marin G.B.[2]
JOINT KINETICS: A NEW KINETIC STRATEGY FOR HETEROGENEOUS CATALYSIS
[1]*Saint Louis University, St. Louis, MO, USA*
[2]*Gent University, Gent, Belgium*
[3]*University of Oslo, Oslo, Norway*

12.40
OP-I-2
Galvanin F.[1], Psyrraki C.[1], Morris T.[2], Gavriilidis A.[1]
A RANKING OF EXPERIMENTS APPROACH FOR THE IDENTIFICATION OF KINETIC MODELS OF ETHYLENE METHOXYCARBONYLATION IN CAPILLARY MICROREACTORS
[1]*University College London, London, United Kingdom*
[2]*Lucite International, Southampton, United Kingdom*

13.00-14.30 ***Lunch***

ARNOLD Hall

ORAL PRESENTATIONS

Section II.
Chemical Reaction Engineering and Reactor Design – Novel Experimental Approaches, Modeling, Scale-Up and Optimization

Chairperson: Professor Mohamed Abderrazak Latifi, France

12.20
OP-II-1
Vernikovskaya N.V.
AN EQUATION-ORIENTED APPROACH TO MODELING HETEROGENEOUS CATALYTIC REACTORS
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
Novosibirsk State University, Novosibirsk, Russia
Novosibirsk State Technical University, Novosibirsk, Russia

12.40
OP-II-2
Dedeyne J.N.[1], Virgillio M.[2], Arts T.[2], Van Geem K.M.[1], Marin G.B.[1]
PROCESS INTENSIFICATION THROUGH LARGE EDDY SIMULATIONS OF TUBULAR REACTORS
[1]*Ghent University , Ghent, Belgium*
[2]*Von Karman Institute, Brussels, Belgium*

13.00-14.30 ***Lunch***

September 19, Monday
Afternoon Session

BREWER & SMITH Hall

ORAL PRESENTATIONS

Section I.
Advances in Chemical Reactors Fundamentals

Chairperson: Professor Xing-Gui Zhou, China

14.30
OP-I-3
Motta F., **Maestri M.**
FIRST-PRINCIPLES ASSESSMENT OF BEP RELATIONS FOR STRUCTURE-DEPENDENT MICROKINETIC MODELING IN HETEROGENEOUS CATALYSIS
Politecnico di Milano, Milan, Italy

14.50
OP-I-4
Coppens M.[1], Rao S.M.[2], Saraci E.[3], Gläser R.[3]
MINIMIZING DIFFUSION LIMITATIONS IN POROUS CATALYSTS THROUGH RATIONAL DESIGN OF THE MACROPORE NETWORK: APPLICATION TO THE ALKYLATION OF BENZENE WITH ETHYLENE
[1]*University College London, London, United Kingdom*
[2]*Rensselaer Polytechnic Institute, Troy, USA*
[3]*Institut für Technische Chemie, Universität Leipzig, Leipzig, Germany*

15.10
OP-I-5
Al-Dughauther A.S.[1], Quddus M.R.[2], de Lasa H.I.[2]
CONVERSION OF DIMETHYL-ETHER TO OLEFINS OVER HZSM-5: REACTION MECHANISM AND KINETICS
[1]*Sabic Industries, Riyadh, Saudi Arabia*
[2]*University of Western Ontario, London, Canada*

15.30
OP-I-6
Peskov N.[1], **Slinko M.[2]**, Lysak T.[1], Bychkov V.[2], Tulenin Y.[2]
MATHEMATICAL MODELLING OF OSCILLATING METHANE OXIDATION IN A CSTR OVER THE WHOLE AND DIVIDED IN HALF Pd FOIL. WHAT'S THE DIFFERENCE?
[1]*Lomonosov Moscow State University, Moscow, Russia*
[2]*Semenov Institute of Chemical Physics RAS, Moscow, Russia*

15.50
OP-I-7
Sinev M.Y., Tulenin Y.P., Lomonosov V.I., Gordienko Y.A.
OXIDATIVE COUPLING OF METHANE AT ELEVATED PRESSURES: EXPERIMENT AND SIMULATIONS
Semenov Institute of Chemical Physics RAS, Moscow, Russia

16.10 Coffee-break

ORAL PRESENTATIONS

Section I.

Advances in Chemical Reactors Fundamentals

Chairperson: Professor Enrico Tronconi, Italy

16.30

OP-I-8

Yuan X.[1,2], Li H.[1], Ye M.[1], Liu Z.[1]

COMPARATIVE STUDY OF MTO KINETICS OVER SAPO-34 CATALYST IN FIXED AND FLUIDIZED BED REACTORS

[1]*Dalian Institute of Chemical Physics, Dalian, China*
[2]*University of Chinese Academy of Sciences, Beijing, China*

16.50

OP-I-9

Wu G.[1], Brett G.L.[2], Cao E.[1], Constantinou A.[1], Ellis P.[3], Kuhn S.[4], Hutchings G.J.[2], Bethell D.[5], Gavriilidis A.[1]

CONTINUOUS FLOW PACKED BED MICROREACTORS USED FOR DEACTIVATION STUDIES OF AEROBIC ALCOHOL OXIDATION on Au-Pd/TiO_2 CATALYST

[1]*University College London, London, United Kingdom*
[2]*Cardiff University, Cardiff, United Kingdom*
[3]*Johnson Matthey Technology Centre, Reading, United Kingdom*
[4]*KU Leuven, Leuven, Belgium*
[5]*University of Liverpool, Liverpool, United Kingdom*

17.10

OP-I-10

Bayazit M., Cao E., Gavriilidis A., **Tang J.**

CONTINUOUS NANOSTRUCTURED METAL OXIDES AND METAL PARTICLES MANUFACTURING BY MICROWAVE IRRADIATED FLOW SYSTEM

University College London, London, United Kingdom

17.30

OP-I-11

Rebughini S., Cuoci A., Maestri M.

HIERARCHICAL ANALYSIS OF THE GAS-TO-PARTICLE HEAT AND MASS TRANSFER IN MICRO PACKED BED REACTORS

Politecnico di Milano, Milan, Italy

19.00 Welcome Reception

ARNOLD Hall

ORAL PRESENTATIONS

Section II.
Chemical Reaction Engineering and Reactor Design – Novel Experimental Approaches, Modeling, Scale-Up and Optimization

Chairperson: Professor Felipe Lopez-Isunza, Mexico

14.30
OP-II-3
Ye G.[1], Zhou X.[1], Coppens M.[2], Yuan W.[1]
MODELLING MULTIPHASE REACTIONS IN A SINGLE CATALYST PELLET USING A DISCRETE APPROACH
[1]*East China University of Science and Technology, Shanghai, China*
[2]*University College London, London, United Kingdom*

14.50
OP-II-4
Kurzina I.[1], Reshetnikov S.I.[2], Kosova N.I.[1,3], Vodorezova O.Y.[1], Musich P.G.[1], Kurina L.N.[1]
DIRECT SYNTHESIS OF DIMETHYL ETHER FROM SYNTHESIS GAS: EXPERIMENTAL STUDY AND MATHEMATICAL MODELING
[1]*Tomsk State University, Tomsk, Russia*
[2]*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*
[3]*Siberian Research Institute of Agriculture and Peat, Tomsk, Russia*

15.10
OP-II-5
Lei M.[1,3], Martinuzzi I.[1], Lesage F.[1], Leclerc J.[1], **Latifi M.**[1]**,** Zahraa O.[1], Tretjak S.[2]
MODELING AND SIMULATION OF DEHYDRATION OF GLYCEROL TO ACROLEIN IN A FIXED-BED REACTOR
[1]*The University of Lorraine, Nancy, France*
[2]*Centre de Recherches et Développement de l'Est, ARKEMA (Lorraine), France*
[3]*Institute of Process Engineering CAS, Beijing, China*

15.30
OP-II-6
Lu M., Zhang Z., Zhou X.
INERT MEMBRANE PACKED-BED REACTOR FOR PROPYLENE EPOXIDATION WITH HYDROGEN AND OXYGEN: MODELLING AND SIMULATION
East China University of Science and Technology, Shanghai, China

15.50
OP-II-7
Sheintuch M.[1]**,** Shoham (Patrascu) M.[2]
PURE HYDROGEN PRODUCTION FROM ETHANOL AND GLYCEROL IN A MEMBRANE REFORMER
[1]*Technion, Haifa, Israel*
[2]*Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts, USA*

16.10 Coffee-break

ORAL PRESENTATIONS

Section II.

