SCIENTIFIC PROGRAM
of the XXIV International conference on Chemical Reactors ChemReactor-24

ONLINE

Milan, Italy–Novosibirsk, Russia, September 12 - 17, 2021

EFCE Event 769

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

Politecnico di Milano, Milan, Italy

European Federation on Chemical Engineering

Conference Co-Chairs

Professor Gianpiero Groppi
Politecnico di Milano
Italy

Professor Alexandr Noskov
Boreskov Institute of Catalysis
Russia

Conference Secretariat

Professor Matteo Maestri
Politecnico di Milano
Italy

Tatiana Zamulina
Boreskov Institute of Catalysis
Russia

Conference Proceedings:
Virtual Special Issue
CHEMICAL ENGINEERING JOURNAL
ELSEVIER

Conference Website:

http://conf.nsc.ru/CR-24

INTERNATIONAL SCIENTIFIC COMMITTEE

Valentin Parmon, Chair	Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
Ahmet Kerim Avci	Bogazici University, Turkey
Marc-Oliver Coppens	University College London, United Kingdom
Carlos Castillo-Araiza	Autonomous Metropolitan University-Iztapalapa, Mexico City, Mexico
Olaf Deutschmann	Institute for Chemical Technology and Polymer Chemistry, University of Karlsruhe (TH), Germany
Pascal Fongarland	Laboratory of Catalytic Process Engineering, CNRS-CPE-Lyon, France
Hannsjörg Freund	TU Dortmund University, Dortmund, Germany
Gilbert Froment	Belgium
Erik Heeres	University of Groningen, The Netherlands
Olaf Hinrichsen	Technical University of Munich, Germany
Gunther Kolb	Fraunhofer Institute for Microtechnology and Microsystems, Mainz, Germany
J.A.M. (Hans) Kuipers	Eindhoven University of Technology, The Netherlands
Dan Luss	University of Houston, Texas, USA
Guy Marin	Ghent University, Belgium
Mario Montes	University of the Basque Country, San Sebastián, Spain
Dmitry Murzin	Åbo Akademi University, Turku, Finland
Evgeny Rebrov	University of Warwick, Coventry, United Kingdom
Jesus Santamaria	University of Zaragoza, Spain
Moshe Sheintuch	Institute of Technology, Technion, Haifa, Israel
Andrzej Stankiewicz	Delft University of Technology, The Netherlands
Kurt VandenBussche	UOP, A Honeywell Company, Des Plaines, IL, USA
Kevin Van Geem	Ghent University, Belgium
Dionisios G. Vlachos	University of Delaware, Newark, Delaware, USA
Andrey Zagoruiko	Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
Xinggui Zhou	East China University of Science and Technology, Shanghai, China

LOCAL ORGANIZING COMMITTEE

Professor Alessandra Beretta	Politecnico di Milano, Milan, Italy
Dr. Mauro Bracconi	Politecnico di Milano, Milan, Italy
Professor Alberto Cuoci	Politecnico di Milano, Milan, Italy
Professor Isabella Nova	Politecnico di Milano, Milan, Italy
Dr. Matteo Pelucchi	Politecnico di Milano, Milan, Italy
Dr. Tommaso Selleri	Politecnico di Milano, Milan, Italy
Dr. Alessandro Stagni	Politecnico di Milano, Milan, Italy
Professor Carlo Giorgio Visconti	Politecnico di Milano, Milan, Italy

JOINT PROGRAM COMMITTEE

Professor Andrey Zagoruiko, Chair	Boreskov Institute of Catalysis SB RAS, Russia
Professor Matteo Maestri, Vice-Chair	Politecnico di Milano, Milan, Italy
Dr. Victor Chumachenko	Boreskov Institute of Catalysis SB RAS, Russia
Professor Alessandro Donazzi	Politecnico di Milano, Milan, Italy
Professor Tiziano Faravelli	Politecnico di Milano, Milan, Italy
Dr. Maxim Kazakov	Boreskov Institute of Catalysis SB RAS, Russia
Dr. Oleg Klenov	Boreskov Institute of Catalysis SB RAS, Russia
Dr. Andrey Kuzmin	Boreskov Institute of Catalysis SB RAS, Russia
Dr. Elena Lashina	Boreskov Institute of Catalysis SB RAS, Russia
Professor Davide Moscatelli	Politecnico di Milano, Milan, Italy
Professor Sergei Reshetnikov	Boreskov Institute of Catalysis SB RAS, Russia
Dr. Pavel Snytnikov	Boreskov Institute of Catalysis SB RAS, Russia
Dr. Nadezhda Vernikovskaya	Boreskov Institute of Catalysis SB RAS, Russia
Prof. Vadim Yakovlev	Boreskov Institute of Catalysis SB RAS, Russia
Mr. Ilya Zolotarskii	Boreskov Institute of Catalysis SB RAS, Russia

Advances in Chemical Reactor Fundamentals

First-Principles-Based Chemical Reaction Engineering.
Chemical Reaction Kinetics.
Energy & Mass Transfer in Chemical Reactors.
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, Nature-Inspired Reactor Concepts, Modular Reactor Design for Multiproduct Purpose).

Process Intensification and Multifunctional Reactors (e.g., Microwave/Induction Heated Reactors, Ultrasonic Reactors, Unsteady-State Forcing and Sorption Enhancement in Chemical Reactors, High-gravity, High-Shear Reactors, Electricity-Driven Reactors)

Safety Considerations in Reactor Design and Operation.

Chemical Reactors and Technologies for Targeted Applications

Environmental Protection and Utilization of Waste.

Reactors for Polymers and Other Novel Materials with Targeted Properties.

Reactors for Processing of Biomass and Renewable Feedstocks into Valuable Chemicals Electrochemical and Photochemical Reaction Engineering.

CO_2 Sequestration and Utilization.

Advanced Reactors and Technologies for Energy-Related Applications

Reactors for Fuel Production from Non-Conventional and Renewable Feedstocks Advanced Reactors and Technologies for Manufacturing of Hydrogen.

Reactors and Processes for Manufacturing, Conversion and Storage of Energy Engineering of Fuel Cells.

Solar-Driven Chemical Reactors.

Universal Coordinated Time UTC-0

September 13, Monday
HALL I

06.30 Conference pre-opening

ORAL PRESENTATIONS

Section I.
Advances in Chemical Reactor Fundamentals

Chairperson: Professor Dr.-Ing. Gregor Wehinger, Germany

06.40–07.00
OP-I-1
Murzin D.Yu.
APPARENT ACTIVATION ENERGY OF STRUCTURE SENSITIVE HETEROGENEOUS CATALYTIC REACTIONS
Åbo Akademi University, Laboratory of Industrial Chemistry, Turku, Finland

07.00–07.20
OP-I-2
Bracconi M., Maestri M.
INCLUSION of kMC INTO MACROSCOPIC REACTOR MODELS BY MEANS OF MACHINE LEARNING TECHNIQUES
Politecnico di Milano, Milan, Italy

07.20–07.40
OP-I-3
Cheula R., Maestri M.
UNRAVELING THE NATURE AND THE IDENTITY OF THE ACTIVE SITES IN HETEROGENEOUS CATALYSIS VIA STRUCTURE-DEPENDENT MICROKINETIC MODELING
Politecnico di Milano, Milan, Italy

07.40–08.00
OP-I-4
Branco P.D.[1], Yablonsky G.S.[2], Marin G.B.[3], Constales D.[3]
INVARIANT EXPRESSIONS IN CHEMICAL KINETICS
[1]*Flemish Institute for Technological Research (VITO), Mol, Belgium*
[2]*Washington University in St. Louis, USA*
[3]*Ghent University, Ghent, Belgium*

08.00–08.20
OP-I-5
Voloshin B.[1,2], Kovalev I.[1,3], Popov M.[1], Bychkov S.[1], Chizhik S.[1], Nemudry A.P.[1]
EFFECT OF OXYGEN NONSTOICHIOMETRY ON OXYGEN PERMEABILITY PROCESS IN PEROVSKITE OXIDE
[1]*Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia*
[2]*Novosibirsk State University, Novosibirsk, Russia*
[3]*Novosibirsk State Technical University, Novosibirsk, Russia*

08.20–08.40
OP-I-6
Slinko M.M.[1], Makeev A.G.[2], Bychkov V.Y.[1], Korchak V.N.[1]
SPATIOTEMPORAL PATTERNS DURING CO OXIDATION ON Ni AT ATMOSPHERIC PRESSURE
[1]*N.N. Semenov Institute of Chemical Physics RAS, Moscow, Russia*
[2]*Lomonosov Moscow State University, Moscow, Russia*

08.40–09.00 Coffee break

ORAL PRESENTATIONS

Section I.
Advances in Chemical Reactor Fundamentals

Chairperson: Professor Marina Slinko, Russia

09.00–09.20
OP-I-7
Lashina E.A.[1,2], Slavinskaya E.M.[1,2], Boronin A.I.[1,2]
NONSTATIONARY DYNAMICS OF CO OXIDATION DEPENDING ON THE STRUCTURE OF PALLADIUM-CERIA CATALYSTS
[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[2]Novosibirsk State University, Novosibirsk, Russia

09.20–09.40
OP-I-8
Alghamdi N., Sarathy M.
MICROKINETIC DESCRIPTION OF CO OXIDATION OVER A RHODIUM CATALYST
King Abdullah University of Science and Technology, Thuwal, Saudi Arabia

09.40–10.00
OP-I-9
Salmi T.[1], Murzin D.[1], Wärnå J.[1], Russo V.[1,2], Kilpiö T.[1], Gemo N.[1], Reinsdorf A.[1], Schmidt S.[1], Behravesh E.[1], Vajglova Z.[1], Suerz R.[1], Balme Q.[1], Kumar N.[1], Eränen K.[1]
MICROREACTORS AS STRONG TOOLS IN THE DETERMINATION OF INTRINSIC KINETICS FOR HETEROGENEOUSLY CATALYZED RAPID GAS-PHASE REACTIONS
[1]Åbo Akademi University, Turku/Åbo, Finland
[2]The University of Naples Federico II, Naples, Italy

10.00–10.30 Coffee break

11.00 Official opening

PLENARY LECTURES

Chairpersons:
Professor Tapio Salmi, Finland
Professor Dmitry Murzin, Finland

11.00–12.00
PL-1
Professor Guy Marin
University of Ghent, Belgium
A Professor Mikhail Slin'ko Honorary Lecture
CHEMICAL REACTION AND REACTOR ENGINEERING:
A KEY DISCIPLINE FOR PROCESS OPTIMIZATION, INNOVATION AND INTENSIFICATION

12.00-13.00
PL-2
Dr. Roberto Zennaro
Development & Technical Activity, Eni - Energy Evolution, San Donato Milanese, Italy
PROCESS TECHNOLOGIES FOR ENERGY TRANSITION: PRODUCTION OF HYDROGEN AND CO_2 CAPTURE, STORAGE AND UTILIZATION

13.00–13.15 Coffee break

KEYNOTE LECTURES

Chairperson: Professor Luis M. Gandía, Spain

13.15-13.45
KL-1
Professor Dr.-Ing. Hannsjörg Freund
TU Dortmund University, Dortmund, Germany
ADDITIVE MANUFACTURING OF TAILOR-MADE CATALYTIC REACTORS WITH OPTIMAL AND FLEXIBLE TRANSPORT PROPERTIES

13.45-14.15
KL-2
Ardagh A.M.[1,3], Shetty M.[1], Abdelrahman O.[2,3], Professor Paul Dauenhauer[1,3]
[1]*University of Minnesota, Minneapolis, MN, USA*
[2]*University of Massachusetts Amhers, Amherst, MA, USA*
[3]*Catalysis Center for Energy Innovation, Newark, DE, USA*
DYNAMIC CATALYSTS FOR RENEWABLE ENERGY AND BIO-DERIVED CHEMICALS

September 13, Monday
HALL II

ORAL PRESENTATIONS
Section II.
CHEMICAL REACTION ENGINEERING AND REACTOR DESIGN–NOVEL EXPERIMENTAL APPROACHES, MODELING, SCALE-UP AND OPTIMIZATION

Chairperson: Professor Mikhail Sinev, Russia

06.40–07.00
OP-II-1
Kersten S.R.A.
CONVERSION OF METHANE INTO HYDROGEN OR OLEFINS: A STUDY EVALUATING DIFFERENT REACTORS
University of Twente, the Netherlands

07.00–07.20
OP-II-2
Nardi L., Maestri M.
KINETIC INSIGHTS INTO CO_2 ACTIVATION VIA REVERSE WATER - GAS SHIFT ON Rh CATALYSTS
Politecnico di Milano, Milan, Italy

07.20–07.40
OP-II-3
Vandewalle L.A.[1], Geerts M.[1,2], Reyniers P.A.[2], Marin G.[1], Van Geem K.[1]
COMPUTATIONAL FLUID DYNAMICS SIMULATION OF DECOKING IN STEAM CRACKING REACTORS
[1]*Ghent University, Ghent, Belgium*
[2]*BASF Antwerpen, Antwerpen, Belgium*

07.40–08.00
OP-II-4
Ignatov A.S.[1,2], Vernikovskaya N.V.[1,2], Chumachenko V.A.[1]
MATHEMATICAL MODELING OF AMMONIA OXIDATION TO NITROUS OXIDE IN MICROCHANNEL REACTOR
[1]*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*
[2]*Novosibirsk State Technical University, Novosibirsk, Russia*