Chemical Reaction Engineering and Reactor Design – Novel Experimental Approaches, Modeling, Scale-Up and Optimization

Chairperson: Professor Ebru Erünal, Turkey

16.30
OP-II-8
Wiser A.[1], Klingenberger M.[1,2], Drochner A.[1], Vogel H.[1], Votsmeier M.[2]
INVESTIGATION OF INDUSTRIAL NH_3 OXIDATION BY COMPUTATIONAL FLUID DYNAMICS SIMULATIONS INCLUDING DETAILED SURFACE KINETICS
[1]*TU Darmstadt, Darmstadt, Germany*
[2]*Umicore AG & Co., Hanau, Germany*

16.50
OP-II-9
Koci P.[1], Leskovjan M.[1], Václavík M.[1], Novak V.[2], Thompsett D.[2]
PREDICTION AND CONTROL OF INTERNAL TRANSPORT EFFECTS IN STRUCTURED AUTOMOTIVE EXHAUST GAS CATALYSTS AND FILTERS
[1]*University of Chemistry and Technology Prague, Prague, Czech Republic*
[2]*Johnson Matthey Technology Centre, Sonning Common, United Kingdom*

17.10
OP-II-10
Cho J.I.[1], Neville T.P.[2], Marquis J.[2], Trogadas P.[1], Brett D.[4], Coppens M.[1]
NATURE-INSPIRED FRACTAL FLOW FIELD FOR PEM FUEL CELLS
[1]*University College London, London, United Kingdom*
[2]*Isermann Department of Chemical & Biological Engineering, Rensselaer Polytechnic Institute, New York, USA*

17.30
OP-II-11
Shivaprasad P., Patterson D., Jones M., Patterson E.
NOVEL METAL-ENZYME CATALYST FOR ONE-POT DYNAMIC RESOLUTION IN A SPINNING CLOTH DISC REACTOR
University of Bath, Bath, United Kingdom

19.00 Welcome Reception

September 20, Tuesday
Morning Session

BREWER & SMITH Hall

PLENARY LECTURE

Chairperson: Professor Gilbert Froment, USA

9.00
PL-3
Professor David West[1], Sarsani S.[1], Balakotaiah V.[2], Liang W.[1], Nguyen H.[1]
BIFURCATIONS IN THE OXIDATIVE COUPLING OF METHANE
[1]*SABIC, Corporate R&D, Sugar Land TX, USA*
[2]*University of Houston, USA*

KEYNOTE LECTURES

10.00
KL-3
Professor Ruud van Ommen
SYNTHESIS OF NANOSTRUCTURED MATERIALS IN FLUIDIZED BED REACTORS
Delft University of Technology, The Netherlands

10.30
KL-4
Professor Ian Metcalfe
UNMIXED REACTIONS – HOW TO EXPLOIT PERIODICALLY-OPERATED AND MEMBRANE REACTORS
Newcastle University, Newcastle, UK

11.00 Coffee-break

KEYNOTE LECTURES

Chairperson: Professor Andrzej Stankiewicz, The Netherlands

11.20
KL-5
Professor Michael P. Harold, Zheng Y., Li M., Ting Wei-Lun, Balakotaiah V., Luss D.,
REDUCTION OF DIESEL ENGINE NO_X EMISSIONS BY FAST PERIODIC PULSING
University of Houston, USA

11.50
KL-6
Professor Menka Petkovska[1], Nikolić D.[2], Seidel-Morgenstern A.[3]
EVALUATING THE POTENTIAL OF FORCED PERIODIC OPERATIONS OF CHEMICAL REACTORS - THE NONLINEAR FREQUENCY RESPONSE APPROACH
[1]*University of Belgrade/Faculty of Technology and Metallurgy, Belgrade, Serbia*
[2]*University of Belgrade/Institute for Chemistry, Technology and Metallurgy, Belgrade, Serbia*
[3]*Otto-von-Guericke University and Max-Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany*

ORAL PRESENTATIONS

Section I.

Advances in Chemical Reactors Fundamentals

12.20

OP-I-12

Al-Rifai N.[1], Leivadarou G.[1], Venkatesh A.[1], Cao E.[1], Cattaneo S.[2], Sankar M.[2], Hutchings G.J.[2], Gavriilidis A.[1]

CATALYTIC BENZYL ALCOHOL OXIDATION IN A THREE PHASE MICRO-PACKED BED REACTOR: HYDRODYNAMICS, MASS TRANSFER AND DEACTIVATION

[1]*University College London, London, United Kingdom*
[2]*Cardiff University, Cardiff, United Kingdom*

12.40

OP-I-13

Diez F.V.[1], Voltolina S.[1,2], Marin P.[1], Ordoñez S.[1]

HYDRODYNAMICS AND MASS TRANSFER IN A TRICKLE BED REACTOR WITH FOAM PACKING

[1]*Universidad de Oviedo, Oviedo, Spain*
[2]*Universita degli Study di Padova, Padova, Italy*

13.00-14.30 ***Lunch***

ARNOLD Hall

ORAL PRESENTATIONS

Section II.

Chemical Reaction Engineering and Reactor Design – Novel Experimental Approaches, Modeling, Scale-Up and Optimization

Chairperson: Professor Petr Koci, Czech Republic

12.20
OP-II-12
Cherkasov N.[1], Rebrov E.[1,2]
FLOW CATALYTIC REACTORS FOR GAS-LIQUID CHEMISTRY: A PdBi/TiO_2-COATED MILLI-REACTOR FOR SEMIHYDROGENATION
[1]*University of Warwick, Coventry, United Kingdom*
[2]*Tver State Technical University, Tver, Russia*

12.40
OP-II-13
Erünal E.
BEAD SIZE DISTRIBUTION CONTROL OF THE EXPANDABLE POLYSTYRENE PRODUCTION WITH SUSPENSION POLYMERIZATION
Cukurova University, The Faculty of Ceyhan Engineering, Adana, Turkey

13.00-14.30 ***Lunch***

September 20, Tuesday
Afternoon Session

BREWER & SMITH Hall

ORAL PRESENTATIONS
Section I.
Advances in Chemical Reactors Fundamentals

Chairperson: Professor Andrey Zagoruiko, Russia

14.30
OP-I-14
Duarte M., Sagnard C., Delpoux O., Rolland M., Lienemann C.
DESIGN OF A MILLIFLUIDIC HIGH PRESSURE, HIGH TEMPERATURE TRANSPARENT REACTOR FOR SPECTROSCOPIC REACTION FOLLOW-UP
IFP Energies Nouvelles, Solaize, France

14.50
OP-I-15
Helmi A.[1], Wagner E.[2], Gallucci F.[1], van Sint Annaland M.[1], van Ommen R.[2], Mudde R.[2]
ON THE HYDRODYNAMICS OF MEMBRANE ASSISTED FLUIDIZED BED REACTORS USING 3D X-RAY ANALYSIS
[1]*Eindhoven University of Technology, Eindhoven, The Netherlands*
[2]*Delft University of Technology, Delft, The Netherlands*

15.10
OP-I-16
Klenov O.P.[1], Noskov A.S.[1], Parahin O.A.[2]
INVESTIGATION OF BEHAVIORS OF THE CIRCULATING FLUIDIZED BED
[1]*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*
[2]*JSC "NPK «SYNTEZ»", Barnaul, Russia*

15.30
OP-I-17
de Martín L., Wu K., Coppens M.O.
PATTERNING FLUIDIZED BED DYNAMICS VIA PULSED FLOW
University College London, London, United Kingdom

15.50
OP-I-18
Luss D., Dadi R., Balakotaiah V.
IMPACT OF FEED TEMPERATURE RAMP ON DYNAMIC AND STEADY STATE MULTIPLICITY IN A MONOLITH
University of Houston, Houston, USA

16.10 Coffee-break

ORAL PRESENTATIONS

Section III.
Chemical Reactors and Technologies for Targeted Applications

Chairperson: Professor Sascha Kersten, The Netherlands

16.30
OP-III-1
Seidel-Morgenstern A.
JOINT CONTINUOUS SYNTHESIS AND PURIFICATION OF ARTEMISININ AND ARTESUNATE
Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany

16.50
OP-III-2
Castillo-Araiza C.O.[1], Prado A.[1], Dutta A.[2], Huerta-Ochoa S.[1], **Domenzain I**.[1]
KINETIC MODELING OF (+)-NOOTKATONE BIOCONVERSION
[1]*Universidad Autonoma Metropolitana – Iztapalapa, Mexico, Mexico*
[2]*Katholieke University Leuven, Leuven, Belgium*

17.10
OP-III-3
Trad Z.[1], Vial C.[2], Fontaine J.[1], Larroche C.[2]
EXPERIMENTAL AND NUMERICAL INVESTIGATION OF HYDRODYNAMICS AND MIXING IN A DUAL-IMPELLER MECHANICALLY-STIRRED DIGESTER
[1]*CNRS, UMR 6602, IP, Clermont-Ferrand, France*
[2]*Université Clermont Auvergne, Université Blaise Pascal, Institute Pascal, France, Clermont-Ferrand, France*

17.45 *Guide Excursion around London*

ARNOLD Hall

ORAL PRESENTATIONS

Section II.
Chemical Reaction Engineering and Reactor Design – Novel Experimental Approaches, Modeling, Scale-Up and Optimization

Chairperson: Professor Menka Petkovska, Serbia

14.30
OP-II-14
Khodadadian F.[1], van Ommen J.[1], Lakerveld R.[2], Stankiewicz A.[1]
AN ANNULAR LED-BASED REACTOR FOR PHOTOCATALYSIS APPLICATIONS: MODELING AND EXPERIMENTAL VALIDATION STUDY
[1]*Delft University of Technology, Delft, The Netherlands*
[2]*Hong Kong University of Science and Technology, Hong Kong, Hong Kong*

14.50
OP-II-15
Patil B.S.[1], Wang Q.[1], Hessel V.[1], Lang J.[2]
PLASMA NITRIC OXIDE PRODUCTION AT ATMOSPHERIC PRESSURE IN PULSE POWER DRIVEN MILLI-SCALE GLIDING ARC PLASMA REACTOR
[1]*Eindhoven University of Technology, Eindhoven, The Netherlands*
[2]*Evonik Industries AG, Hanau-Wolfgang, Germany*

15.10
OP-II-16
Tippawan P., Thammasit T., Arpornwichanop A.
ENERGY AND EXERGY ANALYSES OF SORPTION ENHANCED CHEMICAL LOOPING REFORMING PROCESS FOR HYDROGEN PRODUCTION FROM GLYCEROL
Chulalongkorn University, Bangkok, Thailand

15.30
OP-II-17
Zazhigalov S.[1,2], Mikenin P.[1,2], Pisarev D.[1,2], Baranov D.[1-3], Lopatin S.A.[1,2], Chumakova N.A.[1,5], Zagoruiko A.[1-4]
MODIFICATIONS OF THE ADSORPTION-CATALYTIC SYSTEM FOR ORGANIC IMPURITIES REMOVING
[1]*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*
[2]*Research and Educational Center for Energy Efficient Catalysis, Novosibirsk State University, Novosibirsk, Russia*
[3]*Novosibirsk Technical State University, Novosibirsk, Russia*
[4]*Tomsk Polytechnic University, Tomsk, Russia*
[5]*Novosibirsk Technical State University, Novosibirsk, Russia*

15.50
OP-II-18
Lopez-Isunza F., Esparza-Isunza T.
MODELING MOVING REACTION FRONTS DURING THE TRANSIENT VOC (TOLUENE) OXIDATION IN A PACKED-BED CATALYTIC REACTOR
Universidad Autonoma Metropolitana – Iztapalapa, Mexico City, Mexico

16.10 Coffee-break

ORAL PRESENTATIONS

Section IV.
Advanced Processing of Conventional and Unconventional Hydrocarbon Feedstocks

Chairperson: Professor Nikolaos Papayannakos, Greece

16.30
OP-IV-1
Arutyunov V.S.[1], Pogosyan N.M.[2], Pogosyan M.D.[2], Tavadyan L.A.[2], Shapovalova O.V.[1], Strekova L.N.[1]
THE PRODUCTION OF OLEFINS BY CONJUGATED OXIDATION OF LIGHT HYDROCARBONS
[1]*Semenov Institute of Chemical Physics RAS, Moscow, Russia*
[2]*Nalbandyan Institute of Chemical Physics, National Academy of Sciences of Armenia, Erevan, Armenia*

16.50
OP-IV-2
Fatah N., **Quan H.**, Dhainaut F.
NEW MICRO-FLUIDIZED BED REACTOR APPLICATION FOR CONVERSION OF SYNGAS TO ULTRACLEAN HYDROCARBON FUELS
Unité de Catalyse et Chimie du Solide, Villeneuve d'Ascq, France

17.10
OP-IV-3
Odunsi A.[1], O'Donovan T.[1], Reay D.[2]
ON THE USE OF PHASE CHANGE MATERIALS IN LOW-TEMPERATURE FISCHER-TROPSCH (LTFT) REACTORS
[1]*Heriot-Watt University, Edinburgh, United Kingdom*
[2]*Newcastle University, Newcastle, United Kingdo*m

17.45 *Guide Excursion around London*

September 21, Wednesday
Morning Session

BREWER & SMITH Hall

PLENARY LECTURES

Chairperson: Professor Andreas Seidel-Morgenstern, Germany

9.00
PL-4
Professor Lynn Gladden
MAGNETIC RESONANCE STUDIES OF FLUID (MAL)DISTRIBUTION AND HYDRODYNAMICS IN MULTIPHASE REACTORS
University of Cambridge, UK

10.00
PL-5
Professor Murray Moo-Young
BIOREACTOR SYSTEMS DESIGN FOR THE PRODUCTION OF BIOFUELS AND BIOPHARMACEUTICALS: REFLECTIONS
Waterloo University, Ontario, Canada

11.00 Coffee-break

KEYNOTE LECTURES

Chairperson: Professor Asterios Gavriilidis, United Kingdom

11.20
KL-7
Professor Enrico Tronconi, Groppi G., Visconti C.G.
RECENT ADVANCES IN THERMALLY CONDUCTIVE MICROSTRUCTURED CATALYSTS
Politecnico di Milano, Milan, Italy