08.00–08.20
OP-II-5
Saufi A.[1], Frassoldati A.[1], Faravelli T.[1], Cuoci A.[1], Calabria R.[2], Chiariello F.[2], Massoli P.[2]
CFD MODELING OF THE EVAPORATION, AUTO-IGNITION AND COMBUSTION OF DROPLETS OF FPBO SURROGATE COMPONENTS
[1]*Politecnico di Milano, Milan, Italy*
[2]*Instituto Motori, ICT and Tecnologies for Energy and Transportation, National Research Council of Italy, Naples, Italy*

08.20–08.40
OP-II-6
Cuoci A.[1], Frassoldati A.[1], Faravelli T.[1], Lui M.[2], Marchitti F.[2], Passoni R.[2]
NUMERICAL MODELING OF CHEMICAL VAPOR INFILTRATION (CVI) WITH DETAILED HOMOGENEOUS AND HETEROGENEOUS KINETICS
[1]*Politecnico di Milano, Milan, Italy*
[2]*Brembo SpA, Curno, Italy*

08.40–09.00 Coffee break

ORAL PRESENTATIONS

Section II.
CHEMICAL REACTION ENGINEERING AND REACTOR DESIGN–NOVEL EXPERIMENTAL APPROACHES, MODELING, SCALE-UP AND OPTIMIZATION

Chairperson: Dr. Anthony Basuni Hamzah, Japan

09.00–09.20
OP-II-7
Di Serio M.[1], Russo V.[1,2], Hreczuch W.[3]
MICROREACTOR MODELLING FOR ETHOXYLATION REACTIONS
[1]University of Naples Federico II, Naples, Italy
[2]Åbo Akademi University, Turku/Åbo, Finland
[3]MEXEO, Kędzierzyn-Koźle, Poland

09.20–09.40
OP-II-8
Kocic S.[1], Philippe R.[1], Nikitine C.[1], Coudercy C.[1], Afanasiev P.[2], Loridant S.[2], Fongarland P.[2]
APPRAISAL AND MODELLING OF INTERNAL MASS TRANSFER LIMITATIONS IN LIGHT OLEFINS SYNTHESIS USING BIFUNCTIONAL CATALYSTS (OX-ZEO PROCESS)
[1]Lyon–Université Lyon 1, Villeurbanne, France
[2]University of Lyon, Université Claude Bernard Lyon 1, Research Institute for Catalysis and Environment of Lyon (IRCELYON), Villeurbanne, France

09.40–10.00
OP-II-8
Fratalocchi L., Groppi G., Visconti C.G., Lietti L., Tronconi E.
TOWARDS THE OPTIMIZATION OF THE INTERNALS DESIGN TO BOOST THE HEAT TRANSFER PERFORMANCES OF COMPACT FISCHER-TROPSCH REACTORS
Politecnico di Milano, Milan, Italy

10.00–10.30 Coffee break

September 13, Monday
HALL III

ORAL PRESENTATIONS

Section III.
CHEMICAL REACTORS AND TECHNOLOGIES FOR TARGETED APPLICATIONS

Chairperson: Professor Mingbin Gao, China

06.40–07.00
OP-III-1
Lanza A., Usberti N., Beretta A.
EFFECTS OF FLY ASH DEPOSITION ON THE PERFORMANCE OF SCR MONOLITHS: DEVELOPMENT OF A MICRO-SLAB REACTOR FOR KINETIC AND MASS TRANSFER STUDIES
Politecnico di Milano, Milan, Italy

07.00–07.20
OP-III-2
Ho P.H.[1,2], Jabłońska M.[3], Sanghez de Luna G.[1], Palkovits R.[2], Delahay G.[4], Fornasari G.[1], Vaccari A.[1], Benito P.[1]
FACILE COATING OF Co_3O_4 ON OPEN-CELL METALLIC FOAMS FOR N_2O CATALYTIC DECOMPOSITION
[1]*University of Bologna, Italy*
[2]*RWTH Aachen University, Aachen, Germany*
[3]*Leipzig University, Germany*
[4]*Ecole Nationale Supérieure de Chimie de Montpellier, Institut Charles Gerhardt des Matériaux, Montpellier, France*

07.20–07.40
OP-III-3
Dubinin Yu.V., Yazykov N.A., Federov A.V., Yakovlev V.A.
EXPERIENCE IN OPERATIONG A PILOT PLANT FOR THE SEWAGE SLUDGE UTILIZATION IN A FLUIDIZED BED OF CATALYST
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

07.40–08.00
OP-III-4
Flagiello D., Erto A., Lancia A., Di Natale F.
ADVANCED FLUE-GAS CLEANING BY WET OXIDATIVE SCRUBBING USING $NaClO_2$ AQUEOUS SOLUTIONS
University of Naples, Federico II, Fuorigrotta, Naples, Italy

08.00–08.20
OP-III-5
Pelucchi M., Da Silva R.B., Mehl M., Cuoci A., Frassoldati A., Beretta A., Lietti L., Faravelli T.
THERMAL DEGRADATION OF NYLON-6 AND REAL MIXTURES OF SOLID PLASTIC WASTE.
AN EXPERIMENTAL AND KINETIC MODELLING STUDY
Politecnico di Milano, Milan, Italy

08.20–08.40
OP-III-6
Rijo B., Briceno J., Godinho T., Lemos F., Lemos M.
PYROLYSIS OF PLASTIC FROM WEEE IN A REACTIVE DISTILLATION APPROACH
Instituto Superior Técnico, University of Lisbon, Portugal

08.40–09.00 Coffee break

ORAL PRESENTATIONS

Section III.
CHEMICAL REACTORS AND TECHNOLOGIES FOR TARGETED APPLICATIONS

Chairperson: Professor Francisco Lemos, Portugal

09.00–09.20
OP-III-7
Rijo B., Briceno J., Kol de Carvalho R., Pereira P., Lemos F., Lemos M.
THERMAL AND CATALYTIC PYROLYSIS OF WASTE POLYSTYRENE IN A SEMI-BATCH REACTOR
Instituto Superior Técnico, University of Lisbon, Portugal

09.20–09.40
OP-III-8
Sluijter S.N.[1], Boon J.[1], James J.[1], Krishnamurthy S.[2], Lind A.[2], Blom R.[2], Grande C.A.[2], Cormos A.M.[3], Sandu V.C.[3], de Boer R.[1]
3D-PRINTING OF ADSORBENTS FOR INCREASED PRODUCTIVITY IN CARBON CAPTURE APPLICATIONS (3D-CAPS)
[1]*TNO Energy Transition, Petten, The Netherlands*
[2]*SINTEF Industry, Oslo, Norway*
[3]*Babes-Bolyai University, Cluj-Napoca, Romania*

09.40–10.00
OP-III-9
Vilé G.
A NEW FAMILY OF SINGLE-ATOM CATALYSTS FOR THE DEGRADATION OF PHARMACEUTICAL WATER POLLUTANTS
P*olitecnico di Milano, Milan, Italy*

10.00–10.30 Coffee break

September 14, Tuesday
HALL I

ORAL PRESENTATIONS

Section I.
Advances in Chemical Reactor Fundamentals

Chairperson: Professor Matteo Maestri, Italy

06.40–07.00
OP-I-10
Enikeeva L.V.[1,2], Faskhutdinov A.G.[3], Arefyev I.A.[2], Enikeev M.R.[2], Gubaydullin I.M.[2,3]
KINETICS AND MECHANISM OF ISOMERIZATION REACTION OF PENTANE-HEXANE FRACTION. MATHEMATICAL MODEL OF THE REACTION
[1]Novosibirsk State University, Novosibirsk, Russia
[2]Ufa State University, Ufa, Russia
[3]Institute of Petrochemistry and Catalysis RAS, Ufa, Russia

07.00–07.20
OP-I-11
Epelde Bejerano E., Díaz M., Ateka A., Camacho I., Aguayo A., Bilbao J.
KINETIC MODEL FOR THE OLIGOMERIZATION OF 1-BUTENE TO LIQUID FUELS AT LOW- AND HIGH- PRESSURE CONDITIONS
University of the Basque Country, Bilbao, Spain

07.20–07.40
OP-I-12
Violet L., Pereira De Oliveira L.C.
IMPROVEMENTS IN HYDRODENITROGENATION AND HYDRODESULFURATION KINETIC MODELS OF VACCUM GAS OIL (VGO) WITH ON THE SUPPORT OF MACHINE LEARNING
IFP Energies Nouvelles, Solaize, France

07.40–08.00
OP-I-13
Wang H.[1], Sarathy S.[1], Takanabe K.[2]
A KINETIC STUDY OF OXIDATIVE COUPLING OF METHANE ON La_2O_3-BASED CATALYSTS WITH Sr and Ce DOPING
[1]King Abdullah University of Science and Technology, Thuwal, Saudi Arabia
[2]University of Tokyo, Japan

08.00–08.20
OP-I-14
Erünal E.
KINETIC DATA ANALYSIS OF SUZUKI-MIYAURA COUPLING REACTIONS CATALYSED VIA MWCNT SUPPORTED Pd NANOPARTICLES
Çukurova University, Adana, Turkey

08.20–08.40
OP-I-15
Scaltsoyiannes A., Antzaras A., Lemonidou A.
CaO-BASED SORBENTS FOR CALCIUM LOOPING APPLICATIONS: A GENERALIZED KINETIC MODEL FOR CARBONATION REACTION
Aristotle University of Thessaloniki, Thessaloniki, Greece

08.40–09.00 Coffee break

POSTER SESSION
09.00–10.45

Chairpersons:
Professor Gianpiero Groppi, Italy
Professor Andrey Zagoruiko, Russia

5 min - Flash Presentations
2 min - questions

FP-1
Shtyka O.[1,2], Ciesielski R.[1,2], Kedziora A.[1,2], Dubov S.[2], Gromov D.[2], Maniecki T.P.[1,2]
PHOTOCATALYTIC REDUCTION OF CARBON DIOXIDE IN CONTINUOUS FLOW PHOTOREACTOR USING TIO_2-BASED COMPOSITES
[1]Lodz University of Technology, Lodz, Poland
[2]National Research University of Electronic Technology, Zelenograd, Moscow, Russia

FP-2
Dolganov I., Dolganova I., Ivanchina E., Ivashkina E., Solopova A., Bunaev A., Pasyukova M.
FORMATION OF TETRALINES AND SULFONES DEPENDING ON THE CONSTRUCTION OF THE LINEAR ALKYLBENZENES FILM SULFONATION REACTOR
National Research Tomsk Polytechnic University, Tomsk, Russia

FP-3
Kumar A., Yuda A., Ebrahimi P.
MODELING OF CELLULOSE ASSISTED COMBUSTION SYNTHESIS TECHNIQUE FOR CATALYST PREPARATION FOR HYDROGEN PRODUCTION FROM ETHANOL REFORMING
Qatar University, Doha, Qatar

FP-4
Manaenkov O., Kislitsa O., Ratkevich E., Matveeva V., Sulman M., Sulman E.[✝]
MAGNETICALLY RECOVERABLE POLYMERIC CATALYST FOR CELLULOSE HYDROGENOLYSIS
Tver Technical University, Tver, Russia

FP-5
Dymek K.[1], Kurowski G.[1], Kuterasiński Ł.[2], Gancarczyk A.[3], Sitarz M.[4], Pajdak A.[5], Jodłowski P.J.[1]
METAL ORGANIC FRAMEWORKS SUPPORTED OF CERAMIC FOAMS FOR CYCLOHEXENE AND BENZYL ALCOHOL OXIDATION
[1]Krakow University of Technology, Krakow, Poland
[2]Jerzy Haber Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences, Krakow, Poland
[3]Institute of Chemical Engineering, Polish Academy of Sciences, Gliwice, Poland
[4]AGH University of Science and Technology, Krakow, Poland
[5]Strata Mechanics Research Institute, Polish Academy of Sciences, Krakow, Poland

FP-6
Bunaev A., Dolganova I., Dolganov I., Ivanchina E., Chernyshov M., Mezhova M.
SIMULATION OF HYDROCARBON PYROLYSIS NON-STATIONARY PROCESS
National Research Tomsk Polytechnic University, Tomsk, Russia

FP-7
Sindera K.[1], Iwaniszyn M.[1], Gancarczyk A.[1], Korpys M.[1], Kolodziej A.[1,2]
NEW STREAMLINED CATALYTIC CARRIERS OF ENHANCED TRANSPORT PROPERTIES
[1]Institute of Chemical Engineering, Polish Academy of Sciences, Gliwice, Poland
[2]Opole University of Technology, Opole, Poland

FP-8
Matveeva V., Grigorev M., Mikhailov S., Nikoshvili L., Sulman E.[Ŧ]
MONO - (Ru) AND BIMETALLIC (Ru-Co) POLYMERIC CATALYSTS FOR LEVULINIC ACID HYDROGENATION
Tver Technical University, Tver, Russia

FP-9
Suh D.[1], Jo H.[1,2], Choi J-W.[1], Ha J.[1], Choi J.[2]
DESIGN OF MULTISTAGE REACTOR SYSTEMS FOR THE PRODUCTION OF HIGH CARBON NUMBER HYDROCARBON FUELS FROM FURANS BY DISTRIBUTING MULTIFUNCTIONAL CATALYSTS
[1]*Korea Institute of Science and Technology, Seoul, South Korea*
[2]*Korea University, Seoul, South Korea*