11.50
KL-8
Professor Andrey Zagoruiko[1-4], Lopatin S.,[1,2], Mikenin P.[1,2], Zazhigalov S.[1,2], Pisarev D.[1,2], Baranov D.[1-3]
NOVEL STRUCTURED CATALYTIC SYSTEMS - CARTRIDGES ON THE BASE OF FIBROUS CATALYSTS
[1]*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*
[2]*Research and Educational Center for Energy Efficient Catalysis, Novosibirsk State University, Novosibirsk, Russia*
[3]*Novosibirsk Technical State University, Novosibirsk, Russia*
[4]*Tomsk Polytechnic University, Tomsk, Russia*

ORAL PRESENTATIONS

Section III.
Chemical Reactors and Technologies for Targeted Applications

12.20
OP-III-4
Gonzalez-Quiroga A., Reyniers P.A., Kulkarni S., Carstensen H., Van Geem K.M., Marin G.B.
FAST PYROLYSIS OF LIGNOCELLULOSIC BIOMASS IN THE GAS-SOLID VORTEX REACTOR
Ghent University, Ghent, Belgium

12.40
OP-III-5
Holló A., Sólymosi P., Hancsók J.
MODERN BIO-DERIVED FUELS OF DIESEL ENGINES
University of Pannonia, Veszprem, Hungary

13.00-14.30 ***Lunch***

ARNOLD Hall

ORAL PRESENTATIONS

Section IV.
Advanced Processing of Conventional and Unconventional Hydrocarbon Feedstocks

Chairperson: Professor Pier Ugo Foscolo, Italy

12.20
OP-IV-4
Nanduri A., Mills P.L.
THE EFFECT OF CATALYST PARTICLE SHAPE IN A WALL-COOLED FIXED-BED REACTOR FOR GAS-PHASE FISCHER-TROPSCH SYNTHESIS
Texas A&M University-Kingsville, Kingsville, USA

12.40
OP-IV-5
Shvets V.[1], Kozlovskiy R.[1], Luganskiy A.[1], Sapunov V.N.[1], Sharykin V.[2], Sovetin F.[1], Gartman T.[1]
CRACKING OF FUEL OIL IN THE CONTINUOUS FLOW REACTOR INITIATED BY ATMOSPHERIC OXYGEN
[1]*Mendeleyev University of Chemical Technology of Russia, Moscow, Russia*
[2]*Jacobi Carbons GmbH, Frankfurt am Main, Germany*

13.00-14.30 ***Lunch***

September 21, Wednesday
Afternoon Session

BREWER & SMITH Hall

ORAL PRESENTATIONS

Section III.
Chemical Reactors and Technologies for Targeted Applications

Chairperson: Professor Murray Moo-Young, Canada

14.30
OP-III-6
Kersten S.
PYROLYSIS FOR THE PRODUCTION OF SUGARS FROM CELLULOSE-RICH BIOMASS
University of Twente, Enschede, The Netherlands

14.50
OP-III-7
Naderi G., Znad H., Tade M.O.
UNDERSTANDING AND DEVELOPING A NOVEL MATHEMATICAL MODEL FOR LIGHT DISTRIBUTION INSIDE THE MICROALGAE CULTURE
Curtin University, Perth, Australia

15.10
OP-III-8
Merino-Garcia I.[1], **Albo J.[2]**, Irabien A.[1]
GAS DIFFUSION ELECTROCATALYTIC REACTORS FOR CO_2 UTILISATION
[1]*University of Cantabria, Department of Chemical & Biomolecular Engineering, Santander, Spain*
[2]*University of the Basque Country, Department of Chemical Engineering, Bilbao, Spain*

15.30
OP-III-9
Loponov K.[1], Rielly C.[1], Holdich R.[1], Deadman B.[2], Hii K.[2], Zhu J.[2], Hellgardt K.[2]
CONTROLLED MULTIPHASE OXIDATIONS FOR CONTINUOUS MANUFACTURING OF FINE CHEMICALS
[1]*Loughborough University, Loughborough, United Kingdom*
[2]*Imperial College London, London, United Kingdom*

15.50 Poster Session

ARNOLD Hall

ORAL PRESENTATIONS

Section IV.
Advanced Processing of Conventional and Unconventional Hydrocarbon Feedstocks

Chairperson: Professor David Simakov, Canada

14.30
OP-IV-6
Löfberg A., Guerrero J., Kane T., Jalowiecki-Duhamel L.
CHEMICAL LOOP DRY REFORMING OF METHANE: TOWARDS SHALE GAS AND BIOGAS VALORIZATION
Unité de Catalyse et Chimie du Solide, Villeneuve d'Ascq cedex, France

14.50
OP-IV-7
Sulman M., Doluda V., Sulman E., Lakina N., Matveeva V.
METHANOL TO GASOLINE TRANSFORMATION STUDY IN ONE AND TWO STEPS REACTOR SET UP
Tver State Technical University, Tver, Russia

15.10
OP-IV-8
Templis C., Papastylianou A., Zerva A., **Papayannakos N.**
PHENOL DEOXYGENATION IN A THREE PHASE MINI SCALE REACTOR
National Technical University of Athens, Athens, Greece

15.30
OP-IV-9
Sulman E.[1], Grebennikova O.[1], Lakina N.[1], Doluda V.[1], Bronstein L.[2]
THE USE OF MAGNETIC BIOCATALYST FOR OXIDATION OF PHENOL DERIVATIVES
[1]*Tver State Technical University, Tver, Russia*
[2]*Indiana University, Bloomington, USA*

15.50 Poster Session

September 22, Thursday
Morning Session

BREWER & SMITH Hall

PLENARY LECTURE

Chairperson: Professor Evgeny Rebrov, United Kingdom

9.30
PL-6
Professor Sotiris E. Pratsinis
ENGINEERING OF AEROSOL REACTORS: SUB-NANO Pd CLUSTERS on TiO_2 FOR SOLAR-LIGHT REMOVAL of NO
Swiss Federal Institute of Technology in Zurich (ETH Zurich), Switzerland

KEYNOTE LECTURE

10.30
KL-9
Professor Xing-gui Zhou, Yuan W.
UNDERSTANDING AND CONTROLLING THE INFLUENCES OF MASS TRANSFER ON METAL-ZEOLITE CATALYSTS FOR SELECTIVE OXIDATIONS
East China University of Science and Technology, Shanghai, China

11.00 Coffee-break

ORAL PRESENTATIONS
Section III.
Chemical Reactors and Technologies for Targeted Applications

Chairperson: Professor András Holló, Hungary

11.20
OP-III-10
Naito S., Ishikawa S., Yoshida A., Hikichi S.
EFFECT of Re or Sn ADDITION UPON CONVERSION REACTION OF ETHANOL OVER SUPPORTED Ir CATALYST and Ru CATALYST EMPLOYING CLOSED BATCH REACTOR and FIXED-BED FLOW REACTOR
Department of Material & Life Chemistry, Faculty of Engineering, Kanagawa University, Yokohama, Japan

11.40
OP-III-11
Golovin V.[1,2,3], Parunin P.[1,2], Veselovskaya J.,[1,2,3], Derevshikov V.[1,2,3], Okunev A.[1,2]
SORPTION-CATALYTIC SYSTEM FOR ATMOSPHERIC CO_2 METHANATION
[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[2]Novosibirsk State University, Novosibirsk, Russia
[3]Scientific Research Centre "Energy Efficient Catalysis", Novosibirsk State University, Novosibirsk, Russia