FP-10
Matveeva V.[1,2], Sulman A.[1], Grebennikova O.[1], Tikhonov B.[1], Stadolnikova P.[1], Sidorov A.[1], Sulman E.[1Ŧ], Bronstein L.[3,4,5]
DESIGN OF BIOCATALYSTS FOR EFFICIENT ONE-POT PROCESS FOR CASCADE REACTIONS
[1]*Tver State Technical University, Tver, Russia*
[2]*Tver State Technical University, Tver, Russia*
[3]*Indiana University, Kirkwood, USA*
[4]*A.N. Nesmeyanov Institute of Organoelement Compounds, Moscow, Russia*
[5]*King Abdulaziz University, Jeddah, Saudi Arabia*

FP-11
Stepacheva A., Markova M., Lugovoy Y., Tiamina I., Sulman M., Matveeva V., Sulman E.[Ŧ]
BIOMASS AND OILS CO-HYDROPROCESSING IN SUPERCRITICAL CONDITIONS
Tver State Technical University, Tver, Russia

FP-12
Martins M.[1], Lemos M.[1], Lemos F.[1], Pereira H.[2]
TORREFACTION OF FOREST RESIDUES USING A LAB-SCALE REACTOR
[1]*Instituto Superior Técnico, University of Lisbon, Portugal*
[2]*Instituto Superior de Agronomia, University of Lisbon, Portugal*

FP-13
Lugovoy Y., Chalov K., Stepacheva A., Kosivtsov Y., Sulman M., Sulman E.[Ŧ]
PYROLYSIS OF CONIFEROUS AND DECIDUOUS WOOD WASTES
Tver State Technical University, Tver, Russia

FP-14
Santos-Mendoza I.O., Aparicio-Mauricio G., Vazquez-Arenas J., Castillo-Araiza C.O.
ANALYSIS OF TRANSPORT AND KINETIC MECHANISMS IN A $LixFePO_4$ BASED CATHODE: A NEW CONCEPTUAL CONCEPTION DURING CHARGE AND DISCHARGE PROCESSES. The review of research developing in the Laboratory of Catalytic ReactorEngineering
Autonomous Metropolitan University-Iztapalapa, Mexico City, Mexico

Discussion

10.45–11.00 Coffee break

PLENARY LECTURES

Chairperson: Professor Kevin M. Van Geem, Belgium

11.00–12.00
PL-3
Professor Freek Kapteijn
Delft University of Technology, Delft, The Netherlands
PROCESS INTENSIFICATION THROUGH STRUCTURING CATALYST AND REACTOR

12.00–13.00
PL-4
Professor Fausto Gallucci
Eindhoven University of Technology, Eindhoven, The Netherlands
MEMBRANE REACTORS AND SEPARATION ENHANCED REACTORS

13.00–13.15 Coffee break

KEYNOTE LECTURE

Chairperson: Professor Hannsjörg Freund, Germany

13.15–13.45
KL-3
Professor Vladimir Arutyunov
N.N. Semenov Federal Research Center for Chemical Physics RAS, Moscow, Russia
Institute of Problems of Chemical Physics RAS, Chernogolovka, Moscow region, Russia
NON-CATALYTIC GAS PHASE OXIDATION OF HYDROCARBONS

13.45–14.15
KL-4
Valentina Omoze Igenegbai[1], Randall Meyer[2], Professsor Suljo Linic[1]
[1]*University of Michigan, Ann Arbor, MI, USA*
[2]*ExxonMobil, Clinton, NJ, USA*
DIRECT METHANE CONVERSION TO ETHYLENE AND ETHANE BY OXIDATIVE COUPLING IN MEMBRANE/CATALYSTS REACTING SYSTEMS

September 14, Tuesday
HALL II

ORAL PRESENTATIONS
Section II.
CHEMICAL REACTION ENGINEERING AND REACTOR DESIGN–NOVEL EXPERIMENTAL APPROACHES, MODELING, SCALE-UP AND OPTIMIZATION

Chairperson: Professor Sascha Kersten, The Netherlands

06.40–07.00
OP-II-10
Fukuda T.[1], Hamzah A.B.[2], Ookawara S.[2,3], Yoshikawa S.[2], Matsumoto H.[2]
CATALYTIC WALL PLATE MICROREACTOR STRUCTURALIZED FOR REACTANTS' ADVECTIVE TRANSPORT IMPROVEMENT IN DRY REFORMING OF METHANE
[1]National Institute of Advanced Industrial Science and Technology, Sendai, Japan
[2]Tokyo Institute of Technology, Tokyo, Japan
[3]Egypt-Japan University of Science and Technology, Alexandria, Egypt

07.00–07.20
OP-II-11
Angulo M.[1], Agirre I.[1], Arratibel A.[2], Llosa M.A.[2], Pacheco D.A.[2], Barrio V.L.[1], Arias P.L.[1]
PORE THROUGH REACTORS, DEVELOPMENT, CHARACTERIZATION AND ACTIVITY TESTS
[1]Basque Country University, Bilbao, Spain
[2]Tecnalia Research & Innovation, Donostia-San Sebastián, Spain

07.20–07.40
OP-II-12
Kozhevnikov I.V.[1], Chibiryaev A.M.[1,2], Martyanov O.N.[1,2]
CONTINUOUS-FLOW REACTOR FOR ONE-STEP PRODUCING TETRAMETHYL ORTHOSILICATES FROM SILICA MATERIALS IN SUPERCRITICAL METHANOL
[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[2]Novosibirsk State University, Novosibirsk, Russia

07.40–08.00
OP-II-13
Kuznetsov V.L.[1], Moseenkov S.I.[1], Zavorin A.V.[1], Golubtsov G.V.[1], Goidin V.V.[1], Rabinovich O.S.[2], Malinovski A.I.[2], Lyah M.Yu.[2]
INFLUENCE OF CATALYST CHARACTERISTICS ON THE FORMATION OF MWCNT - AGGLOMERATES DURING SYNTHESIS IN A FLUIDIZED BED REACTOR
[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[2]A.V. Luikov Heat and Mass Transfer Institute, Minsk, Republic of Belarus

08.00–08.20
OP-II-14
Bracconi M., Ambrosetti M., Maestri M., Groppi G., Tronconi E.
A NOVEL RADIAL-FLOW REACTOR BASED ON CELLULAR SUBSTRATES FOR AFTER-TREATMENT APPLICATIONS
Politecnico di Milano, Milan, Italy

08.20–08.40
OP-II-15
Shtyka O.[1,2], Blaszczyk N.[1], Ciesielski R.[1,2], Kedziora A.[1,2], Maniecki T.P.[1,2]
FLAT CATALYST AS A HEATING ELEMENT OF A REACTOR
[1]Lodz University of Technology, Lodz, Poland
[2]National Research University of Electronic Technology, Institute of Advanced Materials and Technologies, Zelenograd, Moscow region, Russia

08.40–09.00 Coffee break

September 14, Tuesday
HALL III

ORAL PRESENTATIONS
Section III.
CHEMICAL REACTORS AND TECHNOLOGIES FOR TARGETED APPLICATIONS

Chairperson: Professor Choji Fukuhara, Japan

06.40–07.00
OP-III-10
Krasnikov D.V.[1], Semenova N.[1], Ilatovskii D.A.[1], Zabelich B.Yu.[1], Iakovlev V.Ya.[1], Kondrashov V.A.[1], Alekseeva A.A.[1], Khabushev E.M.[1,2], Nasibulin A.G.[1,2]
COUPLING ELECTROSTATIC CLASSIFIER WITH SPARK DISCHARGE GENERATOR FOR GENERATION OF MONODISPERSE CATALYST FOR SINGLE-WALLED CARBON NANOTUBE GROWTH
[1]Skolkovo Institute of Science and Technology, Moscow, Russia
[2]Aalto University, PO, Espoo, Finland

07.00–07.20
OP-III-11
Pipitone G.[1], Zoppi G.[1], Rizzo A.M.[2], Bensaid S.[1], Chiaramonti D.[1,2], Pirone R.[1]
COUPLING OF HYDROTHERMAL LIQUEFACTION AND AQUEOUS PHASE REFORMING FOR LIGNIN RICH STREAM VALORIZATION
[1]Politecnico di Torino, Turin, Italy
[2]Renewable Energy Consortium for Research and Development, Scarperia e San Piero, Italy

07.20–07.40
OP-III-12
Zoppi G.[1], Pipitone G.[1], Rizzo A.M.[2], Bensaid S.[1], Chiaramonti D.[1,2], Pirone R.[1]
AQUEOUS PHASE REFORMING OF LIGNIN-RICH LIQUEFACTION WASTE FOR HYDROGEN PRODUCTION
[1]Politecnico di Torino, Turin, Italy
[2]Renewable Energy Consortium for Research and Development, Scarperia e San Piero, Italy

07.40–08.00
OP-III-13
Zhurenok A.V.[1], Kovtunova L.M.[1], Vasilchenko D.V.[2], Kozlova E.A.[1]
Rh- AND Pt-DOPED g-C_3N_4 FOR THE PHOTOCATALYTIC HYDROGEN EVOLUTION FROM AQUEOUS SOLUTIONS OF TRIETHANOLAMINE UNDER VISIBLE LIGHT
[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[2]Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia

08.00–08.20
OP-III-14
Kim J., Cho K.
UREA-PERSULFATE FUEL CELL COMBINED WITH FORWARD OSMOSIS FOR A CONTINUOUS GENERATION OF POWER AND WATER FROM URINE
Pohang University of Science and Technology, Pohang, South Korea

08.20–08.40
OP-III-15
Kim H., Hwang E., Cho K.
WATER TREATMENT BY A TUBULAR PHOTOELECTROCATALYTIC REACTOR WITH ELECTROCHEMICALLY SELF-DOPED TiO_2 NANOTUBE ARRAYS
University of Science and Technology, Pohang, South Korea

08.40–09.00 Coffee break

September 15, Wednesday
HALL I

ORAL PRESENTATIONS
Section I.
Advances in Chemical Reactor Fundamentals

Chairperson: Professor Ahmet Kerim Avci, Turkey

06.40–07.00
OP-I-16
Koledina K.F.[1], Koledin S.N.[2], Gubaydullin I.M.[1]
MULTIOBJECTIVE OPTIMIZATION IN THE REACTION KINETICS OF METAL COMPLEX CATALYSIS
[1]Institute of Petrochemistry and Catalysis RAS, Ufa, Russia
[2]Ufa State Petroleum Technological University, Ufa, Russia

07.00–07.20
OP-I-17
Portillo Bazaco A., Ateka A., Sanchez-Contador M., Aguayo A., Bilbao J.
KINETIC MODEL FOR BIFUNCTIONAL CORE-SHELL CATALYST FOR DME SYNTHESIS
University of the Basque Country, Bilbao, Spain

07.20–07.40
OP-I-18
Uglietti R.[1,2], La Zara D.[2], Goulas A.[2], Bracconi M.[1], Ommen J.[2], Maestri M.[1]
EXPERIMENTAL AND NUMERICAL INVESTIGATION OF SPECIES TRANSPORT IN CATALYTIC FLUIDIZED BED REACTORS
[1]Politecnico di Milano, Milan, Italy
[2]Delft University of Technology, Delft, The Netherlands

07.40–08.00
OP-I-19
Kreitz B.[1,2], Wehinger G.[1], Goldsmith F.[2], Turek T.[1]
MICROKINETIC DEVELOPMENT FOR THE METHANATION OF CO_2 on Ni CATALYSTS WITH RMG-Cat
[1]Clausthal University of Technology, Clausthal-Zellerfeld, Germany
[2]Brown University, Providence, USA

08.00–08.20
OP-I-20
Glazov N.A., Zagoruiko A., Dik P.
STOCHASTIC RECONSTRUCTION USING ENTROPY MAXIMIZATION
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

08.20–08.40
OP-I-21
Angikath F.[1], Li Y.[1], Hee K.[1], Zhao E.[3], Voice A.[4], Badra J.[5], Mohan B.[1], Sarathy M.[1]
DEVELOPMENT OF FOUR COMPONENT REDUCED CHEMICAL KINETIC MECHANISM FOR GASOLINE SURROGATES
[1]King Abdullah University of Science & Technology, Thuwal, Saudi Arabia
[2]University of Michigan, Ann Arbor, MI, USA
[3]Argonne National Laboratories, Chicago, USA
[4]Aramco Research Centre, Detroit, USA
[5]Fuel Technology Division, R & DC, Saudi Aramco, Dhahran, Saudi Arabia

08.40–09.00 Coffee break

ORAL PRESENTATIONS
Section I.
Advances in Chemical Reactor Fundamentals

Chairperson: Professor Alberto Cuoci, Italy

09.00–09.20
OP-I-22
Müller M.[1], Anderson S.[1], Kutscherauer M.[1,2], Mestl G.[2], Turek T.[1]
INVESTIGATION OF THE ROLE OF BY-PRODUCTS IN THE KINETICS OF MALEIC ANHYDRIDE SYNTHESIS USING A MILLISTRUCTURED REACTOR
[1]*Clausthal University of Technology, Clausthal-Zellerfeld, Germany*
[2]*Clariant AG, Bruckmühl, Germany*