12.00
OP-III-12
Rodriguez-Vega P., Ateka A., Sanchez-Contador M., Bilbao J., Aguayo A.T.
OPERATION STRATEGIES FOR THE SELECTIVE SYNTHESIS OF DME FROM CO_2/CO IN A MEMBRANE REACTOR
University of the Basque Country, Bilbao, Spain

12.20
OP-III-13
Meiri N., Radus R., Herskowitz M.
SIMULATION OF CARBON DIOXIDE CONVERSION TO LIQUID FUELS
Ben Gurion University of the Negev, Beer-Sheva, Israel

12.40
OP-III-14
Sun D., **Simakov D.**
THERMAL MANAGEMENT OF A SABATIER REACTOR FOR CHEMICAL FIXATION OF CO_2: SIMULATION-BASED ANALYSIS AND OPTIMIZATION
University of Waterloo, Waterloo, Ontario, Canada

13.00-14.30 ***Lunch***

September 22, Thursday
Afternoon Session

BREWER & SMITH Hall

ORAL PRESENTATIONS

Section III.
Chemical Reactors and Technologies for Targeted Applications

Chairperson: Professor Michail Stamatakis, United Kingdom

14.30
OP-III-15
Fernández J.[1], Sotenko M.[1], Lysikov A.[2], Derevschikov V.[2], **Rebrov E.[1,3]**
AN INDUCTION HEATED REACTOR SYSTEM FOR POST-COMBUSTION CARBON CAPTURE
[1]*University of Warwick, Coventry, United Kingdom*
[2]*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*
[3]*Tver State Technical University, Tver, Russia*

14.50
OP-III-16
Taran O.P.[1,2], **Ayusheev A.B.[1]**, Zagoruiko A.N.[1,2,3,4], Yashnik S.A.[1], Prihod'ko R.V.[5], Goncharuk V.V.[5], Parmon V.N.[1,4]
WET PEROXIDE OXIDATION OF PHENOL OVER BIFUNCTIONAL CARBON/ZEOLITE COMPOSITE ADSORBENT-CATALYSTS. A STUDY OF KINETICS AND DIFFUSION IN A BATCH AND FLOW REACTOR
[1]*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*
[2]*Novosibirsk State Technical University, Novosibirsk, Russia*
[3]*Tomsk Polytechnic University, Tomsk, Russia*
[4]*Novosibirsk State University, Novosibirsk, Russia*
[5]*Dumansky Institute of Colloid Water Chemistry NASU (Kiev), Ukraine*

15.10 ***Closing***

September 22, Thursday
Afternoon Session

ARNOLD Hall

ORAL PRESENTATIONS

Section IV.
Advanced Processing of Conventional and Unconventional Hydrocarbon Feedstocks

Chairperson: Professor Mikhail Sinev, Russia

11.20
OP-IV-10
Foscolo P.[1], Aloisi I., Di Giuliano A.[1,2], Gallucci K., Courson C.[2], Massacesi R.[1], Girr J.[2]
Bi-FUNCTIONAL SOLID PARTICLES FOR SORPTION ENHANCED STEAM METHANE REFORMING: MODELLING AND EXPERIMENTAL DATA
[1]*University of L'Aquila, L'Aquila, Italy*
[2]*University of Strasbourg – ICPEES, France*

11.40
OP-IV-11
Zhang Q., Chen T., Wang J., Wang T.
ENHANCEMENT OF THE ACETYLENE YIELD FROM METHANE BY PARTIALLY DECOUPLING THE OXIDATION AND PYROLYSIS REACTIONS
Tsinghua University, Beijing, China

12.00
OP-IV-12
Vandewalle L.A., Dedeyne J.N., Van Cauwenberge D.J., Reyniers P.A., Van Geem K.M., Marin G.B.
COMPUTATIONAL FLUID DYNAMICS DESIGN OF STEAM CRACKING REACTORS: EXTRUSION METHOD FOR SIMULATION OF DYNAMIC COKE LAYER GROWTH
Ghent University, Ghent, Belgium

12.20
OP-IV-13
Belinskaya N.**,** Popova N., **Frantsina E.V.,** Ivanchina E.
MATHEMATICAL MODELLING OF "REACTOR – STABILIZATION COLUMN" SYSTEM IN CATALYTIC DEWAXING OF DIESEL OIL CUTS AND ATMOSPHERIC GASOIL
Tomsk Polytechnic University, Tomsk, Russia

12.40
OP-IV-14
Vitiello R., Tesser R., Di Serio M., Russo V., Turco R.
LOOP REACTOR MODELING FOR LUBRICANTS SYNTHESIS
University of Naples, Naples, Italy

13.00-14.30 ***Lunch***

ORAL PRESENTATIONS

Section IV.
Advanced Processing of Conventional and Unconventional Hydrocarbon Feedstocks

Chairperson: Professor Axel Löfberg, France

14.30
OP-IV-15
Ivanchina E.D., Dolganov I.M., Chuzlov V.A., **Belinskaya N.S.,** Frantsina E.V.
INTENSIFICATION OF FLOW BLENDING TECHNOLOGY IN THE PRODUCTION OF MOTOR FUELS BY METHOD OF MATHEMATICAL MODELLING
Tomsk Polytechnic University, Tomsk, Russia

14.50
OP-IV-16
Koksharov A.[1], Chernyakova E.[1], Ivanchina E.[1], **Yakupova I.V.[1]**, Faleev S.A.[2]
COKE FORMATION REDUCTION IN THE CATALYTIC REFORMING REACTORS BY OPTIMAL WATER AND CHLORINE FEED IN THE REACTION ZONE
[1]*Tomsk Polytechnic University, Tomsk, Russia*
[2]*Ltd "Kinef", Tomsk, Russia*

15.10 ***Closing***

FLASH PRESENTATIONS

FP-1. Guzmán I., Güemez M., Iriondo A., Cambra J., **Requies J.**
MODIFIED ZSM-5 ZEOLITE IN THE CONVERSION OF FURFURYL ALCOHOL TO LEVULINIC ACID
School of Engineering, University of the Basque Country, Bilbao, Spain

FP-2. **Reina T.,** Arellano-Garcia H.
"EMISSIONS TO LIQUID FUELS" VIA METHANE DRY REFORMING
University of Surrey, Guildford, United Kingdom

FP-3. Mendiguren A., **Iriondo A.,** Güemez M.B., Requies J., Cambra J.F.
HYDROGENOLYSIS OF 5-HYDROXYMETHYLFURFURAL TO PRODUCE 2,5-DIMETHYLFURAN OVER COMMERCIAL COPPER CHROMITE CATALYST
School of Engineering, University of the Basque Country, Bilbao, Spain

FP-4. **Guayaquil Sosa J.F.,** Serrano Rosales B.[2], de Lasa H.[1]
HYDROGEN GENERATION VIA PHOTOCATALYTIC WATER SPLITTING USING A MESOPOROUS TiO_2 DOPED WITH PLATINUM
[1]*The University of Western Ontario, London, Canada*
[2]*Universidad Autonoma de Zacatecas, Zacatecas, Mexico*

FP-5. Lopez-Isunza F., **Domenzain I.**, Esparza-Isunza T.
MULTICOMPONENT DIFFUSION WITH CHEMICAL REACTION IN A POROUS MEMBRANE: TRANSIENT MODELLING OF THE CATALYTIC DECOMPOSITION OF HCOOH COUPLED TO THE WATER-GAS SHIFT REACTION
Universidad Autonoma Metropolitana – Iztapalapa, Mexico City, Mexico