09.20–09.40
OP-I-23
Russo V.[1,2], Rossano C.[1], Tesser R.[1], Salmi T.[2], Di Serio M.[1]
KINETICS OF ETHYL LEVULINATE SYNTHESIS IN A CHROMATOGRAPHIC REACTOR
[1]*The University of Naples Federico II, Naples, Italy*
[2]*Åbo Akademi University, Turku/Åbo, Finland*

09.40–10.00
OP-I-24
Micale D., Uglietti R., Bracconi M., Maestri M.
A MULTIPHASE OPERATOR SPLITTING MODEL FOR THE EULER-EULER SIMULATIONS OF REACTIVE FLUIDIZED SYSTEMS
Politecnico di Milano, Milan, Italy

10.00–10.20
OP-I-25
Ouyang Y., Manzano M.N., Madanikashani S., Vandewalle L.A., Shtern V., Marin G., Heynderickx G., Van Geem K.M.
MICROMIXING IN A GAS-LIQUID VORTEX REACTOR: AN EXPERIMENTAL AND NUMERICAL STUDY
Ghent University, Ghent, Belgium

10.20–10.40
OP-I-26
Ledezma Lopez G.A.[1,2], Verstraete J.[1], Sorbier L.[1], Leinekugel-Le Cocq D.[1], Jolimaitre E.[1], Jallut C.[2]
MODELLING INTRAGRANULAR TRANSPORT: DIGITALIZATION OF A γ-ALUMINA SUPPORT BY IMPLEMENTING COMPUTATIONAL VERSIONS OF THREE DIFFERENT CHARACTERIZATION TECHNIQUES
[1]*IFP Energies nouvelles, Lyon, France*
[2]*Claude Bernard University Lyon 1, Lyon, France*

10.40–11.00 Coffee break

PLENARY LECTURES

Chairperson: Professor Freek Kapteijn, The Netherlands

11.00–12.00
PL-5
Professor Annemie Bogaerts
University of Antwerpen, Antwerpen, Belgium
ENGINEERING OF PLASMA-ASSISTED REACTIONS

12.00–13.00
PL-6
Professor Ib Chorkendorff
Denmark Technical University, Copenhagen, Denmark
CONVERSION OF SUSTAINABLE ENERGY: ELECTRIFIED REACTORS

13.00–13.15 Coffee break

KEYNOTE LECTURES

Chairperson: Professor Vladimir Arutyunov, Russia

13.15–13.45
KL-5
Professor Luis M. Gandía[1], Arangoa G.[1,] Ursúa A.[1], Sanchis P.[1], Ramírez J.[2]
[1]*Public University of Navarra, Pamplona, Spain*
[2]*Nordex Group, Mutilva, Navarra, Spain*
STATUS OF WATER ELECTROLYSIS FOR GREEN HYDROGEN PRODUCTION WITHIN THE CONTEXT OF POWER-TO-X PROCESSES

13.45–14.15
KL-6
Professor Rufat Abiev
St. Petersburg State Institute of Technology (Technical University), St. Petersburg, Russia
MICROMIXING IN MICROREACTORS: EFFECT ON NANOPARTICLES SIZES AND OTHER CHARACTERISTICS

September 15, Wednesday
HALL II

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

Chairperson: Professor Joris Thybaut, Belgium

06.40–07.00
OP-II-16
Gao M., Peng S., Li H., Ye M., Liu Z.
UNVEILING THE ROLE OF SURFACE BARRIERS IN THE CATALYST DEACTIVATION BY COKING BY USE OF A REACTION-DIFFUSION MODEL
Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China

07.00–07.20
OP-II-17
Flaischlen S., Martin J., Kreitz B. Turek T., Wehinger G.
PARTICLE-RESOLVED CFD SIMULATIONS OF CO_2 METHANATION IN FIXED-BED REACTORS
Clausthal University of Technology, Clausthal-Zellerfeld, Germany

07.20–07.40
OP-II-18
Schumacher J., Meyer D., Friedland J., Güttel R.
MODELLING AND SIMULATION OF NON-ISOTHERMAL CATALYST PELLETS FOR UNSTEADY-STATE METHANATION OF CO/CO_2 MIXTURES
Ulm University, Ulm, Germany

07.40–08.00
OP-II-19
Stagni A.[1], Arunthanayothin S.[2], Herbinet O.[2], Battin-Leclerc F.[2], Faravelli T.[1]
A WIDE-RANGE EXPERIMENTAL AND MODELING STUDY OF H_2S PYROLYSIS AND OXIDATION IN JET-STIRRED AND FLOW REACTORS
[1]*Politecnico di Milano, Milan, Italy*
[2]*CNRS-Université de Lorraine, CNRS Nancy, France*

08.00–08.20
OP-II-20
Zagoruiko A., Mikenin P., Lopatin S.
PRODUCTION OF ELEMENTAL SULFUR AND HYDROGEN FROM HYDROGEN SULFIDE IN THE CYCLIC CHEMISORPTION-CATALYTIC REGIME
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

08.20–08.40
OP-II-21
van Kampen J.[1,2], Sebastiani F.[1], Boon J.[1,2], Vente J.[1], van Sint Annaland M.[2]
SORPTION ENHANCED DIMETHYL ETHER SYNTHESIS: MAXIMISING CARBON EFFICIENCY
[1]*Sustainable Process Technology, TNO, Petten, The Netherlands*
[2]*Eindhoven University of Technology, Eindhoven, The Netherlands*

08.40–09.00 Coffee break

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

Chairperson: Dr. Pierdomenico Biasi, Switzerland

09.00–09.20
OP-II-22
Guffanti S.[1], van Kampen J.[2], Visconti C.G.[1], Boon G.[2], Groppi G.[1]
SORPTION ENHANCED DIMETHYL ETHER SYNTHESIS: REACTOR MODELLING AND DESIGN
[1]Politecnico di Milano, Milan, Italy
[2]Sustainable Process Technology, TNO, Petten, The Netherlands

09.20–09.40
OP-II-23
Zazhigalov S., Zagoruiko A.
MATHEMATICAL MODELING OF VOLATILE ORGANIC COMPOUNDS OXIDATION PROCESS IN REVERSE-FLOW REACTOR WITH SIDE GAS INLET
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

09.40–10.00
OP-II-24
KVSS Bhargavi, Ray D., Ch. Subrahmanyam
ROOM-TEMPERATURE TOLUENE DECOMPOSITION BY CATALYTIC NON-THERMAL PLASMA REACTOR
Indian Institute of Technology, Hyderabad, Kandi, India

10.00–10.20
OP-II-25
Riechmann P., Schildhauer T.J.
HEAT TRANSFER IN BUBBLING FLUIDISED BED REACTORS WITH IMMERSED VERTICAL HEAT EXCHANGERS
Paul Scherrer Institute, Villigen, Switzerland

10.20–10.40
OP-II-26
Abrishamkar A.
MICROREACTORS PAVE THE WAY FOR CONTROLLED REACTION, IN-DEPTH STUDY AND ENHANCED PROCESSING OF MATERIALS
McMaster University, Hamilton, Ontario, Canada

10.40–11.00 Coffee break

September 15, Wednesday
HALL III

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

Chairperson: Professor Gunther Kolb, Germany

06.40–07.00
OP-III-16
Khabushev E.M.[1,2], Krasnikov D.V.[1], Yakovlev V.Ya.[1], Kolodiazhnaia J.V.[1], Zaremba O.T.[1], Nasibulin A.G.[1,2]
MACHINE LEARNING FOR OPTIMIZATION OF SINGLE-WALLED CARBON NANOTUBE SYNTHESIS BY AEROSOL CVD REACTOR
[1]Skolkovo Institute of Science and Technology, Moscow, Russia
[2]Aalto University, PO, Espoo, Finland

07.00–07.20
OP-III-17
Polianczyk E.V., Glazov S.V.
INDUSTRIAL-SCALE GASIFICATION OF MUNICIPAL SOLID WASTE IN SUPERADIABATIC REGIME OF FILTRATION COMBUSTION
Institute of Problems of Chemical Physics RAS, Chernogolovka, Moscow region, Russia

07.20–07.40
OP-III-18
Zanco S.E.[1], Ambrosetti M.[2], Tronconi E.[2], Groppi G.[2], Mazzotti M.[1]
TEMPERATURE SWING ADSORPTION FOR CO_2 CAPTURE: PROCESS INTENSIFICATION WITH CONDUCTIVE PACKED FOAMS
[1]Swiss Federal Institute of Technology (ETH Zurich), Switzerland
[2]Politecnico di Milano, Milan, Italy

07.40–08.00
OP-III-19
Navarrete L.F.[1,3], Reyero I.[1], Amorrortu O.[2], Sanz O.[2], Montes M.[2], Garcés S.I.[3], Bimbela F.[1], Gandía L.M.[1]
CO_2 METHANATION WITH Ni and Co CATALYSTS SUPPORTED ON **γ**-Al_2O_3 MODIFIED WITH La
[1]Public University of Navarre, Pamplona, Spain
[2]University of the Basque Country, San Sebastián, Spain
[3]Free University of Colombia, Bogotá, Colombia

08.00–08.20
OP-III-20
Fukuhara C., Kamiyama A., Itoh M., Watanabe R.
PROCESS INTENSIFICATION (PI) OF TRANSFORMING CO_2 BY AUTO-METHANATION WITH STRUCTURED CATALYST SYSTEM
Shizuoka University, Shizuoka, Japan

08.20–08.40
OP-III-21
Koybasi H., Avci A.K.
MEMBRANE INTEGRATED MICROCHANNEL REACTOR FOR CONVERSION OF CO_2 CONTAINING SYNGAS TO DME
Bogazici University, Istanbul, Turkey

08.40–09.00 Coffee break

ORAL PRESENTATIONS
Section IV.
Advanced Reactors and Technologies for Energy-Related Applications

Chairperson: Dr. Roman Tschentscher, Norway

09.00–09.20
OP-IV-1
Snytnikov P.V.[1,2,3], Rogozhnikov V.N.[1,2], Potemkin D.I.[1,2], Fedorova Z.A.[1,2], Belyaev V.D.[1,2], Pechenkin A.A.[1,2], Badmaev S.D. [1,2], Zazhigalov S.V.[1], Zagoruiko A.N.[1,2], Sobyanin V.A. [1,2]
STRUCTURED CATALYSTS AND REFORMERS AND REFORMERS FOR GASEOUS AND LIQUID HYDROCARBON FUELS PROCESSING TO HYDROGEN-RICH GAS
[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[2]Novosibirsk State University, Novosibirsk, Russia
[3]«UNICAT» LLC, Novosibirsk, Russia

09.20–09.40
OP-IV-2
Badmaev S.[1,2], Pinegina A.E.[1,2], Kulikov A.[1], Snytnikov P.[1,2], Sobyanin V.[1]
DIMETHOXYMETHANE FUEL PROCESSING FOR SOFC-APU: INSIGHTS FOR CATALYST AND REACTOR DESIGN
[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[2]Novosibirsk State University, Russia

09.40–10.00
OP-IV-3
Jung S.-C.
DEVELOPMENT OF HYBRID REACTION MODULE LINKED WITH LIQUID PLASMA AND ELECTROLYSIS FOR HYDROGEN PRODUCTION FROM WATER DECOMPOSITION
Sunchon National University, South Korea

10.00–10.20
OP-IV-4
Gantenbein A.[1,2], Witte J.[1], Kröcher O.[1,2], Biollaz S.[1], Schildhauer T.[1]
FLEXIBLE APPLICATION OF BIOGAS UPGRADING MEMBRANES IN POWER-TO-METHANE PROCESSES
[1]Paul Scherrer Institute, Villigen, Switzerland
[2]Federal Institute of Technology in Lausanne, Lasuanne, Switzerland

10.20–10.40
OP-IV-5
Moioli E.
LINKING HEAT AND ELECTRICITY SUPPLY FOR DOMESTIC USERS: AN EXAMPLE OF POWER-TO-GAS INTEGRATION IN A BUILDING
Paul Scherrer Institute, Villigen, Switzerland

10.40–11.00 Coffee break

September 16, Thursday
HALL I

ORAL PRESENTATIONS
Section I.
Advances in Chemical Reactor Fundamentals

Chairperson: Dr. Emanuele Moioli, Switzerland

08.00–08.20
OP-I-27
Danican A.[1], Darrehmane A.[1,2], Chateau T.[1], Trad Z.[1,2], Vial C.[1], Fontaine J.[1]
DEVELOPMENT OF A MULTIPARTICLE OPTICAL TRAJECTOGRAPHY TECHNIQUE FOR HYDRODYNAMIC ANALYSIS OF A STIRRED TANK DEVOTED TO DARK FERMENTATION
[1]Clermont Auvergne University, CNRS, SIGMA Clermont, Institut Pascal, Clermont-Ferrand, France
[2]Clermont Auvergne University, LabEx IMobS[3], Clermont-Ferrand, France

08.20–08.40
OP-I-28
Mohammed A.A., Lokhat D.
APPLICATION OF CENTRIFUGAL FORCE FOR MASS TRANSFER ENHANCEMENT IN A FALLING FILM MICROREACTOR
University of Kwazulu Natal, Durban, South Africa

08.40–09.00
OP-I-29
Ferroni C., Ambrosetti M., Bracconi M., Maestri M., Groppi G., Tronconi E.
EXPERIMENTAL AND NUMERICAL ANALYSIS OF TRANSPORT PROPERTIES OF CELLULAR MEDIA TO ENABLE REACTOR-SCALE SIMULATIONS
Politecnico di Milano, Milan, Italy

09.00–09.20
OP-I-30
Franchi F.S., Ambrosetti M., Bracconi M., Balzarotti R., Groppi G., Tronconi E.
ENABLING THE EVALUATION OF MASS TRANSFER PROPERTIES OF 3D PRINTED CATALYST SUBSTRATES WITH RICH H_2 OXIDATION
Politecnico di Milano, Milan, Italy

09.20–09.40
OP-I-31
Littwin G.[1], Freund H.[2]
HEAT TRANSPORT CHARACTERIZATION AND GEOMETRIC OPTIMIZATION OF PERIODIC OPEN CELLULAR STRUCTURES
[1]Friedrich-Alexander-University of Erlangen-Nürnberg, Erlangen, Germany
[2]TU Dortmund University, Dortmund, Germany

09.40–10.00
OP-I-32
Trad Z., Rezazadeh N., Danican A., Ursu A.V., Fontanille P., Fontaine J., Vial C.
INFLUENCE OF THE GAS PHASE ON HYDRODYNAMICS AND GAS TRANSFER IN A STIRRED TANK UNDER ANAEROBIC DARK FERMENTATION CONDITIONS
Clermont Auvergne University, Clermont-Ferrand, France

10.00–10.20 Coffee break

ORAL PRESENTATIONS
Section I.
Advances in Chemical Reactor Fundamentals

Chairperson: Professor Carlo Visconti, Italy

10.20–10.40
OP-I-33
Němec J., Kočí P.
MODELING OF INTERNAL TRANSPORT LIMITATIONS IN CATALYTIC PARTICULATE FILTERS
University of Chemistry and Technology, Prague, Czech Republic

10.40–11.00
OP-I-34
Romero-Limones A.[1,2], Poissonnier J.[2], Thybaut J.[2], Castillo Araiza C.O.[1]
HEAT TRANSFER ANALYSIS ON **α**-Al_2O_3 and TiO_2 AS SUPPORT MATERIALS FOR THE OXIDATIVE DEHYDROGENATION OF ETHANE (ODH-C_2) IN AN INDUSTRIAL WALL-COOLED PACKED BED REACTOR
[1]*Universidad Autónoma Metropolitana-Iztapalapa, Iztapalapa, Mexico*
[2]*Ghent University, Ghent, Belgium*

11.00–11.20
OP-I-35
Hernandez Lalinde J.A.[1], Roongruangsree P.[1], Ilsemann J.[2], Bäumer M.[2], Kopyscinski J.[1]
CO_2 METHANATION AND REVERSE WATER GAS SHIFT REACTION. KINETIC STUDY BASED ON *IN-SITU* SPATIALLY-RESOLVED MEASUREMENTS
[1]*McGill University, Montreal, Canada*
[2]*University of Bremen, Germany*

11.20–11.40
OP-I-36
Surendran V.[1], Bracconi M.[2], Hernandez Lalinde J.A.[1], Maestri M.[2], Kopyscinski J.[1]
IMPROVED CATALYTIC PLATE REACTOR (CPR) DESIGN FOR HIGH QUALITY KINETIC DATA GENERATION USING EXPERIMENTS AND CFD MODELING
[1]*McGill University, Montreal, Canada*
[2]*Politecnico di Milano, Milan, Italy*

11.40–12.00
OP-I-37
Ramos-Huerta L.A., Gómez Llanos A.A., Ruiz Martínez R.S., Valadés Pelayo P.J.,
Castillo Araiza C.O.
KINETICS COUPLED WITH RADIATIVE TRANSFER UNDER VISIBLE LIGHT OPERATION REACTIONS ON GRAPHENE OXIDE
Universidad Autónoma Metropolitana-Iztapalapa, Iztapalapa, Mexico

12.00–12.20
OP-I-38
Hernández-Rodríguez R.[1], Castillo Araiza C.O.[1], Ochoa Tapia J.A.[1], Hernández Martínez E.[2], Hernández Aguirre A.[1]
DEVELOPMENT OF A MACROSCOPIC MODEL FOR HYDRODYNAMICS IN FIXED BED REACTORS WITH LOW d_t/d_p RATIO
[1]*Universidad Autónoma Metropolitana-Iztapalapa, Iztapalapa, Mexico*
[2]*Universidad Veracruzana-Región Xalapa, Veracruz, México*

12.20–12.40
OP-I-39
Hernández Aguirre A.[1], Hernandez-Martinez E.[2], Dorantes-Landa D.N.[1], Castillo-Araiza C.O.[1]
A DNS BASED EFFECTIVE MEDIUM MODEL FOR COMPRESSIBLE FLOW IN A FIXED BED REACTOR WITH LOW d_t/d_p
[1]*Autonomous Metropolitan University-Iztapalapa, Mexico City, Mexico*
[2]*Universidad Veracruzana-Región Xalapa, Veracruz, México*

September 16, Thursday
HALL II

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

Chairperson: Dr. Tilman J. Schildhauer, Switzerland

08.00–08.20
OP-II-27
Sinev M.[1], Gordienko Y.[1], Lagunova E.[1], Fattakhova Z.[1], Shashkin D.[2], Ivakin Y.[2]
PARAMETRIC SENSITIVITY AND DESIGN OF REACTORS FOR CHEMICAL PROCESSES IN WATER FLUIDS
[1]N.N. Semenov Institute of Chemical Physics RAS, Moscow, Russia
[2]Lomonosov Moscow State University, Moscow, Russia

08.20–08.40
OP-II-28
Skudin V.V., Gavrilova N.N., Sapunov V.
THE RELATIONSHIP BETWEEN THE MODES OF THE CONTACTOR AND THE EXTRACTOR IN THE REACTOR WITH A MEMBRANE CATALYST
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia

08.40–09.00
OP-II-29
Balzarotti R., Ambrosetti M., Zheng L., Beretta A., Marangoni D., Groppi G., Tronconi E.
ELECTRIFIED STEAM REFORMING: RESISTIVE WASHCOATED SiC FOAMS AS INTERNAL HEATING ELEMENTS FOR HYDROGEN PRODUCTION
Politecnico di Milano, Milan, Italy

09.00–09.20
OP-II-30
Wehinger G.[1], Scharf F.[2]
HEAT TRANSFER IN SLENDER PACKED BED REACTORS: EFFECT OF RADIATION
[1]Clausthal University of Technology, Clausthal-Zellerfeld, Germany
[2]BASF SE, Berlin, Germany

09.20–09.40
OP-II-31
Díaz-Sainz G.[1], Alvarez-Guerra M.[1], Solla-Gullón J.[2], García-Cruz L.[2], Montiel V.[2], Irabien A.[1]
FILTER PRESS REACTOR FOR THE CONTINUOUS ELECTROCATALYTIC REDUCTION OF CO_2 to FORMATE USING Bi-BASED ELECTRODES
[1]University of Cantabria, Santander, Spain
[2]University of Alicante, Spain

09.40–10.00
OP-II-32
Biasi P.[1], Panza S.[1], Eckert R.[2], Reitmeier S.[2], Reitzmann A.[2], Gebert S.[2]
THE WAY TO VALIDATE A NEW AMMONIA SYNTHESIS CATALYST: A COLLABORATION BETWEEN CASALE AND CLARIANT
[1]Casale SA, Lugano, Switzerland
[2]Clariant Produkte (Deutschland) GmbH, Heufeld/Munich, Germany

10.00–10.20 Coffee break

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

Chairperson: Professor Challapalli Subrahmanyam, India

10.20–10.40
OP-III-22
Wichert M.[1], Neuberg S.[1], Schürer J.[1], Keller S.[1], Valenteijn H.[1], Kolb G.[1,2]
DEVELOPMENT OF A TWO STAGE REACTOR CONCEPT FOR THE METHANATION OF CARBON DIOXIDE FROM RENEWABLE SOURCES
[1]Fraunhofer IMM, Mainz, Germany
[2]Eindhoven University of Technology, Eindhoven, The Netherlands

10.40–11.00
OP-III-23
Porta A., Visconti C.G., Lietti L.
INTENSIFICATION OF CO_2 METHANATION BY CATALYST AND PROCESS DESIGN
Politecnico di Milano, Milan, Italy

11.00–11.20
OP-III-24
Simakov D.
CO_2 HYDROGENATION REACTOR: EXPERIMENTAL PROOF-OF-CONCEPT AND TECHNO-ECONOMIC FEASIBILITY ASSESMENT
University of Waterloo, Waterloo, Ontario, Canada

11.20–11.40
OP-III-25
Olivieri G.V., da Silva H.N., de Quadros Jr. J.V., Giudici R.
KINETIC MODELLING AND NMPC SIMULATION FOR THE EPOXIDATION REACTION OF THE SOYBEAN OIL
Universidade de São Paulo, Brazil

11.40–12.00
OP-III-26
Figueiredo M.T.[1], Leite S.A.[1,2], Leite B.S.[1], Dangelo J.H.[2], Baêta B.E.L.[3]
STUDY OF AGITATION IN ANAEROBIC BIODIGESTERS
[1]Federal University of Viçosa, Florestal, Brazil
[2]University of Campinas, Brazil
[3]University of Ouro Preto, Brazil

12.00–12.20
OP-III-27
Chub O.[1], Saadatkhah N.[1], Dubois J.-L.[2], Patience G.S.[1]
EFFECT OF CATALYST AND REACTION CONDITIONS ON POLYMETHYL METHACRYLATE (PMMA) DEPOLMERIZATION IN FLUIDIZED BED REACTOR
[1]Ecole Polytechnique de Montreal, Canada
[2]Arkema, Colombes, France

12.40 Closing
HALL I

September 16, Thursday
HALL III

ORAL PRESENTATIONS
Section IV.
Advanced Reactors and Technologies for Energy-Related Applications

Chairperson: Professor Sang-Chul Jung, South Korea

08.00–08.20
OP-IV-6
Godinho T.[1], Rijo B.[1], Lemos M.[1], Carabineiro H.[2], Tarelho L.[3], Lemos F.[1]
THERMAL AND CATALYTIC PYROLYSIS OF POLYOLEFINS WITH VACUUM GAS OIL
[1]Instituto Superior Técnico, University of Lisbon, Portugal
[2]Galp, Sines Refinery, Sines, Portugal
[3]Aveiro University, Aveiro, Portugal

08.20–08.40
OP-IV-7
Moroni G., Nardi L., Donazzi A., Maestri M.
MECHANISM OF C-FORMATION IN METHANE DRY REFORMING ON RH REVEALED BY SPATIALLY-RESOLVED OPERANDO-RAMAN AND MICROKINETIC ANALYSES
Politecnico di Milano, Milan, Italy

08.40–09.00
OP-IV-8
Vela Diaz F.J., Trueba D., Lezcano G., Palos R., Arandes J., Gutierrez A.
AN INNOVATIVE KINETIC MODEL OF THE HYDROCRACKING OF A HDPE/VGO BLEND
University of Basque Country UPV/EHU, Bilbao, Spain

09.00–09.20
OP-IV-9
Belinskaya N.S., Ivanchina E., Mauzhigunova E., Bykova V.
DEVELOPMENT OF THE MATHEMATICAL MODEL OF DIESEL FUEL HYDRODEWAXING PROCESS TAKING INTO ACCOUNT N-PARAFFINS DISTRIBUTION IN THE FEEDSTOCK
National Research Tomsk Polytechnic University, Tomsk, Russia

09.20–09.40
OP-IV-10
Esipov D., Cherny S.
NUMERICAL SIMULATION OF THE WORK OF A SOAKER VISBREAKING UNIT
Kutateladze Institute of Thermophysics of SB RAS, Novosibirsk, Russia

09.40–10.00
OP-IV-11
Aleksandrov P.V., Reshetnikov S.I., Bukhtiyarova G.A., Noskov A.S.
DEEP HYDRODESULFURIZATION OF GAS OILS WITH HIGH SULFUR CONTENT: KINETIC MODELING
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

10.00–10.20 Coffee break

ORAL PRESENTATIONS
Section IV.
Advanced Reactors and Technologies for Energy-Related Applications

Chairperson: Professor Pavel Snytnikov, Russia

10.20–10.40
OP-IV-12
Korica N., Mendes P.S., De Clercq J., Thybaut J.
IMPACT OF CYCLOALKANES ADMIXTURE IN ALKANE HYDROCRACKING
Ghent University, Ghent, Belgium

10.40–11.00
OP-IV-13
Tschentscher R.[1], Simon L.[2], Biller P.[3], Arumugam P.[4], Stensrød R.E.[1]
HYDROTREATMENT OF CRUDE BIO OILS USING LOW COST SLURRY CATALYSTS
[1]*SINTEF Industry, Oslo, Norway*
[2]*École Normale Supérieure de Rennes, Rennes, France*
[3]*Aarhus University, Denmark*
[4]*Anna University, Chennai, India*

11.00–11.20
OP-IV-14
Straß-Eifert A., Güttel R.
MULTIFUNCTIONAL COBALT-BASED NANOREACTORS FOR THE COMBINED FISCHER-TROPSCH SYNTHESIS AND HYDROPROCESSING: MATERIAL SYNTHESIS AND CATALYSIS
Ulm University, Ulm, Germany