FP-6. Mills P.L., Nagaraj A., **Nanduri A.**
MEASUREMENT OF GAS-SOLID KINETIC RATE DATA FOR COMMERCIAL-SIZE FIXED-BED CATALYSTS USING A NOVEL JET LOOP REACTOR
Texas A&M University-Kingsville, Kingsville, USA

FP-7. **Polianczyk E.,** Dorofeenko S., Ivanova A., Karnaukh A., Kostenko S.
CONVERSION OF HYDROCARBONS TO SYNGAS IN A NON-PREMIXED REVERSED-FLOW POROUS BED REACTOR
Institute of Problems of Chemical Physics RAS, Chernogolovka, Moscow region, Russia

FP-8. **Rabinovich O.[1]**, Tsytsenka (Blinova) A.[1], Kuznetsov V.[2], Krasnikov D.[2]
A MODEL FOR CATALYTIC SYNTHESIS OF MWCNT IN A FLUIDIZED-BED REACTOR: EFFECT OF REACTION HEAT ON THE GROWTH OF LATERAL CARBON DEPOSITS
[1]*A.V. Luikov Heat and Mass Transfer Institute, NAS of Belarus, Minsk, Belarus*
[2]*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

FP-9. **Wang F.[1],** Pratsinis S.[2], Lubitz W.[3], Schüth F.[4]
***In situ* EPR STUDY ON REDOX PROPERTIES of CuO-CeO_2**
[1]*University College London , United Kingdom*
[2]*Swiss Federal Institute of Technology in Zurich (ETN Zürich), Switzerland*
[3]*Max-Planck-Institut für Chemische Energiekonversion, Mülheim an der Ruhr,* Germany
[4]*Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr, Germany*

POSTER PRESENTATIONS

PP-1. **Arandia A.,** Remiro A., Bilbao J., Gayubo A.
REGENERABILITY OF Ni and Rh BASED CATALYSTS IN OXIDATIVE STEAM REFORMING OF BIO-OIL
University of Basque Country UPV/EHU, Bilbao, Spain

PP-2. Banzaraktsaeva S.P., Ovchinnikova E., Bedareva D.A., Danilevich V., Kruglyakov V., Isupova L., Chumachenko V., **Vernikovskaya N.**
PILOT-SCALE STUDY OF ETHYLENE SYNTHESIS BY ETHANOL DEHYDRATION ON ACID-MODIFIED ALUMINA CATALYSTS
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-3. Baybakova O.V.[1], Skiba E.A.[1], Budaeva V.V.[1], Vasilishin M.S.[1], Makarova E.I.[1], Ovchinnikova E.V.[2], Banzaraktsaeva S.P.[2], Chumachenko V.A.[2], **Vernikovskaya N.**
PRODUCTION OF BIO-ETHANOL FROM CELLULOSE-CONTAINING AGRICULTURAL RESIDUES ON THE PILOT SETUP
[1]*Institute for Problems of Chemical and Energetic Technologies SB RAS, Biysk, Russia*
[2]*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

PP-4. **Bondareva V.M.**, Ishchenko E.V., Vernicovskaya N.V., Ovchinnikova E.V., Sobolev V.I.
CATALYTIC OXIDATIVE CONVERSION OF ETHANE TO ETHYLENE. DEVELOPMENT OF A PROCESS TECHNOLOGY.
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-5. Bouaid A., Acharki H., Martinez M., **Aracil J.**
ENZYMATIC BUTANOLYSIS OF JOJOBA OIL. AN OPTIMIZATION STUDY
University Complutense, Madrid, Madrid, Spain

PP-6. **Bracconi M.,** Maestri M., Groppi G., Tronconi E.
A SYSTEMATIC METHODOLOGY FOR THE VIRTUAL RECONSTRUCTION OF OPEN-CELL FOAMS
Politecnico di Milano, Milan, Italy

PP-7. **Chandana L.,** Subrahmanyam Ch.
A GREEN APPROACH FOR THE SIMULTANEOUS REMOVAL OF ARSENIC(III) and CHROMIUM(VI) IN AN AQUEOUS MEDIUM BY ATMOSPHERIC PRESSURE PLASMA JET
Indian Institute of Technology, Hyderabad, Hyderabad, India

PP-8. **Chen T.,** Wang T., Yu X., Zhang Q., Wang J.
GAS QUENCHING PROCESS OF JET IN CROSSFLOW FOR THE PARTIAL OXIDATION OF NATURAL GAS TO ACETYLENE
Tsinghua University, Beijing, China

PP-9. **Chuzlov V.A.,** Ivanchina E.
CATALYTIC HYDROCONVERSION OF BENZENE CONTENT FRACTION IN REFORMING REACTORS
Tomsk Polytechnic University, Tomsk, Russia

PP-10. Cordero-Lanzac T.[1], Palos R.[1], Arandes J.M.[1], Rodríguez-Mirasol J.[2], Cordero T.[2], Bilbao J.[1], Castaño P.[1]

APPRAISAL OF FCC- AND ACTIVATED CARBON-BASED CATALYST FOR THE HYDRODEOXYGENATION OF RAW BIO-OIL USING MILD CONDITIONS

[1]University of the Basque Country, Bilbao, Spain

[2]Universidad de Málaga, Málaga, Spain

PP-11. Coronado I.[1], Stekrova M.[2], Reinikainen M.[1], Simell P.[1], Lehtonen J.[2]

AQUEOUS-PHASE REFORMING OF OXYGENATED HYDROCARBONS OVER NICKEL-BASED CATALYST IN A MULTIPHASE REACTOR FOR HYDROGEN PRODUCTION

[1]VTT Technical Research Centre of Finland Ltd., Espoo, Finland

[2]Aalto University, Espoo, Finland

PP-12. Dahnavi E.M.[1], **Vodyankina O.V.[2]**

EFFECT OF HYDRODYNAMIC CONDITIONS ON LIQUID-PHASE OXIDATION OF CUMENE

[1]Kazan State Technological University, Kazan, Russia

[2]Tomsk State University, Tomsk, Russia

PP-13. Del Castillo A.[1], Alvarez-Guerra M.[1], **Albo J.[2],** Solla-Gullón J.[3], Sáez A.[2], Montiel V.[3], Irabien A.[1]

ELECTROCHEMICAL REACTOR FOR CONTINUOUS CO_2 VALORIZATION: SYNTHESIS AND USE OF Sn NANOPARTICLES ON GDEs

[1]University of Cantabria, Department of Chemical Engineering , Santander, Spain

[2]University of the Basque Country, Bilbao, Spain

[2]University of Alicante, Institute of Electrochemistry, Alicante, Spain

PP-14. Deorsola F.A., Fiorilli S., Russo N., Pirone R.

Pd-SBA15 CATALYSTS PREPARED BY SPRAY DRYING FOR ABATEMENT OF CH_4 EMITTED BY CNG VEHICLES

Politecnico di Torino, Torino, Italy

PP-15. Di Carlo A.[1], Aloisi I.[1], Jand N.[1], Stendardo S.[2], **Foscolo P.[1]**

SORPTION ENHANCED STEAM METHANE REFORMING ON CATALYST/SORBENT BIFUNCTIONAL PARTICLES: A CFD FLUIDIZED BED REACTOR MODEL

[1]University of L'Aquila, L'Aquila, Italy

[2]Department of Energy, Italian National Agency for New Technologies, Energy and Sustainable Economic Development ENEA, Rome, Italy

PP-16. Díaz Muñoz M., Ateka A., Epelde E., Pérez-Uriarte P., Aguayo A.T., Bilbao J.