11.20–11.40
OP-IV-15
Pirro L.[1], Mendes P.S.[1], De Keulenaer J.[1], Vandegehuchte B.D.[2], Marin G.B.[1], Thybaut J.[1]
MODELLING LAYERED FIXED-BED CATALYTIC REACTORS FOR THE OXIDATIVE COUPLING OF METHANE
[1]*Ghent University, Ghent, Belgium*
[2]*Total Research and Technology Feluy, Ghent, Belgium*

12.40 Closing
HALL I

POSTER PRESENTATIONS

PP-1. Aleksandrova T.N.[1], Kuznetsov V.V.[1], Aleksandrov A.V.[2], Nikolaeva N.V.[1]
MODELING OF SEPARATING REACTORS IN MINERAL PROCESSING TECHNOLOGIES
[1]Saint-Petersburg Mining University, Saint-Petersburg, Russia
[2]Saint-Petersburg State University of Industrial Technology and Design, Saint-Petersburg, Russia

PP-2. Alturkistani S., Wang H., Alhazmi K., Yalamanchi K., Gascon J., Sarathy M.
IMPROVED MICROKINETIC MODELS FOR OXIDATIVE COUPLING OF METHANE (OCM) USING DEEP REINFORCEMENT LEARNING AND HIGH THROUGHPUT EXPERIMENTS
King Abdullah University of Science and Technology, Thuwal , Saudi Arabia

PP-3. Romano V., Apicella R.
MICROWAVE-ASSISTED SYNTHESIS OF ETHYL HEXANOATE FOLLOWING A PING-PONG Bi-Bi KINETICS WITH INHIBITION BY BOTH SUBSTRATES
University of Salerno, Fisciano, Italy

PP-4. Baranov D., Lopatin S., Zagoruiko A.
DEEP OXIDATION OF TOLUENE ON GLASS-FIBER CATALYSTS IN THE STRUCTURED CARTRIDGES OF VARIOUS SHAPES
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-5. Belinskaya N.S.[1], Ivashkina E.[1], Oreshina A.[1], Vymyatnin E.[1], Arkenova S.[1], Afanasyeva D.[1], Krivtsova N.[1], Kaliev T.[2]
REGULARITIES OF CHEMICAL TRANSFORMATIONS IN HYDROTREATING OF VACUUM GAS OIL DERIVED FROM KAZAKHSTAN OIL
[1]National Research Tomsk Polytechnic University, Tomsk, Russia
[2]LLP Pavlodar Petrochemical Plant, S. Toraighyrov Pavlodar State University, Pavlodar, Kazakhstan

PP-6. Blažek M.[1], **Ně**mec J.[1], Kočí P.[1], Svoboda M.[2], Novák V.[3], Price E.[4], York A.[4]
WASHCOATING AND MICROSTRUCTURE CHARACTERIZATION OF CATALYTIC FILTERS FOR EXHAUST GAS AFTERTREATMENT
[1]University of Chemistry and Technology, Prague, Czech Republic
[2]University of West Bohemia, Pilsen, Czech Republic
[3]Paul Scherrer Institute, Villigen, Switzerland
[4]Johnson Matthey Technology Centre, Reading, United Kingdom

PP-7. Blurock E.S.
CHEMCONNECT: AN INTELLIGENT REPOSITORY OF EXPERIMENTAL AND MODELING INFORMATION
Blurock Consulting AB, Lund, Sweden

PP-8. Brune A.[1,3], Walter J.[3], Seidel-Morgenstern A.[2,3], Hamel C.[1,3]
EXPERIMENTAL AND MODEL-BASED STUDY OF INTEGRATED REACTOR CONCEPTS FOR THE DEHYDROGENATION OF PROPANE
[1]Anhalt University of Applied Sciences, Engineering, Köthen, Magdeburg, Germany
[2]Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany
[3]Otto von Guericke University Magdeburg, Magdeburg, Germany

PP-9. Bunaev A., Dolganova I., Dolganov I., Ivanchina E., Chernyshov M., Mezhova M.
SIMULATION OF HYDROCARBON PYROLYSIS NON-STATIONARY PROCESS
National Research Tomsk Polytechnic University, Tomsk, Russia

PP-10. Chalov K., Lugovoy Y., Kosivtsov Y., Manaenkov O., Sulman E.[Ŧ]
STUDY OF THE PROCESS OF THERMAL DEGRADATION OF WASTE CROSS-LINKED POLYETHYLENE
Tver State Technical University, Tver, Russia

PP-11. Chalov K., Lugovoy Y., Tiamina I., Kosivtsov Y., Sulman E.[Ŧ]
STUDY OF CATALYTIC PYROLYSIS OF OIL RESIDUES
Tver State Technical University, Tver, Russia

PP-12. Chesnokov V.V., Chichkan A., Parmon V.N.
EFFECT OF CATALYSTS ON TAR CARBONIZATION
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-13. Demidova Y.[1,2], Mozhaitsev E.[3], Munkuev A.[3], Suslov E.[3], Volcho K.[2,3], Salakhutdinov N.[2,3], Simakova I.[1,2], Murzin D.[4]
GOLD AND PLATINUM-CATALYZED HYDROGENATION OF MONOTERPENOID OXIMES TO VALUABLE AMINES AND CARBONYL COMPOUNDS
[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[2]Novosibirsk State University, Novosibirsk, Russia
[3]Novosibirsk Institute of Organic Chemistry, Novosibirsk, Russia
[4]Åbo Akademi University, Turku/Åbo, Finland

PP-14. Dolganov I., Dolganova I., Ivanchina E., Ivashkina E., Solopova A., Bunaev A., Pasyukova M.
FORMATION OF TETRALINES AND SULFONES DEPENDING ON THE CONSTRUCTION OF THE LINEAR ALKYLBENZENES FILM SULFONATION REACTOR
National Research Tomsk Polytechnic University, Tomsk, Russia

PP-15. Doluda V.[1], Sulman M.[1], Stepacheva A.[1], Bykov A.[1], Matveeva V.[1], Grigorev M.[2]
METHANOL TO HYDROCARBONS TRANSFORMATION OVER MODIFIED ZEOLITES
[1]Tver State Technical University, Tver, Russia
[2]Tver Technical University, Tver, Russia

PP-16. Dorofeenko S.O., Polianczyk E.V.
ENHANCING EFFICIENCY OF HYDROCARBONS TO SYNGAS CONVERSION VIA PARTIAL OXIDATION
Institute of Problems of Chemical Physics RAS, Chernogolovka, Moscow region, Russia

PP-17. Dymek K.[1], Kurowski G.[1], Kuterasiński Ł.[2], Gancarczyk A.[3], Sitarz M.[4], Pajdak A.[5], Jodłowski P.J.[1]
METAL ORGANIC FRAMEWORKS SUPPORTED OF CERAMIC FOAMS FOR CYCLOHEXENE AND BENZYL ALCOHOL OXIDATION
[1]Krakow University of Technology, Krakow, Poland
[2]Jerzy Haber Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences, Krakow, Poland
[3]Institute of Chemical Engineering, Polish Academy of Sciences, Gliwice, Poland
[4]AGH University of Science and Technology, Krakow, Poland
[5]Strata Mechanics Research Institute, Polish Academy of Sciences, Krakow, Poland

PP-18. Elmisaoui S.[1,2,3], Latifi A.M.[1,2], Khamar L.[2], Salouhi M.[3]
ANALYSIS OF THE LEACHING OF PHOSPHATE ORE IN PHOSPHORIC ACID MANUFACTURING PROCESSES
[1]University of Lorraine, Nancy, France
[2]Mohammed VI Polytechnic University, Benguerir, Morocco
[3]Mohammed V University, Rabat, Morocco

PP-19. Ezdin B.[1], Pakharukov Yu.[2], Kalyada V.[1], Zarvin A.[1], Shabiev F.[2], Ichshenko A.[1], Vasiljev S.[1]
SYNTHESIS OF CARBON NANOMATERIALS IN A CYCLIC COMPRESSION REACTOR USING BUFFER GASES
[1]Novosibirsk State University, Novosibirsk, Russia
[2]Tyumen State University, Tyumen, Russia

PP-20. Fedorov A.[1,2], Dubinin Y., Yakovlev V.[1,2]
MODELING OF CATALYTIC SEWAGE SLUDGE COMBUSTION IN FLUIDIZED BED USING ASPEN PLUS
[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[2]Novosibirsk State University, Novosibirsk, Russia

PP-21. Gainutdinov I.I.[1], Nemudry A.P.[1], Zilberberg I.L.[2]
THE OXYGEN INTERACTION WITH THE SURFACE OF STRONTIUM FERRITES AND COBALTITES, DOPED BY MOLYBDENUM
[1]Institute of Solid State Chemistry SB RAS, Novosibirsk, Russia
[2]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-22. Gancarczyk A.[1], Iwaniszyn M.[1], Jędrzejczyk R.J.[2], Dymek K.[3], Jodłowski P.J.[3]
DESIGN OF ACTIVE STRUCTURED REACTOR FOR BIOGAS EXHAUST ABATEMENT
[1]Institute of [1]Chemical Engineering, Polish Academy of Sciences, Gliwice, Poland
[2]The Malopolska Centre of Biotechnology, Jagiellonian University, Kraków, Poland
[3]Cracow University of Technology, Krakow, Poland

PP-23. Garbujo A.[1], Lanza R.[2], Rohart E.[3], Lahougue A.[3], Gaudry G.[3], Ostuni R.[1], Biasi P.[1]
Fe-FER for DeNOx and DeN_2O APPLICATION: THE IMPORTANCE OF STABILITY FOR INDUSTRY
[1]Casale SA, Lugano, Switzerland
[2]Verdant, Stockholm, Sweden
[3]Alsys, Ploemeur, France

PP-24. Geçim G.[1], Dönmez S.[1], Erkoç E.[1,2]
GAS MIXING DYNAMICS IN VORTEX MIXER
[1]Bursa Technical University, Bursa, Turkey
[2]AdmireTech, Bursa, Turkey

PP-25. Golman B.[1], Andreev V.[2], Skrzypacz P.[1]
SERIES SOLUTIONS TO REACTION-DIFFUSION PROBLEMS IN CATALYTIC PELLETS WITH EXTERNAL MASS AND HEAT TRANSFER RESISTANCES
[1]Nazarbayev University, Nur-Sultan, Kazakhstan
[2]Chuvash State University, Cheboksary, Russia

PP-26. Torrez-Herrera J., Korili S., Gil A.
CATALYTIC PERFORMANCE OF NICKEL SUPPORTED ON La-HEXAALUMINATE HIBONITE TYPE SYNTHESIZED FROM ALUMINIUM SALINE SLAGS IN THE DRY REFORMING OF METHANE
Public University of Navarre, Pamplona, Spain

PP-27. Golyashova K., Lopatin S., Zagoruiko A.
INFLUENCE OF PARAMETRS OF GLASS-FIBER CATALYST PACKING ON ITS APPARENT ACTIVITY IN NO, CO, C_3H_8 MIXTURE
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-28. Gubaydullin I.M.[1], Koledina K.F.[1], Zaynullin R.[2], Koledin S.N.[2]
OPTIMUM CONTROL OF GASOLINE CATALYTIC REFORMING BASED ON OF KINETIC MODEL
[1]Institute of Petrochemistry and Catalysis RAS, Ufa, Russia
[2]Ufa State Petroleum Technological University, Ufa, Russia

PP-29. Herter F., Liauw M.
BATCH-TO-CONTI CONVERSION OF THE HOMOGENOUS MANGANESE CATALYZED GUERBET REACTION OF ETHANOL TO BUTANOL
RWTH Aachen University, Aachen, Germany

PP-30. Jamil M., Al-Rawashdeh M.
REVIEW OF KINETIC MODELS OF OXIDATIVE COUPLING OF METHANE AND METHANE DEHYDROAROMATIZATION
Texas A&M University at Qatar, Doha, Qatar

PP-31. Kirschtowski S.[3], Kortuz W.[1], Alkan E.[3], Seidel-Morgenstern A.[2,3], Hamel C.[1,3]
HYDROAMINOMETHYLATION OF A LONG CHAIN OLEFIN: INFLUENCE OF OPERATING PARAMETERS
[1]Anhalt University of Applied Sciences Köthen, Magdeburg, Germany
[2]Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany
[3]Otto von Guericke University Magdeburg, Magdeburg, Germany

PP-32. Pottratz I.[1], Müller I.[1], Seidel-Morgenstern A.[2,3], Hamel C.[1,3]
POTENTIAL OF MONOLITHIC MEMBRANE PORE-THROUGH-FLOW BIOREACTORS FOR THE PRODUCTION OF GALACTO-OLIGOSACCHARIDES
[1]Anhalt University of Applied Sciences Köthen, Köthen, Germany
[2]Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany
[3]Otto von Guericke University Magdeburg, Magdeburg, Germany

PP-33. Itkulova Sh.S.[1,2], Boleubayev Y.A.[1,3], Valishevskiy K.A.[1], Tilekkabyl A.S.[1,2]
BIOGAS CONVERSION TO SYNGAS IN AN ENLARGED LABORATORY PILOT TUBULAR REACTOR
[1]D.V. Sokolsky Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan
[2]Kazakh-British Technical University, Almaty, Kazakhstan
[3]Satbayev University, Almaty, Kazakhstan