1-BUTENE OLIGOMERISATION: EFFECT OF SiO_2/Al_2O_3 RATIO ON HZSM-5 ZEOLITE

University of the Basque Country, Faculty of Science and Technology, Bilbao, Spain

PP-17. Dobrynkin N., Batygina M., **Noskov A.**

CATALYTIC METHODS OF ENHANCED OIL RECOVERY RESERVOIRS OF OIL FIELDS

Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-18. Dobrynkin N., Batygina M., **Noskov A**.

THE DEVELOPMENT OF THE PROCESS OF HYDROTHERMAL DECOMPOSITION OF CHLORIDE SOLUTIONS IN BATCH AND FLOW REACTORS

Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-19. Dolganov I., Ivanchina E., **Chuzlov V.A.**, Dolganova I.
IMPROVING THE EFFICIENCY OF HIGH OCTANE GASOLINES MANUFACTURING
Tomsk Polytechnic University, Tomsk, Russia

PP-20. Dolganova I., Dolganov I., Ivashkina E., Ivanchina E.
DEVELOPMENT OF MATHEMATICAL MODEL OF LINEAR ALKYLBENZENES SULPHONATION FILM REACTOR
Tomsk Polytechnic University, Tomsk, Russia

PP-21. Ebert D.Yu., Savelieva A.S., Salaev M.A., **Vodyankina O.V.**
PROPYLENE GLYCOL OXIDATION OVER P-PROMOTED Ag/SiO_2 and Fe/SiO_2 CATALYSTS: EXPERIMENTAL AND THEORETICAL COMPARISON
Tomsk State University, Tomsk, Russia

PP-22. Fedotov A.S.[1], Antonov D.[2], Uvarov V.[3], Basov N.[4], Yaroslavtsev A.[4], Tsodikov M.V.[4]
INTEGRATED MEMBRANE REACTOR FOR ULTRAPURE HYDROGEN PRODUCTION BY REFORMING PROCESSES OF RENEWABLE RESOURCES AND SYNTHETIC FUEL
[1]A.V.Topchiev Institute of Petrochemical Synthesis, RAS, Moscow, Russia
[2]The Institute of Structural Macrokinetics RAS, Chernogolovka, Moscow region, Russia

PP-23. Fernandez E., Bensaid S., **Pirone R.**
AQUEOUS PHASE REFORMING OF BIODERIVED HEMICELLULOSIC OXYGENATES
Politecnico di Torino, Torino, Italy

PP-24. Galletti C., Deorsola F., Bensaid S., Russo N.
STUDY ON MESOPOROUS-SUPPORTED CATALYSTS FOR SIMULTANEOUS CO_2 AND STEAM REFORMING OF BIOGAS
Politecnico di Torino, Torino, Italy

PP-25. Gharib A.[1,2], Fard L.[3], Pesyan N.[4], Roshani M.[1]
CATALYTIC SYNTHESIS OF 1,3-DIARYL-2-PROPENE-1-ONES BY USING HETEROPOLYACIDS AS HETEROGENEOUS RECYCLABLE GREEN CATALYSTS
[1]Islamic Azad University (Mashhad), Iran
[2]Agriculture Research&Service Center and Islamic Azad University, Mashhad), Iran
[3]Education Organization of Razavi Khorasan, Mashhad, Iran
[4]Urmia University, Urmia, Iran

PP-26. Gharib A.[1,2], Pesyan N.[3], Fard L.[4], Jahangir M.[1], Roshani M.[1]
SYNTHESIS OF β–AMINO CARBONYL COMPOUNDS USING ZnO NANOPARTICLES AS A GREEN, EFFECTIVE AND REUSABLE CATALYST
[1]Islamic Azad University (Mashhad), Iran
[2]Agriculture Research&Service Center and Islamic Azad University, Mashhad, Iran
[3]Urmia University, Urmia, Iran
[4]Education Organization of Razavi Khorasan, Mashhad, Iran

PP-27. Guayaquil Sosa J.F.[1], Serrano Rosales B.[2], de Lasa H.[1]
HYDROGEN GENERATION VIA PHOTOCATALYTIC WATER SPLITTING USING A MESOPOROUS TiO_2 DOPED WITH PLATINUM
[1]The University of Western Ontario, London, Canada
[2]Universidad Autonoma de Zacatecas, Zacatecas, Mexico

PP-28. Guo K., **Wang T.**, Yang G., Wang J.
EXPERIMENTAL STUDY AND CFD-PBM SIMULATIONS OF A BUBBLE COLUMN WITH DIFFERENT LIQUID PROPERTIES
Tsinghua University, Beijing, China

PP-29. Gusevskaya E.V., de Oliveira K.C., Faria A.C., Monteiro A.C., dos Santos E.N.
SYNTHESIS OF FRAGRANCE COMPOUNDS FROM BIORENEWABLES: HYDROFORMYLATION OF TERPENES
Universidade Federal de Minas Gerais, Belo Horizonte, Brazil

PP-30. Guzmán I., Güemez M., Iriondo A., Cambra J., **Requies J.**
MODIFIED ZSM-5 ZEOLITE IN THE CONVERSION OF FURFURYL ALCOHOL TO LEVULINIC ACID
School of Engineering, University of the Basque Country, Bilbao, Spain

PP-31. Hartmann V.L.
THE ABSORBENTS FOR THE SULFUR REMOVAL REACTOR STABLE OPERATION
LLC "NIAP-KATALIZATOR", Novomoskovsk, Russia

PP-32. Ivanchina E., Ivashkina E., **Dolganova I.,** Frantsina E.V.
RESEARCH ON INFLUENCE OF ALKYLAROMATIC HYDROCARBONS ON EFFICIENCY OF LINEAR ALKYLBENZENES SYNTHESIS REACTOR PROCESSES
Tomsk Polytechnic University, Tomsk, Russia

PP-33. Ivanova Y., Ivanov D., Chumachenko V., Isupova L., **Noskov A.**
ONE-REACTOR SCHEME FOR NO AND N_2O LOW TEMPERATURE ABATEMENT FROM TAIL GAS IN NITRIC ACID PRODUCTION
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-34. Ivashkina E.[1], Ivanchina E.[1], **Frantsina E.V.[1],** Kozlov I.B.[2], Platonov V.V.[2], Fefelova K.O.[1]
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[1]*Tomsk Polytechnic University, Tomsk, Russia*
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[1]*Chulalongkorn University, Bangkok, Thailand*
[2]*Nagoya University, Nagoya, Japan*

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PP-38. Khlebnikova E.[1], Ivashkina E.[1], Ignatova L.[1], Koshkin S.[1,2]
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[1]Tomsk Polytechnic University, Tomsk, Russia
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PP-40. Korsunskiy B.L.[1-3], Samoilenko N.[1], Finaeva Y.[1], Kustova L.[1], Il'ichev A.[4]
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[1]Tomsk Polytechnic University, Tomsk, Russia
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[2]University of Cardiff, Cardiff, United Kingdom

PP-48. Li M., **van Veen A.C.**
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PP-52. Matyushin Y.N.[1], Samoilenko N.[2], Bostandgian V.[2], Finaeva Y.[2], Kustova L.[2], Korsunskiy B.L.[1,2]
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PP-53. Mendiguren A., **Iriondo A.,** Güemez M., Requies J., Cambra J.
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[1]Universidad de Cantabria, Santander, Spain
[2]Tashkent Chemical-Technological Institute, Tashkent, Uzbekistan

PP-59. Orava V.[1], Souček O.[1], Čendula P.[2]
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[1]Charles University in Prague, Prague, Czech Republic
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PP-60. Ovchinnikova E.V., Banzaraktsaeva S.P., Chumachenko V.A., **Vernikovskaya N.V.**
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PP-61. Özcan O.[1,2], Kibar M.E.[1,2], Dusova-Teke Y.[3], Yonel-Gumruk E.[3], Akın A.N.[1,2]
PREPARATION AND HYDRODESULFURIZATION PERFORMANCE OF B-PROMOTED ALUMINA-SUPPORTED Co-Mo SULFIDE CATALYSTS
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PP-62. Pai Z.P., Zhizhina E.G., Adonin N., Parmon V.
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[1]Ajou University, Suwon, South Korea
[2]Korea Research Institute of Chemical Technology, Daejeon, South Korea

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[1]Chulalongkorn University, Bangkok, Thailand
[2]Silpakorn University, Nakhon Pathom, Thailand

PP-68. Piumetti M., Bensaid S., **Russo N.**, Fino D.
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PP-72. Rabinovich O.[1], Tsytsenka (Blinova) A.[1], Kuznetsov V.[2], Krasnikov D.[2]
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PP-73. Redekop E.[1], Fushimi R.[2], Gleaves J.[3], Olsbye U.[1]
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[1]University of Oslo, Oslo, Norway
[2]Idaho National Laboratory, DOE, Idaho Falls, USA
[3]Washington University in Saint Louis, Saint Louis, USA

PP-74. Reina T., Arellano-Garcia H.
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University of Surrey, Guildford, United Kingdom

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[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
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[1]Ajou University, Suwon, South Korea
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D. Mendeleyev University of Chemical Technology of Russia, Moscow, Russia

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PP-91. Yun Y., Park J., Kim J., Kim Y., Row K., Jang Y.
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Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-95. Zhu J.[1], Deadman B.[1], Loponov K.[2], Holdich R.[2], Rielly C.[2], King Kuok (Mimi) H.[1], Hellgardt K.[1]

DEVELOPMENT, CONTROL AND MODELLING OF A SCALABLE CONTINUOUS MANUFACTURING PROCESS FOR MULTIPHASE OXIDATIONS

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VIRTUAL PRESENTATIONS

VP-1. **Bachurikhin A.L.[1],** Efendiev M.[2]

ELECTROMAGNETIC CATALYTIC REACTOR OF WATER TREATING FROM OILS AND HYDROCARBONS

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VP-2. **Bruk L.G.[1],** Ustyugov A.V.[1], Titov D.N.[1], Zubavichus Y.V.[2], Iskhakova L.D.[3], Tkachenko O.P.[4], Oshanina I.V.[1], Veligzhanin A.A.[2], Kustov L.M.[4], Temkin O.N.[1]

THE KINETICS AND MECHANISM OF LOW-TEMPERATURE CARBON MONOXIDE OXIDATION BY MOLECULAR OXYGEN ON $PdCl_2$-$CuCl_2$/γ-Al_2O_3 CATALYTIC SYSTEM

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VP-3. Burlutskiy N., Levashova A., **Popok E.V.,** Juravkov S., Polonskaya M.

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Tomsk Polytechnic University, Tomsk, Russia

VP-4. **Chistovalov S.M.**

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VP-5. **Davletbaeva I.M.[1,2,3],** Vorotyntsev I.V.[1], Gumerov A.M.[2], Zaripov I.I.[2], Mazilnikov A.I.[3], Akhmetshina A.I.[1], Davletbaev R.S.

THE NANOPOROUS POLYMERIC MEMBRANES FOR THE NEW DESIGN MODULE FOR AMMONIA SEPARATION

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VP-6. **Fedotov V.**, Koltsov N.

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Chuvash State University, Cheboksary, Russia

VP-7. Guba G.Y.[1], **Smetanina E.I.[1],** Gusar A.O.[1], Dolgov I.R.[1], Bakibaev A.A.[2]

EFFECT OF POWER RADIATION ON THE POLYCONDENSATION OF LACTIC ACID UNDER MICROWAVE SYNTHESIS CONDITIONS

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VP-8. **Ilolov A.[1],** Tretiyakov K.[2], Frantsuzova N.[2], Talyshinsky R.[1], Tretiyakov V.[1]

CONVERSION OF ETHANOL INTO BUTADIENE -1.3 IN THE PRESENCE OF AN INITIATOR

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VP-9. **Ivashkina E.N.,** Nurmakanova A.E., Boichenko S.S.
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Tomsk Polytechnic University, Tomsk, Russia

VP-10. **Kukueva V.V.**
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State Institution "Institute of Environmental Geochemistry" NAN Ukraine, Kiev, Ukraine

VP-11. **Mityanina O.E.,** Samborskaya M.A.
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VP-13. Pisarev M., **Dolganov I.,** Dolganova I., Ivashkina E.
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D. Mendeleyev University of Chemical Technology of Russia, Moscow, Russia

VP-16. **Tataurshchikov A.A.**, Ivanchina E., Krivtcova N.
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VP-17. Tungatarova S., **Baizhumanova T.,** Zheksenbaeva Z., Abdukhalykov D., Zhumabek M., Kassymkan K.
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VP-18. Tungatarova S., **Baizhumanova T.**, Zheksenbaeva Z., Zhumabek M., Kassymkan K.
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VP-19. Tungatarova S., **Baizhumanova T.**, Zhumabek M.
OXIDATION OF LIGHT ALKANES TO HYDROGEN-CONTAINING COMPOSITIONS OVER SUPPORTED BLOCK CATALYSTS
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VP-20. Vershinin N.O.[1], Sokolova I.[1,2], Nevolina K.[1]

APPLICATION OF EXCILAMPS FOR DEGRADATION HERBICIDE 2,4-D BY USING FLOW REACTOR

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VP-21. Yemelyanova V.S., Aibassov Y.Zh., Shakiev E.M., Dossumova B.T., Shakieva T.V., Baizhomartov B.B.

THE TECHNOLOGY OF PREPARATION AND USE OF MICROSPHERIC MAGNETICALLY CONTROLLED ALUMINOSILICATE MATERIALS BASED ON CENOSPHERES OF ENERGETICAL ASH FOR THE IMMOBILIZATION AND SOLIDIFICATION OF RADIOACTIVE WASTE

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VP-22. Yemelyanova V.S., Baizhomartov B.B., Kairbekov Z.K., Shakieva T.V., Dossumova B.T.

THE TECHNOLOGY OF PRODUCING CARBON-MINERAL NANOSCALE MAGNETIC COMPOSITES AND THEIR USE IN THE HYDROGENOLYSIS PROCESS OF BROWN COAL INTO LIQUID HYDROCARBON PRODUCTS

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VP-23. Yemelyanova V.S., Ibrasheva R.H., Shakieva T.V., Aibassov Y.Zh., Shakiev E.M.

THE CARBON DIOXIDE ACTIVATION TECHNOLOGY IN THE VORTEX ELECTROMAGNETIC FIELD IN THE PRESENCE OF MODIFIED MAGNETIC IRON-CONTAINING CATALYSTS

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VP-24. Zbair M.[1,2,3], **Ojala S.[2],** Bottlinger M.[3], Stein O.[3], Ainassaari K.[2], Keiski R.[2], Bensitel M.[1], Brahmi R.[1]

HYDROTHERMAL CARBONIZATION (HTC) OF ARGAN NUT SHELL FOR REMOVAL OF BISPHENOL-A

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VP-25. Zirka A.A., Simonova L.G., **Petrov R.V.,** Reshetnikov S.I.

HYDROFLUORINATION OF TETRACHLOROETHYLENE INTO PENTAFLUOROETHANE OVER A Cr–Al CATALYSTS: CATALYST COMPOSITION EFFECT, KINETIC STUDY

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