PP-34. Iuliano M.S.[1], Gentile G.[2], De Pasquale S.[1,] Sarno M.[1,] Funicello N.[1], Ripoli C.[1], Castaldo R.[2]
WAX ESTER PRODUCTION FROM WASTE FISH OIL
[1]University of Salerno, Fisciano, Italy
[2]Institute of Polymers, Composites and Biomaterials, National Research Council of Italy, Pozzuoli, Italy

PP-35. Ivanchina E.[1], Ivashkina E.[1], Chuzlov V.[1], Nazarova G.[1], Vymyatnin E.[1], Koksharov A.[2]
OPTIMIZATION OF MULTISTAGE GASOLINE PRODUCTION IN HYDROCRACKING, CATALYTIC CRACKING, REFORMING AND COMPOUNDING PROCESSES
[1]National Research Tomsk Polytechnic University, Tomsk, Russia
[2]PJSC "KINEF", Kirishi, Leningrad region, Russia

PP-36. Jaschik J.[1], Tanczyk M.[1], Jaschik M.[1], Janecki D.[2], Mrozowski J.[3]
CFD MODELLING OF REACTORS FOR REDUCING THE ENVIRONMENTAL IMPACT OF SO_2 EMISSIONS
[1]Institute of Chemical Engineering, Polish Academy of Sciences, Gliwice, Poland
[2]Institute of Environmental Engineering and Biotechnology, University of Opole, Poland
[3]Research Network ŁUKASIEWICZ, Institute of Non-Ferrous Metals, Gliwice, Poland

PP-37. Klenov O.P., Noskov A.S.
SIMULATION THE HYDRODYNAMIC CHARACTERISTICS OF AN EBULLATED BED
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-38. Kovalev I.[1,2], Sivcev V.[1], Popov M.[1], Chizhik S.[1], Bychkov S.[1], Nemudry A.P.[1]
OXYGEN PERMEABILITY OF THE MIEC OXIDES MICROTUBULAR MEMBRANES PRODUCED WITH ADDITIVE METHODS
[1]Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia
[2]Novosibirsk State Technical University, Novosibirsk, Russia

PP-39. Kumar A., Yuda A., Ebrahimi P.
MODELING OF CELLULOSE ASSISTED COMBUSTION SYNTHESIS TECHNIQUE FOR CATALYST PREPARATION FOR HYDROGEN PRODUCTION FROM ETHANOL REFORMING
Qatar University, Doha, Qatar

PP-40. Kurzina I.[1], Reshetnikov S.[2], Meshcheryakov E.[1], Livanova A.[1], Isupova L.[2]
EFFECT OF PARTICLE SIZE ON ADSORPTION OF WATER VAPOR ON POROUS ALUMINIUM OXIDE MATERIALS: EXPERIMENT AND KINETIC MODELING
[1]Tomsk State University, Tomsk, Russia
[2]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-41. Kuzmin A.[1,2], Plekhanov M.[1,2], Ivanov A.[2,3]
THE FORMATION FEATURES OF A SOLID OXIDE FUEL CELL AND ITS INFLUENCE ON THE PERFORMANCE
[1]Vyatka State University, Kirov, Russia
[2]Institute of Solid-State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia
[3]The Institute of High Temperature Electrochemistry UB RAS, Yekaterinburg, Russia

PP-42. Lakina N., Doluda V., Sulman M., Matveeva V., Pankov D., Pasderina D., Sulman E.[Ŧ]
STUDY OF THE ELECTROCHEMICAL REACTION OF D-GLUCOSE CONVERSION IN THE PRESENCE OF AN ENZYME ELECTRODE
Tver State Technical University, Tver, Russia

PP-43. Leite B.S.[1], Ferreira D.J.[2], Leite S.A.[1], Jacob D.S.[1], Castro B.T.[1]
USE OF CFD IN THE EVALUATION OF TEMPERATURE EVOLUTION IN THE LIQUEFACTION OF LEMON BAGASSE
[1]Federal University of Viçosa, Florestal, Brazil
[2]University of São Paulo, Brazil

PP-44. Makhado T.[1], Khotseng L.[1], Yusuf I.M.[2]
HYDROTHERMAL LIQUEFACTION OF LIGNOCELLULOSIC INTO BIOFUELS AND ITS UTILIZATION IN ENERGY
[1]University of the Western Cape, Cape Town, South Africa
[2]University of Witwatersrand, Johannesburg, South Africa

PP-45. Rego A.S.[1], Leite S.A.[2], Santos B.F.[1], Leite B.S.[2]
ANFIS MODELLING APPLIED IN BIODIGESTERS
[1]Pontifical Catholic University of Rio de Janeiro, Brazil
[2]Federal University of Viçosa, Florestal, Brazil

PP-46. Lopatin S.[1,2], Baranov D.[2], Zagoruiko A.[1,2]
CATALYTIC DEVICES ON THE BASE OF GLASS-FIBER CATALYST FOR AIR PURIFICATION AND ENVIRONMENTALLY SAFE HEATING SYSTEMS
[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[2]Utocs LLC, Novosibirsk, Russia

PP-47. Manaenkov O., Kislitsa O., Ratkevich E., Matveeva V., Sulman M., Sulman E.[Ŧ]
MAGNETICALLY RECOVERABLE POLYMERIC CATALYST FOR CELLULOSE HYDROGENOLYSIS
Tver Technical University, Tver, Russia

PP-48. Shtyka O.[1,2], Ciesielski R.[1,2], Kedziora A.[1,2], Dubov S.[2], Gromov D.[2], Maniecki T.P.[1,2]
PHOTOCATALYTIC REDUCTION OF CARBON DIOXIDE IN CONTINUOUS FLOW PHOTOREACTOR USING TIO_2-BASED COMPOSITES
[1]Lodz University of Technology, Lodz, Poland
[2]National Research University of Electronic Technology, Zelenograd, Moscow, Russia

PP-49. Markov A.A., Merkulov O.V., Patrakeev M.V.
DEVELPOMENT OF MEMBRANE REACTOR FOR HYDROGEN AND SYNTHESIS GAS CO-PRODUCTION
Institute of Solid State Chemistry UB RAS, Ekaterinburg, Russia

PP-50. Lugovoy Y., Chalov K., Stepacheva A., Kosivtsov Y., Sulman M., Sulman E.[Ŧ]
PYROLYSIS OF CONIFEROUS AND DECIDUOUS WOOD WASTES
Tver State Technical University, Tver, Russia

PP-51. Martins M.[1], Lemos M.[1], Lemos F.[1], Pereira H.[2]
TORREFACTION OF FOREST RESIDUES USING A LAB-SCALE REACTOR
[1]Instituto Superior Técnico, University of Lisbon, Portugal
[2]Instituto Superior de Agronomia, University of Lisbon, Portugal

PP-52. Matveeva V., Grigorev M., Mikhailov S., Nikoshvili L., Sulman E.[Ŧ]
MONO - (Ru) AND BIMETALLIC (Ru-Co) POLYMERIC CATALYSTS FOR LEVULINIC ACID HYDROGENATION
Tver Technical University, Tver, Russia

PP-53. Matveeva V.[1,2], Sulman A.[1], Grebennikova O.[1], Tikhonov B.[1], Stadolnikova P.[1], Sidorov A.[1], Sulman E.[1Ŧ], Bronstein L.[3,4,5]
DESIGN OF BIOCATALYSTS FOR EFFICIENT ONE-POT PROCESS FOR CASCADE REACTIONS
[1]Tver State Technical University, Tver, Russia
[2]Tver State Technical University, Tver, Russia
[3]Indiana University, Kirkwood, USA
[4]A.N. Nesmeyanov Institute of Organoelement Compounds, Moscow, Russia
[5]King Abdulaziz University, Jeddah, Saudi Arabia

PP-54. Nazarova G.[1], Ivashkina E.[1], Ivanchina E.[1], Oreshina A.[1], Burumbaeva G.[2], Seitenova G.[3], Kaliev T.[2,3]
MATHEMATICAL MODELING OF VACUUM GAS OIL CATALYTIC CRACKING FROM WEST SIBERIAN AND KAZAKHSTAN OIL BLEND
[1]National Research Tomsk Polytechnic University, Tomsk, Russia
[2]LLP Pavlodar Petrochemical Plant, Pavlodar, Kazakhstan
[3]Toraighyrov Pavlodar State University, Pavlodar, Kazakhstan

PP-55. Ozerskii A.V.[1,2], Zimin Ya.S.[1,2], Nikitin A.V.[1,2], Fokin I.G.[1], Sedov I.V.[1], Savchenko V.I.[1,2], Arutyunov V.S.[1,2]
MATRIX CONVERSION OF PROPANE-BUTANE MIXTURE TO SYNGAS
[1]Institute of Problems of Chemical Physics RAS, Chernogolovka, Moscow region, Russia
[2]N.N. Semenov Federal Research Center for Chemical Physics RAS, Moscow, Russia

PP-56. Özden M., Selcuk O., Avci A.K.
ACTIVE AND STABLE Ru and Ni-BASED CATALYSTS FOR CO_2 REFORMING OF GLYCEROL TO SYNGAS
Bogazici University, Istanbul, Turkey

PP-57. Ovchinnikova E., Banzaraktsaeva S., Urzhuntsev G.†, Chumachenko V.
ISOMERIZATION of n-BUTANE and C4 REFINERY FRACTIONS on Pd PROMOTED SULFATED ZIRCONIA. KINETIC ASPECTS and PROCESS MODELING
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-58. Ovchinnikova E., Banzaraktsaeva S., Surmina M., Chumachenko V.
EFFECT of C3-ALCOHOLS IMPURITIES on ALUMINA CATALYZED DEHYDRATION of BIOETHANOL to ETHYLENE. EXPERIMENTAL STUDY and PROCESS MODELING
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-59. Pai Z.P.[1], Pai V.V.[2], Luk'yanov Ya.L.[2], Shangina A.B.[1], Fedotenko M.A.[2], Parmon V.N.[1], Bukhtiyarov V.I.[1]
METHOD FOR PREPARATION OF THE DEFECTIVE SURFACE OF PRODUCTS MADE OF HEAT-RESISTANT NICKEL ALLOYS FOR BRAZING
[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[2]Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia

PP-60. Park Y.
ENHANCEMENT OF BTEX IN ex-situ CATALYTIC UPGRADING OF BIOMASS PYROLYSIS VAPORS ON METAL LOADED HZSM-5 CATALYST UNDER METHANE ENVIRONMENT
*University of Seoul, South Ko*rea

PP-61. Popov M., Kovalev I., Sivcev V., Stanislav Chizhik S., Nemudry A.
INFLUENCE OF OXYGEN EXCHANGE IN PEROVSKITE-LIKE OXIDES ON MICROTUBULAR MEMBRANE REACTOR
Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia

PP-62. Pawlaczyk-Kurek A., Tanczyk M.
EXPERIMENTAL INVESTIGATIONS OF THERMAL COMBUSTION OF LEAN METHANE AIR MIXTURES IN CERAMIC FOAM BED
Institute of Chemical Engineering, Polish Academy of Sciences, Gliwice, Poland

PP-63. Pe**č**ar D.[1], Mićić V.[2], Goršek A.[1]
SYNTHESIS, CHARACTERIZATION AND APPLICATION OF AL-SBA-15 CATALYST
[1]University of Maribor, Faculty of Chemistry and Chemical Engineering, Maribor, Slovenia
[2]University of East Sarajevo, Faculty of Technology, Zvornik, Bosnia-Herzegovina

PP-64. Pečinka R., **Ně**mec J., Kočí P.
CONVERSION AND PRESSURE DROP IN CATALYTIC PARTICULATE FILTERS
University of Chemistry and Technology, Prague, Czech Republic

PP-65. Plekhanov M.[1,2], Stroeva A.[2], Kuzmin A.[2]
STRUCTURE, STABILITY, AND TRANSPORT PROPERTIES OF NEW COMPOSITE MATERIALS FOR HYDROGEN ENERGY
[1]Vyatka State University, Kirov, Russia
[2]The Institute of High Temperature Electrochemistry UB RAS, Yekaterinburg, Russia

PP-66. Polianczyk E.V., Kostenko S.S., Ivanova A.N., Karnaukh A.A.
STEAM-OXYGEN CONVERSION OF METHANE IN A POROUS BED REVERSED FLOW REACTOR: KINETIC MODELING
Institute of Problems of Chemical Physics RAS, Chernogolovka, Moscow region, Russia

PP-67. Polianczyk E.V.[1], Zaichenko A.Yu.[1], Podlesnyi D.N.[1], Tsvetkov M.V.[1], Salganskaya M.V.[1,2]
CONVERSION OF 2-PROPANOL TO SYNGAS VIA PARTIAL OXIDATION IN FILTRATION COMBUSTION
[1]Institute of Problems of Chemical Physics RAS, Chernogolovka, Moscow region, Russia
[2]Lomonosov Moscow State University, Moscow, Russia

PP-68. Ponticorvo E., Funicello N., Sarno M., De Pasquale S.
SELECTIVE ACETIC ACID ELECTROCHEMICAL SYNTHESIS ON ACID SUPPORTING SINGLE ATOMS CATALYSTS
University of Salerno, Fisciano, Italy

PP-69. Potemkin D.I.[1,2], Uskov S.I.[1,2], Brayko A.S.[1,2], Snytnikov P.V.[1,2], Urlukov A.S.[1,2], Shigarov A.B.[2], Kirillov V.A.[1,2 ✝], Sobyanin V.A.[1,2]
HIGHLY DISPERSED Ni/$Ce_{0.75}Zr_{0.25}O_2$ CATALYSTS FOR LOW-TEMPERATURE STEAM REFORMING OF FLARE GASES
[1]Novosibirsk State Universisty, Novosibirsk, Russia
[2]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-70. Potemkin D.[1,2], Shilov V.[1,2,3], Rogozhnikov V.[1,2], Popov M.[1,3], Zagoruiko A.[2,3], Zazhigalov S.[2,3], Fedorova Z.A.[2,3], Snytnikov P.[2], Belyaev D.V.[2,3], Sobyanin V.A.[2,3], Nemudry A.P.[3]
LPG PARTIAL OXIDATION OVER Rh/$Ce_{0.25}Zr_{0.75}O_2$-Al_2O_3/FeCrAlloy FOR MICROTUBULAR SOLID OXIDE FUEL CELL FEEDING
[1]Novosibirsk State University, Novosibirsk, Russia
[2]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[3]Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia

PP-71. Ruban N.[1,2], Potemkin D.[1,2], Rogozhnikov V.[1,2], Zazhigalov S.[2], Shilov V.[1,2], Snytnikov P.[1,2], Zagoruiko A.[2], Sobyanin V.[2]
MODIFICATION OF Rh/$Ce_{0.75}Zr_{0.25}O_2$/Al_2O_3/FeCrAl CATALYTIC MODULE: TOWARD ENHANCED EFFECTIVITY OF AROMATIC COMPOUND CONVERSION
[1]Novosibirsk State University, Novosibirsk, Russia
[2]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-72. Safiullina L.F.[1,2], Gubaydullin I.M.[1,2,3]
SENSITIVITY ANALYSIS OF THE KINETIC MODEL OF GASEOUS AUTOCATALYTIC PROPANE PYROLYSIS
[1]Bashkir State University, Ufa, Russia
[2]Ufa State Petroleum Technological University, Russia
[3]Institute of Petrochemistry and Catalysis of the UFRC RAS, Ufa, Russia

PP-73. Medina A., Ibanez Abad J., Tolvanen P., de Araujo Filho C., Salmi T.
KINETICS AND MECHANISM OF GLYCEROL HYDROCHLORINATION IN A SEMIBATCH REACTOR
Åbo Akademi University, Turku/Åbo, Finland

PP-74. Sanchez M., Liauw M.
DFT STUDIES ON THE MECHANISM OF THE Ru-MACHO-CATALYZED GUERBET REACTION OF ETHANOL TO BUTANOL
RWTH Aachen University, Aachen, Germany

PP-75. Sandu M.P., Kurzina I.A.
INVESTIGATION OF Pd-Bi/Al_2O_3 CATALYSTS IN THE REACTION OF LIQUID-PHASE GLUCOSE OXIDATION
National Research Tomsk State University, Tomsk, Russia

PP-76. Sargsyan G.N.
SIMULATION OF THE PHENOMENON OF THE BIRTH OF WEAK SHOCK WAVES IN THE OXIDATION OF HYDROGEN AND HYDROCARBONS AT THE PRESENCE OF SURFACE ACTIVE CENTERS (WATER + NEGATIVE ION OF CHLORINE)
Institute of Chemical Physics, A.B. Nalbandyan National Academy of Sciences of the Republic of Armenia, Yerevan, Armenia

PP-77. Sheboltasov A.[1,2], Vernikovskaya N.[1,2], Chumachenko V.[1]
MODELLING METHANOL TO FORMALDEHYDE OXIDATION PROCESS IN THE ENVIRONMENTALLY SAFE MICROSTRUCTURED SLIT-TYPE REACTOR
[1]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia
[2]Novosibirsk State Technical University, Novosibirsk, Russia

PP-78. Sindera K.[1], Iwaniszyn M.[1], Gancarczyk A.[1], Korpys M.[1], Kolodziej A.[1,2]
NEW STREAMLINED CATALYTIC CARRIERS OF ENHANCED TRANSPORT PROPERTIES
[1]Institute of Chemical Engineering, Polish Academy of Sciences, Gliwice, Poland
[2]Opole University of Technology, Opole, Poland

PP-79. Skrzypacz P.[1], Golman B.[1], Andreev V.[2], Kadyrbek A.[1]
DEAD-CORE SOLUTIONS TO FAST DIFFUSION EQUATION FOR CATALYTIC PELLETS WITH EXTERNAL MASS TRANSFER RESISTANCE
[1]Nazarbayev University, Nur-Sultan, Kazakhstan
[2]Chuvash State University, Cheboksary, Russia

PP-80. Stepacheva A., Markova M., Lugovoy Y., Tiamina I., Sulman M., Matveeva V., Sulman E.[Ŧ]
BIOMASS AND OILS CO-HYDROPROCESSING IN SUPERCRITICAL CONDITIONS
Tver State Technical University, Tver, Russia

PP-81. Suh D.[1], Jo H.[1,2], Choi J-W.[1], Ha J.[1], Choi J.[2]
DESIGN OF MULTISTAGE REACTOR SYSTEMS FOR THE PRODUCTION OF HIGH CARBON NUMBER HYDROCARBON FUELS FROM FURANS BY DISTRIBUTING MULTIFUNCTIONAL CATALYSTS
[1]Korea Institute of Science and Technology, Seoul, South Korea
*[2]Korea University, Seoul, South Kore*a

PP-82. Grebennikova O., Sulman A., Matveeva V., Sulman E.[Ŧ]
HIGH EFFECTIVE BIOCATALYTIC SYSTEMS ON THE BASE OF HORSERADISH PEROXIDASE IMMOBILIZED ON MAGNETIC NANOPARTICLES
Tver State Technical University, Tver, Russia

PP-83. Tesser R.[1], Taddeo F.[1], Russo V.[1,2], Vitiello R.[1], Turco R.[1], Di Serio M.[1]
KINETICS OF PELARGONIC ACID ESTERIFICATION WITH 2-ETHYLHEXANOL IN BATCH AND CONTINUOUS REACTORS
[1]The University of Naples Federico II, Naples, Italy
[2]Åbo Akademi University, Turku/Åbo, Finland

PP-84. Vilé G.
HIGHLY-DISPERSED ZINC SPECIES ON ZEOLITES FOR THE CONTINUOUS AND SELECTIVE DEHYDROGENATION OF ETHANE WITH CO_2 AS A SOFT OXIDANT
Politecnico di Milano, Milan, Italy

PP-85. Yeletsky P., Dubinin Yu., Yazykov N., Yakovlev V.
CONVERSION OF VEGETABLE FEEDSTOCK, PEAT AND COAL TO POROUS CARBON-MINERAL COMPOSITES AND CARBONS VIA OXIDATIVE CARBONIZATION IN FLUIDIZED CATALYST BED
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

PP-86. Zhang X.[1], Komashko L.[1], Murzin D.[2], Tungatarova S.[1,3], Baizhumanova T.[1,3]
STABILITY OF PLATINUM-RUTHENIUM CATALYSTS IN THE SELECTIVE SYNTHESIS OF H_2 and CO
[1]Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan
[2]Åbo Akademi University, Turku/Åbo, Finland
[3]al-Farabi Kazakh National University, Almaty, Kazakhstan

PP-87. Zhumabek M.[1,2], Tungatarova S.[1,3], Baizhumanova T.[1,3], Kotov S.[4], Massalimova B.[4]
BIOGAS REFORMING ON SOLUTION COMBUSTION SYNTHESIS
[1]Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan
[2]Satbayev University, Almaty, Kazakhstan
[3]al-Farabi Kazakh National University, Almaty, Kazakhstan
[4]M.Kh. Dulaty Taraz State University, Taraz, Kazakhstan

PP-88. Ziyadullaev O.E.[1,2], Tirkasheva S.[1], Otamukhamedova G.[2], Abdurakhmanova S.[1], Salieva M.[1], Ikramov A.[1,3]
ENANTIOSELECTIVE ALKYNYLATION OF ALDEHYDES AND KETONES BY CATALYST **KOH**-Et_3N-Et_2O or THF
[1]*Chirchik State Pedagogical Institute, Chirchik, Uzbekistan*
[2]*National University of Uzbekistan, Tashkent, Uzbekistan*
[3]*Tashkent Chemical Technological Institute, Tashkent, Uzbekistan*

PP-89. Gogin L.L., Zhizhina E.G.
ONE-POT PROCESSES OF PARA-QUINONES SYNTHESIS IN THE PRESENCE OF M**o**–V–P HETEROPOLY ACIDS SOLUTIONS
Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

VIRTUAL PRESENTATIONS
(PUBLICATION OF THE ABSTRACT IN THE ELECTRONIC BOOK)

VP-1 Abiev R.[1,2], Sirotkin A.A.[1], Albadi Y.[1,3], Popkov V.I.[1,4]
MIXING EFFECTS IN $GdFeO_3$ PARTICLE PRECIPITATION PROCESS BY USE OF IMPINGING JETS MICROREACTOR
[1]St. Petersburg State Institute of Technology, St. Petersburg, Russia
[2]Institute of Silicate Chemistry RAS, St. Petersburg, Russia
*[3]Al-Baath University, city of Homs, Syrian Arab Republic (*Syria*)*
[4]Ioffe Physical Technical Institute RAS, St. Petersburg, Russia

VP-2 Chernyshev D., Varlamova E., Suchkov Y., Sapunov V., Kozlovsky R.
CALCIUM PHOSPHATES CATALYTIC PROPERTIES AND THERMAL STABILITY IN METHYL LACTATE DEHYDRATION
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia

VP-3 Dubrovskiy V., Zolotarev E., Grivin A., Kozlovskiy I.
CATALYTIC CONVERSION OF ETHANOL TO ETHYL ACETATE
D. Mendeleyev University of Chemical Technology of Russia, Moscow, Russia

VP-4 Garcia Serpas C.
BLACK BOX OPTIMIZATION-ASSISTED DESIGN OF AN ETBE REACTIVE DISTILLATION PROCESS
National Research Tomsk Polytechnic University, Tomsk, Russia

VP-5 Gustyakova S.I., Sapunov V.N., Voronov M.S., Kozeeva I.S.
WACKER-TYPE OXIDATION OF FATTY ACIDS AND DERIVATIVES
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia

VP-6 Hijazi N., Mohammad T., Tammana V.V., Abdali A., Sanini M., Aqeel A., Shaikh S.
KINETICS OF HEAVY REFORMATE TRANSALKYLATION OVER ZSM-5- AND MORDENITE-BASED CATALYSTS
Saudi Aramco, Dhahran, Saudi Arabia

VP-7 Karimli V., Kelbaliyev G.I., Aliyev G.S.
STUDIES OF WASTEWATER TREATMENT PROCESS OUT ASPHALT-RESIN OIL PRODUCTS BY LIQUID PHASE EXTRACTION
M. Nagiyev Institute of Catalysis and Inorganic Chemistry NAS of Azerbaijan, Baku, Azerbaijan

VP-8 Knyazev D., Voronov M., Suchkov Y., Statoverov D., Luganskiy A., Alferenko A., Kozlovskiy R.
HYDROGEN-FREE CONVERSION OF FATTY ACID METHYL ESTERS TO ALCOHOLS
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia

VP-9 Kozeeva I.S., Gustyakova S., Nogovitsina V.E., Voronov M.S., Sapunov V.
NON-CATALYTIC PROCESS FOR THE PRODUCTION OF TRIMETILOLPROPANE-BASED SYNTHETIC OILS
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia

VP-10 Kozlovskiy M., Kozlovskiy R., Kozlovskiy I., Voronov M., Ibatov Y., Brinko N.
KINETICS OF NON-CATALYTIC N-BUTYL LACTATE PRODUCTION FROM AMMONIUM LACTATE
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia

VP-11 Pchelintseva I.[1], Seitenova G.[2], Chernyakova E.[3], Ivanchina E.[3]
REGULARITIES OF CATALYTIC CONVERSION OF HYDROCARBONS IN CATALYTIC REFORMING OF NAPHTHA WITH PRESSURE REDUCTION
[1]GasInformPlast" Well Testing Center, Tomsk , Russia
[2]Toraygyrov Pavlodar State University, Pavlodar, Russia
[3]National Research Tomsk Polytechnic University, Tomsk, Russia

VP-12 Sapunov V.N., Dzhabarov G.V., Orel P.A., Voronov M.S., Korovina N.S., Magorina L.N.
BASIC REGULARITIES OF GLYCOLYSIS PET with KOH CATALYSIS
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia

VP-13 Sovetin F., Gartman T.N., Sapunov V.N., Kozlovsky R.
THE DETERMINATION OF THE KINETIC CONSTANTS OF THE PROCESS OF THE AROMATIZATION OF THE NATURAL-GAS CONDENSATE OF THE CATALYST MFI40
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia

VP-14 Tarabanko V.E., Vigul D., Kaygorodov K., Chelbina Y., Tarabanko N., Smirnova M.
MASS TRANSFER IN THE PROCESS OF CATALYTIC OXIDATION OF LIGNOCELLULOSES INTO VANILLIN AND PULP
Institute of Chemistry and Chemical Technology SB RAS, Krasnoyarsk, Russia

VP-15 Zolotareva M., Lugansky A., Kozlovsky R., Voronov M., Shtepa O., Petrov I.
OBTAINING BIO-AVIATION KEROSENE BY HYDRODEOXYGENATION OF COCONUT OIL
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia