

Borshkov Institute of Catalysis
Center of New Chemical Technologies BIC
Russian Mendeleev Chemical Society, Novosibirsk Department

6th International School-Conference on Catalysis for Young Scientists



Catalyst Design

From Molecular to Industrial Level

Novosibirsk, Russia
May 16-19, 2021

SCIENTIFIC PROGRAM

Novosibirsk - 2021

Boreskov Institute of Catalysis
Center of New Chemical Technologies BIC
Russian Mendeleev Chemical Society, Novosibirsk Department

**6th International School-Conference on Catalysis
for Young Scientists
Catalyst Design: From Molecular to Industrial Level**

May 16-19, 2021
Novosibirsk, Russia

Scientific Program

Novosibirsk-2021

Organised by

Boreskov Institute of Catalysis
Center of New Chemical Technologies BIC
Russian Mendeleev Chemical Society, Novosibirsk Department



**BORESKOV INSTITUTE
OF CATALYSIS**



**CENTER OF NEW
CHEMICAL TECHNOLOGIES
BORESKOV INSTITUTE OF CATALYSIS**



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Center of New Chemical Technologies BIC, Omsk, Russia

Secretary

Svetlana S. Logunova

Borekov Institute of Catalysis, Novosibirsk, Russia

The scientific program of the School-Conference will include invited plenary lectures (45 min), oral (15 min) and poster presentations.

The main topics are:

Section 1 - Preparation of catalysts and adsorbents

Section 2 - Characterization and *in situ* studies of the catalysts

Section 3 - Mechanism and kinetics of catalytic reactions

Section 4 - Catalysis for renewable sources

Section 5 - Catalysis for fine organic synthesis, natural gas and petroleum chemistry

Section 6 - Catalysis for environmental protection, photocatalysis, electrocatalysis

Scientific Program

May 16, Sunday

Coordinated Universal Time UTC +0

Place: GRAND HALL, 3rd floor
Afternoon session

04.00-06.30 Registration

06.30-06.45 Opening ceremony

Chairperson: Prof. Martyanov Oleg,

Boreskov Institute of Catalysis, Novosibirsk, Russia

PLENARY LECTURES

06.45-07.30 PL-1

Online

Dr. David Kubička

**Biomass Valorization Relying on Aldol
Condensation and Deoxygenation**

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

07.30-08.15 PL-2

Online

Professor Dr. Ir. Emiel J.M. Hensen

**Heterogeneous Catalysis for Sustainable Chemical
Conversion: On Metal Nanoparticles, Clusters,
and Single Atoms at Interfaces**

*Eindhoven University of Technology,
The Netherlands*

08.15-08.45 Coffee

08.45-09.30 PL-3

Online

Dr. Noelia Barrabés

**Creating Atomically Designed Catalysts by Gold
Nanoclusters**

Technische Universität, Wien, Austria

SPONSOR PRESENTATIONS

- 09.30-09.45** **SP-1**
Online Liana Socaciu-Siebert, Paul Dietrich and Andreas
Thissen
**NAP-XPS Instrumentation and Applications: New
Developments**
*SPECS Surface Nano Analysis GmbH, Berlin,
Germany*
- 09.45-10.00** **SP-2**
Zhukov Yuri.
**X-ray Photoelectron Spectroscopy: surface
analysis**
PREVAC sp. z o.o., Poland
- 10.00-10.05** **Group Photo**
- 10.05-12.00** **Walking tour around Akademgorodok**
- 12.00-14.00** **Welcome reception**
Banquet hall «Teplitsa» , Nikolaeva street 12/2

May 17, Monday

Coordinated Universal Time UTC +0

Place: GRAND HALL, 3rd floor
Morning session

*Chairperson: Prof. Aleksey Vedyagin,
Boreskov Institute of Catalysis, Novosibirsk, Russia*

PLENARY LECTURE

02.00-02.45 PL-4

Professor Maximov Anton

**Dispersed Catalysts for Refining, Natural Gas
Chemistry and Renewables**

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

ORAL PRESENTATIONS

02.50-03.05 OP-V-1

Presenting autor: Shmakov Mikhail

Shmakov M.M.¹, Prikhod'ko S.A.¹, Peshkov R.Yu.²

**Influence of the Lewis Acidity of Functionalized
Aryldifluoroboranes on Their Catalytic Activity**

*1 – Boreskov Institute of Catalysis, Novosibirsk,
Russia*

*2 – Novosibirsk State University, Novosibirsk,
Russia*

- 03.05-03.20 OP-V-2**
Presenting autor: Stolbov Dmitrii
Stolbov D.N.^{1,2}, Chernyak S.A.¹, Kustov A.L.¹,
Usol'tseva N.V.², Savilov S.V.¹.
**New Chromium-Carbon Catalytic Systems for
Oxidative Propane Dehydrogenation in Presence
of CO₂**
*1 – Lomonosov Moscow State University, Moscow,
Russia*
2 – Ivanovo State University, Ivanovo, Russia
- 03.20-03.35 OP-V-3**
Presenting autor: Bogomolova Tatiana
Bogomolova T.S., Smirnova M.Yu., Klimov O.V.,
Noskov A.S.
**Nickel Phosphide Catalysts for Diesel Fuel
Hydroisomerization Processes**
Boreskov Institute of Catalysis, Novosibirsk, Russia
- 03.35-04.05 Coffee**
- 04.05-06.00 Excursion to Boreskov Institute of Catalysis
Grang hall, 3rd floor**
- 06.00-07.30 Lunch**

Place: GRAND HALL, 3rd floor
Afternoon session

Chairperson: Prof. Maximov Anton

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

PLENARY LECTURES

07.30-08.15

PL-5

Online

Professor Ananikov Valentine

**Cocktail-Type Catalytic Systems for Fine
Chemicals Synthesis and Sustainable
Development**

*Zelinsky Institute of Organic Chemistry, Moscow,
Russia*

08.15-09.00

PL-6

Online

Ass. Prof. Rameshan Cristoph

**Correlating Structure and Reactivity on Energy
Materials by In Situ Spectroscopy**

Technical University, Vienna, Austria

09.00-09.30

Coffee

Chairperson: Dr. Prikhodko Sergey

Boreskov Institute of Catalysis, Novosibirsk, Russia

ORAL PRESENTATIONS

09.30-09.45

Online

OP-V-4

Presenting autor: Gusev Andrey

Gusev A.A.^{1,2}, Psarras A.C.¹, Triantafyllidis K.S.²,
Lappas A.A.¹

**Acid Sites Formation on P Doped ZSM-5 Zeolite
Catalysts for Catalytic Cracking**

*1 – Centre for Research and Technology Hellas
(CERTH), Chemical Processes and Energy Resources
Institute (CPERI), Thessaloniki, Greece*

*2 – Aristotle University of Thessaloniki (AUTH),
Department of Chemistry, Thessaloniki, Greece*

09.45-10.00

Online

OP-V-5

Presenting autor: Dr. Grebennikova Olga

Grebennikova O.V., Sulman A.M., Matveeva V.G.

**The Use of Oxidoreductase Class Enzymes in the
Synthesis of Vitamins**

Tver State Technical University, Tver, Russia

10.00-10.15

Online

OP-V-6

Presenting autor: SmoliŃo-Utrata Małgorzata

SmoliŃo-Utrata M., Samson K., Gackowski M.,
Mordarski G., Śliwa M., PodobiŃski J., Datka J.,
Rutkowska-Źbik D.

**Vanadium-Loaded Faujasites as Catalysts for the
Oxidative Dehydrogenation of Propane**

*Jerzy Haber Institute of Catalysis and Surface
Chemistry, Polish Academy of Sciences, Krakow,
Poland*

- 10.15-10.30** **OP-V-7**
Online **Presenting autor:** Timofeev Kirill
Nikitin A.V.^{1,2}, Timofeev K.A.², Ozersky A.V.¹,
Zimin Y.S.¹
**Catalytic Methanol Synthesis from Syngas of
Matrix Methane Conversion**
1 – ICHP RAS , Chernogolovka, Russia
2 – ICP RAS , Moscow, Russia
- 10.30-10.45** **OP-V-8**
Online **Presenting autor:** Sulman Aleksandrina
Sulman A.M.¹, Matveeva V.G.^{1,2},
Grebennikova O.V.¹, Molchanov V.P.¹,
Lakina N.V.¹, Doluda V.Y.¹
**Catalytic Performance of Glucose Oxidase
Immobilized on Magnetic Zirconia**
*1 - Department of Biotechnology and Chemistry,
Tver State Technical University, Tver, Russia*
2 - Tver State University, Tver, Russia

May 17, Monday

Coordinated Universal Time UTC +0

Place: STUDENT HALL, 2nd floor
Morning session

Chairperson: Dr. Parkhomchuk Ekaterina,

Boreskov Institute of Catalysis, Novosibirsk, Russia

ORAL PRESENTATIONS

02.50-03.05 OP-I-1

Presenting autor: Fomenko Iakov

Fomenko I.S., Gushchin A.L.

**Oxidovanadium Complexes with Diimine Ligands:
Synthesis and Catalytic Studies**

*Nikolaev Institute of Inorganic Chemistry SB RAS,
Novosibirsk, Russia*

03.05-03.20 OP-I-2

Presenting autor: Dr. Stepanova Liudmila

Stepanova L.N., Kobzar E.O., Leont'eva N.N.,

Belskaya O.B.

**Phase Transformations Occurring During
Mechanochemical Synthesis of the MgAl-Layered
Double Hydroxides**

*Center of New Chemical Technologies BIC, Omsk,
Russia*

03.20-03.35 OP-I-3

Presenting autor: Shahzad Anjum

Shahzad A.¹, Kovtunova L.M.^{1,2}, Nartova A.V.^{1,2}

Influence of the Preparation Conditions on Formation of Active Component Particles of Pt/Sibunit Catalyst

1 - Novosibirsk State University, Novosibirsk, Russia

2 - Borekov Institute of Catalysis, Novosibirsk, Russia

03.35-04.05 Coffee

04.05-06.00 Excursion to Borekov Institute of Catalysis

06.00-07.30 Lunch

**Place: STUDENT HALL, 2nd floor
Afternoon session**

Chairperson: Ass. Prof. Rameshan Cristoph,

Technical University, Vienna, Austria

ORAL PRESENTATIONS

09.30-09.45 OP-I-4

Online

Presenting autor: Markova Mariia

Stepacheva A.A., Markova M.E., Matveeva V.G., Sulman M.G.

Comparison of Methods for Surface Modification of Hyper-Crosslinked Polystyrene for the Synthesis of Bifunctional Catalyst

Tver State Technical University, Tver, Russia

- 09.45-10.00** **OP-I-5**
Presenting autor: Topchiyan Polina
Topchiyan P.A., Vasilchenko D.B.
Application of Iridium(III) Aquanitrocomplexes for the Preparation of Supported Ir-Ni Catalysts for Selective Decomposition of $\text{N}_2\text{H}_4 \cdot \text{H}_2\text{O}$
Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia
- 10.00-10.15** **OP-I-6**
Presenting autor: Boev Sevastyan
Boev S.S., Rubtsova M.I., Smirnova E.M., Glotov A.P.
Design of an Affordable and Efficient SAPO-34 Catalyst Based on Natural Halloysite Nanotubes
Gubkin Russian State University of Oil and Gas, Moscow, Russia
- 10.15-10.30** **OP-I-7**
Online **Presenting autor:** Zubkov Alexander
Zubkov A.V., Vyshegorodtseva E.V., Bugrova T.A., Mamontov G.V.
Design of Pt-Ga Catalysts Supported on Hierarchical Silica Materials for Propane Dehydrogenation
Tomsk State University, Tomsk, Russia

10.30-10.45 OP-I-8

Presenting autor: Kaplin Igor

Kaplin I.Yu., Tikhonov A.V., Lokteva E.S., Bataeva S.V., Shishova V.V., Golubina E.V., Maslakov K.I.

The Influence of Dopant, Modifier and Template Nature on the Catalytic Efficiency of Ceria in CO Oxidation

Lomonosov Moscow State University, Chemistry Department, Moscow, Russia

May 18, Tuesday

Coordinated Universal Time UTC +0

**Place: GRAND HALL, 3rd floor
Morning session**

Chairperson: Dr. Simonov Mikhail,

Boreskov Institute of Catalysis, Novosibirsk, Russia

PLENARY LECTURE

02.00-02.45

PL-7

Online

Professor Frenkel Anatoly

Dynamic Structure of Active Sites in Ceria – Supported Pt Catalysts for the Water Gas Shift Reaction

Stony Brook University, New York, USA

ORAL PRESENTATIONS

02.50-03.05

OP-V-9

Presenting autor: Gorbunova Anna

Gorbunova A.S., Sobolev V.I.

Partial Oxidation of Ethane to Ethylene and Acetic Acid over MoVTeNbO_x Catalyst

Boreskov Institute of Catalysis, Novosibirsk, Russia

03.05-03.20

OP-V-10

Presenting autor: Rubtsova Maria

Rubtsova M.I., Demikhova N.R., Glotov A.P.,

Vinokurov V.A.

Influence of the Si/Al Ratio in Pt-Containing Catalysts Based on Al-MCM-41 and Natural Halloysite

Nanotubes on Xylene and Ethylbenzene Isomerization Activity

Gubkin Russian State University of Oil and Gas, Moscow, Russia

03.20-03.35

Online

OP-V-11

Presenting autor: Lukoyanov Ivan

Lukoyanov I.A.¹, Gerasimov E.Yu¹,

Panchenko V.N.¹, Shefer K.I.¹, Timofeeva M.N.¹,

Jhung S.H.²

Zn- and Co-Zeolite Imidazolate Frameworks as Effective Catalysts for the Cycloaddition of CO₂ to Propylene Oxide

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 - Department of Chemistry and Green-Nano Materials Research Center, Kyungpook National University, Daegu, Republic of Korea

03.35-04.05

Coffee

&

04.05-05.00

POSTER SESSION

Hall 3rd floor

Place: GRAND HALL, 3rd floor

Morning session

Chairperson: Dr. Potemkin Dmitry,

Boreskov Institute of Catalysis, Novosibirsk, Russia

ORAL PRESENTATIONS

05.00-05.15 OP-IV-1

Presenting autor: Gorbunova Alina

Gorbunova A.A.¹, Zinovyev A.L.¹, Kolobova E.N.¹,

Pakrieva E.G.¹, Carabineiro S.A.C.²,

Pestryakov A.N.¹

**New Biodegradable Copolymers Based on
Betulin, Organic Acids and Their Derivatives**

*1 – Research School of Chemistry & Applied
Biomedical Sciences, National Research Tomsk
Polytechnic University, Tomsk, Russia*

*2 - LAQV-REQUIMTE, Universidade NOVA de Lisboa
- FCT, Caparica, Portugal*

05.15-05.30 OP-IV-2

Presenting autor: Sukhorukov Dmitry

Sukhorukov D.A.¹, Alekseeva M.V.¹, Zaikina O.O.¹,

Bulavchenko O.A.¹, Kikhtyanin O.², Kubička D.²,

Yakovlev V.A.¹

**Study of Mo-Ni-Based Catalysts in the
Hydrotreatment of Sewage Sludge-Derived
Pyrolysis Oils**

*1 – Boreskov Institute of Catalysis, Novosibirsk,
Russia*

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

- 05.30-05.45** **OP-IV-3**
Online **Presenting autor:** Timofeev Konstantin
Timofeev K.L., Kharlamova T.S., Svetlichnyi V.A.,
Vodyankina O.V.
**Catalytic Oxidation of 5-Hydroxymethylfurfural
over $\text{Au}_{1-x}\text{Ag}_x$ and $\text{Pd}_{1-x}\text{Ag}_x$ Catalysts**
Tomsk State University, Tomsk, Russia
- 05.45-06.00** **OP-IV-4**
Online **Presenting autor:** Dokuchits Eugene
Dokuchits E.V., Ishchenko A.V., Larina T.V.,
Minyukova T.P.
**Syngas Conversion over
Perovskite-Like $\text{La}_y\text{Ca}_{1-y}\text{Co}_x\text{Ti}_{1-x}\text{O}_3$ /KIT-6 Catalysts**
Boreskov Institute of Catalysis, Novosibirsk, Russia
- 06.00-07.30** **Lunch**

Place: GRAND HALL, 3rd floor
Afternoon session

Chairperson: Dr. Kubička David,
*Technopark Kralupy, University of Chemistry and Technology, Prague,
Czech Republic*

PLENARY LECTURES

- 07.30-08.15** **PL-8**
Online Dr. Timoshenko Janis
Timoshenko J., Cuenya B.R.
**Probing Kinetics of Electrocatalyst
Transformations Using Synchrotron-Based
Operando Techniques and Machine Learning**
*Department of Interface Science, Fritz-Haber
Institute of the Max-Planck Society, 14195 Berlin,
Germany*
- 08.15-09.00** **PL-9**
Online Professor Fongarland Pascal
**Fischer-Tropsch Synthesis: an Old Reaction for
New Perspectives**
*Laboratoire de Génie des Procédés Catalytiques
(LGPC) - Université Claude Bernard Lyon 1, Lyon,
France*
- 09.00-09.30** **Coffee**

Chairperson: Dr. Timoshenko Janis,

Fritz-Haber-Institut der MPG, Berlin, Germany

ORAL PRESENTATIONS

09.30-09.45

Online

OP-IV-5

Presenting autor: Prof. Doluda Valentin Brovko R.V., Mushinsky L.S., Matveeva V.G, Sulman M.G., Sidorov A.I., Doluda V.Yu.

Ethanol to Hydrocarbons Transformation over Modified and Unmodified Zeolite H-ZSM-5

1 – Tver State Technical University, Department of biotechnology chemistry and standardization, Tver, Russia

09.45-10.00

Online

OP-IV-6

Presenting autor: Monzharenko Margarita Stepacheva A.A.¹, Monzharenko M.A.¹, Dmitrieva A.A.², Schipanskaya E.O.², Markova M.E.¹, Matveeva V.G.¹, Sulman M.G.¹

Schungite Based Catalysts for the Deoxygenation of Vegetable Oil and Bio-Oil

*1 – Tver State Technical University, Tver, Russia
2 – Tver State University, Tver, Russia*

10.00-10.15

Online

OP-IV-7

Presenting autor: Dr. Zabelkin Sergey Zabelkin S.^{1,2}, Bikbulatova G.^{1,2}, Grachev A.^{1,2}, Bashkirov V.^{1,2}, Makarov A.^{1,2}, Valeeva A.^{1,2}, Sabirzyanova A.^{1,2}

Plant of Fast Pyrolysis of Lignocellulosic Waste

*1 –Kazan National Research Technological University, Kazan, Russia
2 - LLC "EnergoLesProm", Kazan, Russia*

- 10.15-10.30** **OP-IV-8**
Online **Presenting autor:** Salnikova Kseniya
Salnikova K.E.², Matveeva V.G.^{1,2}, Larichev Yu.V.^{3,4},
Bykov A.V.¹, Demidenko G.N.¹, Sidorov A.I.¹,
Sulman M.G.^{1,2}
**Selective Hydrogenation of Furfural: Catalytic
Performance by Pd-Cu Alloy Nanoparticles in
Porous Polymer**
1 – Tver state technical University, Tver, Russia
2 - Tver State University, Tver, Russia
*3 - Borekov Institute of Catalysis, Novosibirsk,
Russia*
*4 - Novosibirsk State University, Novosibirsk,
Russia*
- 10.30-10.45** **OP-IV-9**
Online **Presenting autor:** Dr. Montaña Maia
Montaña M.^{1,2}, Mendez L.J.¹,
Ocsachoque Marco A.¹, Lick I.D.¹, Casella M.L.¹
**Acetalization of Furfural Catalyzed by Zeolites
Catalysts to Obtain Biofuels Additives**
*1 – Centro de Investigación y Desarrollo en
Ciencias Aplicadas “Dr. Jorge J. Ronco” (CINDECA)
CONICET-UNLP-CIC, La Plata, Argentina*
*2 – Facultad de Ingeniería. Universidad Nacional
de La Plata, La Plata, Argentina*
- 11.00-12.30** **Scientific Quiz**
Grand hall, 3rd floor

May 18, Tuesday

Coordinated Universal Time UTC +0

**Place: STUDENT HALL, 2nd floor
Morning session**

Chairperson: Dr. Stepanova Liudmila,

Center of New Chemical Technologies BIC, Omsk, Russia

ORAL PRESENTATIONS

02.50-03.05 OP-I-9

Presenting autor: Shamanaeva Irina

Shamanaeva I.A.¹, Yu Zh.^{2,3}, Utemov A.V.⁴, Wu W.³,
Sladkovskiy D.A.⁴, Parkhomchuk E.V.^{1,2}

**Role of Texture and Acidity of SAPO-34 in
Methanol to Olefins Conversion**

*1 – Boreskov Institute of Catalysis, Novosibirsk,
Russia*

*2 – Novosibirsk State University, Novosibirsk,
Russia*

3 – Heilongjiang University, Harbin, China

*4 – Saint Petersburg State Technological Institute
(Technical University), Saint Petersburg, Russia*

03.05-03.20 OP-I-10

Presenting autor: Danilenko Maria

**Synthesis Parameters Effect on the Kinetics of
Platinum Nanoparticles Formation and Pt/C
Catalyst Structure**

*Chemistry Faculty, Southern Federal University,
Rostov-on-Don, Russia*

03.20-03.35 OP-I-11

Presenting autor: Glyzdova Daria

Glyzdova D.V.¹, Afonassenko T.N.¹, Khramov E.V.²,
Trenikhin M.V.¹, Shlyapin D.A.¹

Effect of Synthesis Methods on the Structure and Properties of Pd-Zn/Sibunit Catalysts for Acetylene Hydrogenation

1 – Center of New Chemical Technologies BIC, Omsk, Russia

2 – National Research Center "Kurchatov Institute", Moscow, Russia

03.35-04.05

Coffee &

04.05-05.00

POSTER SESSION

Hall 3rd floor

Place: STUDENT HALL, 2nd floor

Morning session

Chairperson: Prof. Kozlova Ekaterina,

Boreskov Institute of Catalysis, Novosibirsk, Russia

ORAL PRESENTATIONS

05.00-05.15 OP-VI-1

Presenting autor: Vorms Evgenia

Vorms E.A.^{1,2}, Oshchepkov A.G.¹

The Influence of Composition of Electrodeposited NiCu Catalysts on their Activity in the Borohydride Oxidation Reaction

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

05.15-05.30

OP-VI-2

Presenting autor: Belenov Sergey

Belenov S.V., Menshchikov V.S., Nevelskaya A.K.,
Alekseenko A.A., Moguchikh E.A., Pavlets A.S.,
Avakyan L.A.

**Influence of the Evolution of the Composition and
Structure of Bimetallic Nanoparticles in PtM/C
Catalysts on Their Activity and Stability**

Southern Federal University, Rostov-on-Don, Russia

05.30-05.45

OP-VI-3

Presenting autor: Potylitsyna Arina

Potylitsyna A.R.^{1,2}, Bauman Yu.I.²,
Mishakov I.V.^{1,2}, Tarasenko M.S.³, Serkova A.N.¹,
Plyusnin P.E.^{2,3}, Shubin Yu.V.^{2,3}, Vedyagin A.A.¹

**Effect of Mo on Catalytic Activity of Ni_{1-x}Mo_x
System in the Decomposition of
Trichloroethylene**

*1 – Boreskov Institute of Catalysis, Novosibirsk,
Russia*

*2 – Novosibirsk State University, Novosibirsk,
Russia*

*3 – Nikolaev Institute of Inorganic Chemistry,
Novosibirsk, Russia*

05.45-06.00 OP-VI-4

Presenting autor: Gorlova Anna

Gorlova A.M.^{1,2}, Potemkin D.I.^{1,2,3}, Simonov P.A.^{1,2},
Snytnikov P.V.¹, Sobyenin V.A.¹

**Noble Metal Catalysts for Low-Temperature
Water Gas Shift Reaction**

*1 – Boreskov Institute of Catalysis, Novosibirsk,
Russia*

*2 – Novosibirsk State University, Novosibirsk,
Russia*

*3 – Novosibirsk State Technical University,
Novosibirsk, Russia*

06.00-07.30 Lunch

**Place: STUDENT HALL, 2nd floor
Afternoon session**

Chairperson: Dr. Oshchepkov Alexandr,

Boreskov Institute of Catalysis, Novosibirsk, Russia

ORAL PRESENTATIONS

09.30-09.45 OP-VI-5

Online

Presenting autor: Molina-Ramirez Sergio

Molina-Ramírez S., Cortés-Reyes M., Herrera C.,
Larrubia M.A., Alemany L.J.

**Influence of the Parameters Modified by the
Driving Mode on DeNOxing Activity of NSR-SCR
Hybrid System**

*Departamento de Ingeniería Química, Facultad de
Ciencias, Campus de Teatinos, Universidad de
Málaga, Málaga, Spain*

- 09.45-10.00** **OP-VI-6**
Online **Presenting autor:** Kurenkova Anna
Kurenkova A.Yu.¹, Kozlova E.A.^{1,2}
Hydrogen Evolution from Biomass Constituent Solutions Under Visible Light Irradiation
1 – Boreskov Institute of Catalysis, Novosibirsk, Russia
2 – Novosibirsk State University, Novosibirsk, Russia
- 10.00-10.15** **OP-VI-7**
Online **Presenting autor:** Prof. Liotta Leonarda
Migliore C.¹, Consentino L.¹, Pantaleo G¹., Gallì N¹.,
Zhang W.^{1,2}, Liotta L.F.¹
MOx (M = Mn, Ce) Doped WO₃-TiO₂ Catalysts for NO SCR by NH₃
1 – Institute for the Study of Nanostructured Materials (ISMN)-CNR, via Ugo La Malfa, Palermo, Italy
2 – College of Chemical Engineering, Qinghai University, Xining, China
- 10.15-10.30** **OP-VI-8**
Online **Presenting autor:** Dr. Markovskaya Dina
Markovskaya D.V.^{1,2}, Zhurenok A.V.¹,
Kozlova E.A.^{1,2}
Transition from Effective Photocatalysts to Photoelectrodes: Influence of Semiconductor Composition, co-Catalyst Nature and Amount
1 – Boreskov Institute of Catalysis, Novosibirsk, Russia
2 – Novosibirsk State University, Novosibirsk, Russia

- 10.30-10.45** **OP-VI-9**
Presenting autor: Belik Yulia
Belik Yu.A., Dubinina O.V., Vodyankina O.V.
**Bismuth Silicate Composite Materials Prepared
via Gel Process: Phases Formation,
Electrochemistry and Photocatalytic Performance**
Tomsk State University, Tomsk, Russia
- 11.00-12.30** **Scientific Quiz**
Grand hall, 3rd floor

May 19, Wednesday

Coordinated Universal Time UTC +0

Place: GRAND HALL, 3rd floor

Morning session

Chairperson: Dr. Kazakov Maxim,

Boreskov Institute of Catalysis, Novosibirsk, Russia

PLENARY LECTURE

02.00-02.45 PL-10

Presenting autor: Prof. Kozlov Denis

Veselovskaya J.V.^{1,2}, Gribov E.N.^{1,2}, Lebedeva

M.V.^{1,2}, LyuLyukin M.N.^{1,2,3}, Oshchepkov A.G.¹,

Selishchev D.S.^{1,2}, Kozlov D.V.^{1,2}

Catalysis for energy conversion

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

3 – Novosibirsk State Technical University, Novosibirsk, Russia

ORAL PRESENTATIONS

02.50-03.05 OP-V-12

Presenting autor: Afonnikova Sofya

Afonnikova S. D.^{1,2}, Mishakov I.V.^{1,2},

Bauman Yu.I.¹, Serkova A.N.¹, Vedyagin A.A.¹

Research of the Process of Carbon Erosion of Nickel Alloys in an Ethylene Atmosphere to Produce Carbon Nanofibers

1 - Boreskov Institute of Catalysis, Novosibirsk, Russia

2 - Novosibirsk state University, Novosibirsk, Russia

03.05-03.20 OP-V-13
Presenting autor: Veretelnikov Kirill
Veretelnikov K.V., Tregubenko V.Yu., Belyi A.S.
Effect of Indium Doping of the Pt-Sn/Al₂O₃
Catalysts in n-Heptane Reforming
Center of New Chemical Technologies BIC, Omsk,
Russia

03.20-03.35 OP-V-14
Presenting autor: Dr. Grabchenko Maria
Grabchenko M.V.¹, Dorofeeva N.V.¹,
Larichev Yu.V.², La Parola V.³, Liotta L.F.³,
Vodyankina O.V.¹
Synthesis and Study of Nickel Catalysts Based on
Ordered SBA-15 Modified with CeO₂-MnO_x Binary
Oxides in the DRM Process
1- Tomsk State University, Tomsk, Russia
2 - Borekov Institute of Catalysis, Novosibirsk,
Russia
3 - Istituto per lo Studio dei Materiali
Nanostrutturati (ISMN)-CNR, Palermo, Italy

03.35-04.05 Coffee

Place: GRAND HALL, 3rd floor

Morning session

Chairperson: Dr. Kolokolov Daniil

Boreskov Institute of Catalysis, Novosibirsk, Russia

ORAL PRESENTATIONS

04.05-04.20 OP-III-1

Presenting autor: Dr. Gabrienko Anton
Gabrienko A.A.^{1,2}, Lashchinskaya Z.N.^{1,2},
Arzumanov S.S.^{1,2}, Freude D.³ Haase J.³,
Stepanov A.G.^{1,2}

**Methane Joint Conversion with Higher Alkanes
on Zn-Modified BEA Zeolite: Kinetic and NMR
evidences for the Reaction Occurrence in
Nonoxidative Conditions**

*1 – Boreskov Institute of Catalysis, Novosibirsk,
Russia*

*2 – Novosibirsk State University, Novosibirsk,
Russia*

3 – Universität Leipzig, Leipzig, Germany

04.20-04.35 OP-III-2

Online

Presenting autor: Milenkaya Elena
Skripov N.I., Sterenchuk T.P., Milenkaya E.A.,
Belykh L.B., Schmidt F.K.

**Inverse Dependence of Turnover Frequency on
Palladium Precursor Concentration in
Hydrogenation of Unsaturated Compounds**

Irkutsk State University, Irkutsk, Russia

04.35-04.50 OP-III-3

Presenting autor: Livshits Grigory

Livshits G.D., Ignatov S.K.

**Theoretical Design of Self-Assembling
Monolayers on the Platinum Surface for
Stereoselective Adsorption and Catalysis**

*Lobachevsky State University of Nizhny Novgorod,
Nizhny Novgorod, Russia*

04.50-05.05 OP-III-4

Presenting autor: Kolganov Alexander

Kolganov A.A.¹, Gabrienko A.A.^{1,2}, Stepanov A.G.^{1,2},
Pidko E.A.³

**DFT Prediction of the ¹³C NMR Chemical Shifts of
the Adsorbed Zeolite Species: a Methodological
Study**

*1 – Boreskov Institute of Catalysis, Novosibirsk,
Russia*

*2 – Novosibirsk State University, Novosibirsk,
Russia*

*3 – Delft University of Technology, Delft, The
Netherlands*

05.05-05.20

OP-III-5

Presenting autor: Demina Victoria

Demina V.G.^{1,2}, Selivanova A.V.¹, Saraev A.A.^{1,2},
Kaichev V.V.^{1,2}

**Propylene Oxidation on Ag Single Crystal: In Situ
Study by Polarization Modulation Infrared
Reflection Absorption Spectroscopy**

*1 – Boreskov Institute of Catalysis, Novosibirsk,
Russia*

*2 – Novosibirsk State University, Novosibirsk,
Russia*

05.20-05.35

OP-III-6

Presenting autor: Makolkin Nikita

Makolkin N.V.¹, Kim H.U.², Paukshtis E.A.¹, Jae J.²,
Bal'zhinimaev B.S.¹

**In Situ DRIFTS Study of the Reactivity of
Hydrides in the Gas-Phase Hydrogenation of
Acetic Acid on a Pt-ReOx/TiO₂ Catalyst**

*1 – Boreskov Institute of Catalysis, Novosibirsk,
Russia*

*2 – School of Chemical and Biomolecular
Engineering, Pusan National University, Republic
of Korea*

05.35-05.50 OP-III-7

Presenting autor: Lashchinskaya Zoya
Lashchinskaya Z.N.^{1,2}, Gabrienko A.A.^{1,2},
Arzumanov S.S.^{1,2}, Freude D.³, Haase J.³,
Stepanov A.G.^{1,2}

**Aromatization of n-Butene on Zn/H-BEA Zeolite:
¹³C MAS NMR Study of the Reaction Mechanism
and the Role of Zn²⁺ and ZnO Species**

*1 – Boreskov Institute of Catalysis, Novosibirsk,
Russia*

*2 – Novosibirsk State University, Novosibirsk,
Russia*

3 – Leipzig University, Leipzig, Germany

06.05-07.30 Lunch

Place: GRAND HALL, 3rd floor
Afternoon session

Chairperson: Prof. Kozlov Denis,

Boreskov Institute of Catalysis, Novosibirsk, Russia

PLENARY LECTURE

07.30-08.15

Online

PL-11

Dr. Velasco Vélez Juan

***In Situ/Operando Characterization of
Electrocatalytic Materials by Bulk and Surface
Sensitive X-Ray Spectroscopies***

Max Planck Institute for Chemical Energy

Conversion, Mülheim an der Ruhr, Germany

Fritz-Haber-Institute of the Max-Planck-Society,

Berlin, Germany

MASTER CLASS

08.15-09.00

Presenting autor: Dr. Nartova Anna

Nartova A.V.^{1,2}, Matveev A.V.^{1,2}, Mashukov M.Yu.²,
Okunev A.G.^{1,2}

**AI Imaging Data Analysis in Material Science:
Microscopy and Behind**

*1 - Boreskov Institute of Catalysis, Novosibirsk,
Russia*

*2 - Novosibirsk State University, Novosibirsk,
Russia*

09.00-09.30

Coffee

Place: GRAND HALL, 3rd floor
Afternoon session

Chairperson: Dr. Gabrienko Anton,

Boreskov Institute of Catalysis, Novosibirsk, Russia

ORAL PRESENTATIONS

09.30-09.45

Online

OP-III-8

Presenting autor: Bandurist Pavel

Pichugina D.A., Nikitina N.A., Bandurist P.S.

CO Oxidation on Copper-Doped Gold Thiolate Clusters Supported on CeO₂: DFT Study

Lomonosov Moscow State University, Moscow, Russia

09.45-10.00

Online

OP-III-9

Presenting autor: Efimov Andrei

Efimov A.V., Popov A.G.

Oligomerization of Propylene over TON, FER and MFI Zeolites

Lomonosov Moscow State University, Moscow, Russia

10.00-10.15

Online

OP-III-10

Presenting autor: Andreeva Julia

Andreeva J.A., Pichugina D.A., Nikitina N.A.

Quantum Chemical Simulation of Methanol Oxidation on Vanadium Oxide

Lomonosov Moscow State University, Moscow, Russia

10.15-10.30 OP-I-14

Presenting autor: Veselov Grigory

Veselov G.B.^{1,2}, Karnaukhov T.M.^{1,2}, Vedyagin A.A.¹

The Effect of pH During the Sol-Gel Synthesis of NiO-MgO Systems on Their Textural and Redox Properties

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

10.30-11.00 CLOSING

May 19, Wednesday

Coordinated Universal Time UTC +0

**Place: STUDENT HALL, 2nd floor
Morning session**

Chairperson: Dr. Yashnik Svetlana,

Boreskov Institute of Catalysis, Novosibirsk, Russia

ORAL PRESENTATIONS

02.50-03.05 OP-I-12

Presenting autor: Kadtsyna Anastasiya

Kadtsyna A.S.^{1,2}, Mishakov I.V.^{1,2}, Bauman Y.I.¹,
Netskina O.V.^{1,2}, Kibis L.S.^{1,2}, Serkova A.N.¹,
Vedyagin A.A.¹

**Target Synthesis of N-Doped Carbon Nanofibers
on Self-Organizing Nickel-Containing Catalysts**

*1 – Boreskov Institute of Catalysis, Novosibirsk,
Russia*

*2 – Novosibirsk State University, Novosibirsk,
Russia*

03.05-03.20 OP-I-14

Presenting autor: Kobzar Elena

Kobzar E.O., Stepanova L.N., Vasilevich A.V.,
Belskaya O.B.

**Effect of the Preparation Method and the
Chemical Composition of Co-Containing Catalysts
Based on Layered Hydroxides on Their Properties
in the Furfural Hydrogenation**

*Center of New Chemical Technologies BIC, Omsk,
Russia*

03.20-03.35 OP-II-1

Presenting autor: Dr. Bukhtiyarov Andrey
Bukhtiyarov A.V.¹, Prosvirin I.P.¹, Panafidin M.A.¹,
Fedorov A.Yu.¹, Klyushin A.Yu², Knop-Gericke A.²,
Zubavichus Y.V.¹, Bukhtiyarov V.I.¹

**Near Ambient Pressure XPS and MS Study of CO
Oxidation over Model Pd-Au/HOPG Catalysts: The
Effect of Metal Ratio**

*1 – Borekov Institute of Catalysis, Novosibirsk,
Russia*

*2 – Fritz-Haber-Institute der Max Planck Society,
Berlin, Germany*

03.35-04.05 Coffee

Place: STUDENT HALL, 2nd floor

Morning session

Chairperson: Dr. Bukhtiyarov Andrey,

Borekov Institute of Catalysis, Novosibirsk, Russia

ORAL PRESENTATIONS

04.05-04.20 OP-II-2

Presenting autor: Dr. Saraev Andrey
Saraev A.A., Kremneva A.M, Vinokurov Z.S.,
Bulavchenko O.A., Yashnik S.A

**Operando Study of Mono- and Bimetallic PdPt
Catalysts for Methane Oxidation by XAS and XRD**
Borekov Institute of Catalysis, Novosibirsk, Russia

04.20-04.35 OP-II-3

Presenting autor: Dr. Yurpalov Vyacheslav
Yurpalov V.L.¹, Drozdov V.A.¹,
Nepomnyashchii A.A.¹, Buluchevskiy E.A.¹,
Lavrenov A.V.¹

The Application of Aromatic Probe Molecules EPR Spectroscopy for Studying the Acidic Properties of the Catalysts for Vegetable Oil Hydrodeoxygenation Based on Anion-Modified Alumina

Center of New Chemical Technologies BIC, Omsk, Russia

04.35-04.50 OP-II-4

Presenting autor: Larionov Kirill
Larionov K.P.^{1,2}, Evtushok V.Yu.^{1,2}

Evaluating Number of Basic Centers in Zr-MOFs by Liquid-Phase Adsorption of Isobutyric Acid

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

04.50-05.05 OP-II-5

Presenting autor: Dr. Prima Darya
Prima D.O., Kulikovskaya N.S., Burykina Ju.V.,
Ananikov V.P.

Palladium Supported on N-Heterocyclic Carbene in Dynamic Catalysis

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

05.05-05.20 OP-II-6

Presenting autor: Pokochueva Ekaterina

Pokochueva E.V.^{1,2}, Burueva D.B.^{1,2}, Svyatova A.^{1,2},
Kovtunov K.V.^{1,2}, Meersmann T.³, Pavlovskaya G.³,
Koptug I.V.^{1,2}

**Parahydrogen and ¹²⁹Xe for *In Situ* Studies of
Heterogeneous Catalytic Reactions**

*1 – International Tomography Center SB RAS,
Novosibirsk, Russia*

*2 – Novosibirsk State University, Novosibirsk,
Russia*

*3 – Sir Peter Mansfield Imaging Centre, University
of Nottingham, Nottingham, UK*

05.20-05.35 OP-II-7

Presenting autor: Dr. Larichev Yurii

**Developing of New SAXS Technique for Metal
Supported Catalysts Study**

*Boreskov Institute of Catalysis, Novosibirsk, Russia
Novosibirsk State University, Novosibirsk, Russia*

05.35-05.50 OP-II-8

Presenting autor: Panafidin Maxim

Panafidin M.A.¹, Bukhtiyarov A.V.¹, Prosvirin I.P.¹,
Chetyrin I.A.¹, Klyushin, A.Yu.², Zubavichus Y.V.¹,
Stakheev A.Yu.³, Bukhtiyarov V.I.¹

**O₂-induced Segregation as an Efficient Tool for
Fine-tuning the Intermetallic Pd-In/HOPG Surface
Structure**

*1 – Boreskov Institute of Catalysis, Novosibirsk,
Russia*

*2 – Fritz Haber Institute of the Max Planck Society,
Berlin, Germany*

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

05.50-06.05 OP-II-9

Presenting autor: Dmitrachkov Aleksey

Dmitrachkov A. M.¹, Kvon R.I.¹, Nartova A.V.^{1,2}

**New Model Supports and Catalysts Based on Thin
N_xAl_yO_z Films**

*1 - Boreskov Institute of Catalysis, Novosibirsk,
Russia*

2- Novosibirsk State University, Novosibirsk, Russia

06.05-07.30 Lunch

Place: STUDENT HALL, 2nd floor
Afternoon session

Chairperson: Dr. Nartova Anna,
Boreskov Institute of Catalysis, Novosibirsk, Russia

ORAL PRESENTATIONS

- 09.30-09.45** **OP-II-10**
Online **Presenting autor:** Ondar Evgeniia
Ondar E.E., Burykina J.V., Ananikov V.P.
The Investigation of “Cocktail”-Type Origin of Platinum Species Catalyzing Hydrosilylation Reaction
N.D. Zelinsky Institute of Organic Chemistry RAS, Moscow, Russia
- 09.45-10.00** **OP-II-11**
Online **Presenting autor:** Millán Ordóñez Elena
Millán E., Mota N., Navarro R.M.
Effect of Hybridization Method on Bifunctional Catalysts for Direct Synthesis of Dimethyl Ether Based on Cu-ZnO(Al) and Supported Heteropolyacids
Institute of Catalysis and Petrochemistry (ICP), CSIC, Madrid, Spain

- 10.00-10.15** **OP-II-12**
Online **Presenting autor:** Dr. Nikoshvili Linda
Bykov A.V.¹, Nikoshvili L.Zh.¹, Doluda V.Yu.¹,
Sulman M.G.¹, Kiwi-Minsker L.^{2,3}
**Investigation of the Limits of Applicability of
Hyper-Cross-Linked Aromatic Polymers in
Heterogeneous Catalysis**
1 – Tver State Technical University, Tver, Russia
2 – Tver State University, Tver, Russia
*3 – Ecole Polytechnique Fédérale de Lausanne,
Switzerland*
- 10.15-10.30** **OP-II-13**
Presenting autor: Svyatova Alexandra
Svyatova A.^{1,2}, Kononenko E.S.^{1,2}, Kovtunov K.V.^{1,2},
Fedorov A.³, Koptuyug I.V.^{1,2}
**Investigation of Heterogeneous Gas Phase
Hydrogenation Using Spatially Resolved NMR
Spectroscopy and Parahydrogen**
*1 – International Tomography Center SB RAS,
Novosibirsk, Russia*
*2 – Novosibirsk State University, Novosibirsk,
Russia*
*3 – Department of Mechanical and Process
Engineering, ETH Zürich, Switzerland*
- 10.30-11.00** **CLOSING**
GRAND HALL, 3rd floor

POSTER PRESENTATIONS

Section 1 - Preparation of catalysts and adsorbents

PP-I-1

Benu V.A.¹, Nazarkina Y.V.², Rusakov V.A., Dronov A.A.

Influence of the Hydrodynamic Growth Conditions on the Nanoporous Anodic WO_x Morphology and Its Photocatalytic Properties

1 – National Research University of Electronic Technology “MIET”, 124498 Moscow, Russia

2 – Establishment of the Russian Academy of Sciences, Institute of Nanotechnology Microelectronics INME of RAS, Leninskiy Prospekt 32A, Moscow, 119991, Russian Federation

PP-I-2

Bugrova T.A., Kharlamova T.S., Svetlichnyi V.A., Salaev M.A., Mamontov G.V.

Effect of CeO₂ Reductive Pretreatment on the Formation of Bimetallic Particles in Ag-Doped Pt/CeO₂ Catalysts for 4-Nitrophenol Reduction

Tomsk State University, Tomsk, Russia

PP-I-3

Demikhova N.R., Rubtsova M.I., Glotov A.P.

Synthesis and Investigation of a Pt-Containing Micro-Mesoporous Catalyst for Xylene Isomerization

Gubkin Russian State University of Oil and Gas, Moscow, Russia

PP-I-4

Dorosheva I.B.^{1,2,3}, Sushnikova A.A.³, Valeeva A.A.^{1,2}, Rempel A.A.^{1,3}

Titanium Dioxide Nanotubes Modification in Hot Hydrogen Steam

1 – Ural Federal University, Yekaterinburg, Russia

2 – Institute of Solid State Chemistry of the UB RAS, Yekaterinburg, Russia

3 – Institute of Metallurgy of the UB RAS, Yekaterinburg, Russia

PP-I-5

Fedorova V.E.¹, Simonov M.N.^{1,2}, Bespalko Yu.N.¹, Valeev K.R.¹,
Smal E.A.¹, Sadykov V.A.^{1,2}

Kinetic Regularities of Methane Dry Reforming Reaction over Bimetallic Catalysts Based on Ceria-Zirconia Prepared by Supercritical Synthesis

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

PP-I-6

Golovin S.N., Yapryntsev M.N.

Hydrothermal Synthesis of Samarium-Containing Layered Double Hydroxide

Belgorod State National Research University, Belgorod, Russia

PP-I-7

Veprikova E.V.¹, Ionin V.A.¹, Skripnikov A.M.^{1,2}, Kazachenko A.S.^{1,2},
Taran O.P.^{1,2}

Integrated Extraction-Catalytic Processing of Mechanically Activated Pine Bark

1 – Institute of Chemistry and Chemical Technology SB RAS, Krasnoyarsk, Russia

2 – Siberian Federal University, Krasnoyarsk, Russia

PP-I-8

Ivanova N.A.¹, Shapir B.L.¹, Spasov D.D.^{1,2}, Tishkin V.V.¹,
Mensharapov R.M.¹, Alekseeva O.K.¹, Fateev V.N.¹

Synthesis of Pt²⁰/SnO₂^x/C – Electrocatalysts by Magnetron Sputtering of Tin in an Oxygen Environment

1 – NRC “Kurchatov Institute” Moscow, Russia

2 – National Research University “MPEI” Moscow, Russia

PP-I-9

Luzina E.V.^{1,2}, Shamanaeva I.A.², Parkhomchuk E.V.^{1,2}

Synthesis of Core – Shell Zeolite Composites

1 – Borekov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

PP-I-10

Madiyeva M.M., Prima D.O, Ananikov V.P.

Synthesis of Bridging NHC Complexes of Palladium and Assessment of Their Catalytic Activity in the Buchwald-Hartwig Reaction

Zelinsky Institute of Organic Chemistry, RAS, Moscow, Russia

PP-I-11

Chudin O.S.¹, Nedelina T.S.¹, Patrusheva A.A.^{1,2}, Burmakina G.V.¹,
Rubaylo A.I.^{1,2}, Verpekin V.V.¹

Rhodium (I) Complexes of Type Rh(CO)(CN-Ad)(Bident): Synthesis, Reactivity, Electrochemistry and Catalytic Application

1 – Institute of Chemistry and Chemical Technology SB RAS, Federal Research Center “Krasnoyarsk Science Center SB RAS”, Krasnoyarsk, Russia

2 – Siberian Federal University, Krasnoyarsk, Russia

PP-I-12

Nesterova A.A.^{1,2}, Soficheva O.S.¹, Yakhvarov D.G.^{1,2}

N-Substituted α -Diphenylphosphinoglycines: Electrochemical Properties and Reactivity in the Presence of Organonickel Complexes

1 – Arbuzov Institute of Organic and Physical Chemistry, FRC Kazan Scientific Center, Russian Academy of Sciences, Kazan, Russia

2 – Kazan Federal University, Kazan, Russia

PP-I-13

Roslyakov I.V.^{1,2}, Kolesnik I.V.², Levin E.E.², Kardash T.Yu.³,
Solovyov L.A.⁴, Napolskii K.S.²

Porous Anodic Alumina as a Catalyst Carrier with Hierarchical Porosity

1 – Kurnakov Institute of General and Inorganic Chemistry, Moscow, Russia

2 – Lomonosov Moscow State University, Moscow, Russia

3 – Boreskov Institute of Catalysis, Novosibirsk, Russia

4 – Institute of Chemistry and Chemical Technology, Krasnoyarsk, Russia

PP-I-14

Sankova N.N.^{1,2}, Parkhomchuk E.V.^{1,2}

Methods for Obtaining Cross-Linked Polymer Particles and Their Prospects for Application in Pseudo-Homogeneous Catalysis

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

PP-I-15

Saveleva A.S., Vyshegorodtseva E.V., Mamontov G.V.

Bimetallic Pt-Ag/MCM-41 Catalysts for 4-Nitrophenol Reduction to 4-Aminophenol

Tomsk State University, Tomsk, Russia

PP-I-16

Tikhonov A.V., Kaplin I.Yu., Lokteva E.S.

Effect of Copper Modification and Ce:Si Ratio on the Catalytic Properties of Mesoporous Ceria-Silica Catalysts in CO-PROX

Lomonosov Moscow State University, Chemistry Department, Moscow, Russia

PP-I-17

Tikhonov B.B., Stadolnikova P.Yu., Sidorov A.I., Sulman M.G.

Optimization of Synthesis Conditions of Biocatalytic Systems on the Base of Alginate Microspheres and Glucose Oxidase

Tver State Technical University, Tver, Russia

PP-I-18

Timoshkina V.V., Pimerzin A.A.

Synthesis of Vanadium-Substituted Phosphorus-Molybdenum Keggin Type Heteropolyacids - Precursors for Hydroisomerization Catalysts

Samara State Technical University, Samara, Russia

PP-I-19

Vyshegorodtseva E.V., Matskan P.A., Mamontov G.V.

Synthesis and Properties of MIL-100(Fe)/Diatomite Composites

National Research Tomsk State University, Tomsk, Russia

PP-I-20

Vyvdenko D.A., Sankova S.N., Parkhomchuk E.V.

Design of Micro-, Meso- and Macroporous Silica Particles

Borekov Institute of Catalysis, Novosibirsk, Russia

PP-I-21

Yakovenko R.E.¹, Savost'yanov A.P.¹, Narochnyi G.B.¹, Soromotin V.N.¹, Zubkov I.N.¹, Papeta O.P.¹, Mitchenko S.A.^{1,2}

Co-Based Hybrid Catalyst System in Fischer-Tropsch Synthesis Combined with Hydroprocessing

1 – M.I. Platov South-Russian State Polytechnic University (NPI), Novocherkassk, Russia

2 – Institute of Physical Organic & Coal Chemistry, Donetsk

PP-I-22

Zhirnova E.D.¹, Alekhina I.E.¹, Pavlova I.N.²

A New Approach to the Formation of Highly Dispersed LSX Zeolite

1 – Bashkir State University, Ufa, Russia

2 – Institute of Petrochemistry and Catalysis of RAS, Ufa, Russia

PP-I-23

Kudinova E.S., Boeva O.A., Zhavoronkova K.N.

The Study of the Catalytic Properties of Copper and Gold Nanoparticles in the Reaction of Deuterium-Hydrogen Exchange

D.Mendeleev University of Chemical Technology of Russia, Moscow, Russia

PP-I-24

Samoylenko D.E.¹, Rodygin K.S.¹, Ananikov V.P.^{1,2}

Electrochemically Promoted Synthesis of Triazoles in the Presence of Ionic Liquids

1 – Saint Petersburg State University, Saint Petersburg, Russian Federation

2 – N. D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Moscow, Russian Federation

Section 2 - Characterization and *in situ* studies of the catalysts

PP-II-1

Bochkov M.A., Shinkarev A.A. (jun), Kharlampidi Kh.E.

Features of Phase Transformations of K-Ce Iron Oxide Systems in the Process of Dehydrogenation of Isoamylenes

Kazan National Research Technological University, Kazan, Russia

PP-II-2

Gorelysheva V.E., Kharlampidi Kh.E., Misbakhova F.F., Bochkov M.A., Shinkarev A.A. (jun)

Catalytic Properties of ZrO₂ Support for CrO_x Catalyst in the Isopentane Dehydrogenation Reaction

Kazan National Research Technological University, Kazan, Russia

PP-II-3

Chetyrin I.A.¹, Fedorov A.Yu.¹, Bukhtiyarov A.V.¹, Prosvirin I.P.¹, Shavorskiy A.², Zubavichus Y.V.¹, Bukhtiyarov V.I.¹

CO Oxidation Reaction over Pd-Au/Ir Film: NAP XPS and MS Study

1 – Borekov Institute of Catalysis, Novosibirsk, Russia

2 – MAX IV Laboratory, Lund University, Lund, Sweden

PP-II-4

Kagilev A.A.^{1,2}, Nesterova A.A.^{1,2}, Kantyukov A.O.^{1,2}, Gafurov Z.N.¹, Sakhapov I.F.¹, Bekmukhamedov G.E.^{1,2}, Islamov D.R.², Zueva E.M.^{1,3}, Soficheva O.S.¹, Yakhvarov D.G.^{1,2}

The N- and P-Substituents in α -Phosphinoglycine Ligands in the Question of the Selectivity in Ni-Catalyzed Ethylene Oligomerization

1 – Arbuzov Institute of Organic and Physical Chemistry, FRC Kazan Scientific Center, Russian Academy of Sciences, Kazan, Russia

2 – Kazan Federal University, Kazan, Russia

3 – Kazan National Research Technological University, Kazan, Russia

PP-II-5

Kagilev A.A.^{1,2}, Gafurov Z.N.¹, Morozov V.I.¹, Zueva E.M.^{1,3}, Zhukova N.A.¹, Kadyrova M.S.¹, Mamedov V.A.¹, Yakhvarov D.G.^{1,2}

Study of the Electrochemical Properties of 2,2'-Bibenzimidazoles and Nickel Complexes Based on Them

1 – Arbuzov Institute of Organic and Physical Chemistry, FRC Kazan Scientific Center, Russian Academy of Sciences, Kazan, Russia

2 – Kazan Federal University, Kazan, Russia

3 – Kazan National Research Technological University, Kazan, Russia

PP-II-6

Myachina M.A., Gavrilova N.N., Novaeva E.P., Slastilov A.A., Mikhaylov R.K., Nazarov V.V., Skudin V.V.

The Comparative Study of Different Type Catalyst in the Dry Reforming of Methane

D.Mendeleev University of Chemical Technology, Moscow, Russia

PP-II-7

Smirnov D.V., Prozorov D.A., Afineevskiy A.V., Koroleva M.O.

Prediction of the Catalytic Activity of Nickel in Hydrogenation Reactions Using IR Spectrometry

Ivanovo State University of Chemistry and Technology, Ivanovo, Russia

PP-II-8

Smirnova E.M., Zasyopalov G.O., Boev S.S., Glotov A.P., Vinokurov V.A.

Investigation of Aluminosilicate Halloysite Nanotubes as a Component of a Zeolite-Containing Catalyst for the Conversion of Methanol to Olefins

Gubkin Russian State University of Oil and Gas, Moscow, Russia

PP-II-9

Smirnova N.S.¹, Baeva G.N.², Mashkovsky I.S.², Bukhtiyarov A.V.³, Prosvirin I.P.³, Zubavichus Y.V.³, Bukhtiyarov V.I.³, Stakheev A. Yu.²

Investigation of CO-Induced Segregation on the Surface of Bimetallic Pd-Ag Catalyst by CO-DRIFTS and XPS

1 – N.S. Kurnakov Institute of General and Inorganic Chemistry, Moscow, Russia

2 – N.D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Moscow, Russia

3 – Borekov Institute of Catalysis, Novosibirsk, Russia

Section 3 - Mechanism and kinetics of catalytic reactions

PP-III-1

Kapustin R.V., Grinvald I.I.

IR Manifestation of Organic Fluid Formation in the Near-Surface Area at Ambient Conditions

Nizhny Novgorod State Technical University n.a. R.A. Alekseev, Nizhny Novgorod, Russia

PP-III-2

Petrov I.L.¹, Khatamirad M.², Konrad M.², Karwacki L.³, Almer C.³,
Gentzen M.², Boscgali C.⁴, Rosowski F.^{2,3}, Kraehnert R.²

Data Science Tools for Heterogeneous Catalysis: Unravelling Exemplarily Trends in Syngas to Ethanol Catalysis

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – BasCat – UniCat BASF Joint Lab, Technische Universität Berlin,
Berlin, Germany

3 – BASF SE, Ludwigshafen, Germany

4 – hte – The high throughput experimentation company, Heidelberg,
Germany

PP-III-3

Lagoda N.A., Larina E.V., Vidyaeva E.V., Kurokhtina A.A., Schmidt A.F.

The Nature of Active Palladium Species in the Suzuki-Miyaura Reaction with Aryl Chlorides Using “Ligandless” Catalytic Systems

Irkutsk State University, Chemical Department, Irkutsk, Russia

PP-III-4

Nikitina N.A., Pichugina D.A., Kuz'menko N.E.

The Effect of CeO₂ Support on the Mechanism of CO Oxidation on Thiolate-Protected Gold Clusters

*Department of Chemistry, M.V.Lomonosov Moscow State University,
Moscow, Russia*

Section 4 - Catalysis for renewable sources

PP-IV-1

Baygildin I.G.¹, Vutolkina A.V.¹, Maksimov A. L.^{1,2}, Karakhanov E.A.¹

Hydrodeoxygenation of Bio-Oil Model Compounds over Unsupported Ni–Mo-Sulfide Catalysts

1 – *Lomonosov Moscow State University, Chemistry Department, Moscow, 119991, Russia*

2 – *Topchiev Institute of Petrochemical Synthesis, Russian Academy of Sciences, Moscow, 119991, Russia*

PP-IV-2

Filatova A.E.¹, Gubskaya E.M.¹, Doluda V.Yu.¹, Matveeva V.G.^{1,2}, Sulman M.G.¹

Modern Catalysts Used for the Conversion of Cellulose to Glycols

1 – *Tver State Technical University, Tver, Russia*

2 – *Tver State University, Tver, Russia*

PP-IV-3

Grigoreva A.R.¹, Kolobova E.N.¹, Pakrieva E.G.¹, Mäki-Arvela P.², Carabineiro S.A.C.³, Murzin D.Yu.², Pestryakov A.N.¹

Liquid-Phase Oxidation of Betulin to Its Oxo-Derivatives over Silver Supported Catalysts

1 – *Research School of Chemistry & Applied Biomedical Sciences, National Research Tomsk Polytechnic University, Tomsk, Russia*

2 – *Johan Gadolin Process Chemistry Centre, Abo Akademi University, Turku, Finland*

3 – *LAQV-REQUIMTE, Universidade NOVA de Lisboa - FCT, Caparica, Portugal*

PP-IV-4

Kalinina M.A., Kulikov L.A.

Hydrodeoxygenation of Lignin-Derived Compounds Using Ru Catalysts

Moscow State University, Moscow, Russia

PP-IV-5

Ten S., Torbina V.V., Svetlichnyi V.A., Vodyankina O.V.

Hybrid AgAu@UiO-66 Catalysts for Propylene Glycol Oxidation into Lactic Acid

Laboratory of Catalytic Research, Tomsk State University, Tomsk, Russia

PP-IV-6

Wang Y.^{1,2}, Nuzhdin A.L.¹, Shamanaev I.V.¹, Bukhtiyarova G.A.¹

Reductive Amination of Ethyl Levulinate to Pyrrolidones Using Ni₂P Catalysts in a Flow Reactor

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk Russia

PP-IV-7

Zasypalov G.O., Nedolivko V.V., Glotov, A.P., Gushchin P.A.,

Vinokurov V.A.

Hydrogenation of Phenol and Benzene on Nanostructured Ru-and Pt-Containing Catalysts

Gubkin Russian State University of Oil and Gas, Moscow, Russia

PP-IV-8

Gulyaeva Yu.K., Alekseeva M.V., Bulavchenko O.A., Kremneva A.M.,

Kaichev V.V., Yakovlev V.A.

High-Loaded NiCu Sol-Gel Catalysts for Dehydrogenation of Liquid Organic Hydrogen Carriers

Boreskov Institute of Catalysis, Novosibirsk, Russia

Section 5 - Catalysis for fine organic synthesis, natural gas and petroleum chemistry

PP-V-1

Akopyan A.V., Eseva E.A., Polikarpova P.D.

Immobilized Multifunctional Ionic Liquids for Highly Efficient Oxidative Desulfurization of Model Fuel

Chemistry Department, Lomonosov Moscow State University, Moscow, Russia

PP-V-2

Bikbaeva V.¹, Nesterenko N.², Valtchev V.¹

Embryonic Zeolite Carriers Decorated with Metal Oxides and Metal Sulfides Nanoparticles

1 – Laboratoire Catalyse et Spectrochimie, Normandie Univ, ENSICAEN, UNICAEN, CNRS, 14000 Caen, France

2 – Total Research and Technology Feluy, Zone Industrielle C, 7181 Feluy, Belgium

PP-V-3

Bushkov N.S.^{1,2}, Zhizhko P.A.², Zarubin D.N.²

Silica-Supported Tungsten Oxide as Oxo/Imido Heterometathesis Catalyst

1 – Chemical department of M.V. Lomonosov Moscow State University, Moscow, Russia

2 – A.N.Nesmeyanov Institute of Organoelement Compounds RAS, Moscow, Russia

PP-V-4

Chistiakov K.A.^{1,2}, Andreikov E.I.¹, Puzyrev I.S.¹, Rusinov G.L.^{1,2}

A Mesoporous Carbon-Supported Copper-Based Catalysts for the Hydrogenation of CO₂ to Form Methanol and Dimethyl Ether

1 – Postovsky Institute of Organic Synthesis, UB RAS, S.Kovalevskoy st. 20/22, Ekaterinburg, Russia

2 – Ural Federal University, Mira st. 19, Ekaterinburg, Russia

PP-V-5

Dubovtsev D.A.¹, Enikeeva L.V.², Gubaidullin I.M.¹

Determination of the Optimal Ratio of the Initial Reagents of the MTBE Synthesis Process

1 – Institute of Petrochemistry and Catalysis, Ufa, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

PP-V-6

Eseva E.A., Akopyan A.V.

Heterogeneous Catalysts Based on Anderson-Type Polyoxometales for Aerobic Oxidation of Sulfur-Containing Compounds

Chemical Department, Moscow State University, Moscow, Russia

PP-V-7

Tokranova E.O., Shafigulin R.V., Bulanova A.V.

Kinetic Characteristics of Catalysts Based on Mesoporous Silicagels Doped with Dysprosium, Lanthanum and Modified with Ni, in the Hydrogenation Reactions of Aromatic Hydrocarbons

Samara University, Samara, Russia

PP-V-8

Fursov E.A., Shabalin A.Yu., Prikhod'ko S.A., Adonin N.Yu.

Polymerization of Ethylene Catalyzed by Fluorinated Phenoxyimine Catalysts

Boreskov Institute of Catalysis, Novosibirsk, Russia

PP-V-9

Karmadonova I.E.^{1,2}, Kuznetsova N.I.¹, Kuznetsova L.I.¹

Study of the Effect o-Phenanthroline on Cumene Oxidation and Composition of Products in the Presence of an Organic Catalyst N-Hydroxyphthalimide and Fe(III)/o-Phenanthroline Promoter

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

PP-V-10

Kondratieva V.U.¹, Verevkin S.P.^{1,2}, Martynenko E.A.¹

Hydrogenation of Eutectic Mixture of Biphenyl and Diphenylmethane over Supported Platinum Catalysts

1 – Samara State Technical University, Samara, Russia

2 – University of Rostock, Rostock, Germany

PP-V-11

Makeeva D.A., Kulikov L.A.

Directed Synthesis of Porous Aromatic Frameworks as Supports for Transition Metal Nanoparticles in Various Hydrogenation Processes

Lomonosov Moscow State University, Moscow, Russia

PP-V-12

Ratkevich E.A.¹, Manaenkov O.V.¹, Matveeva V.G.¹, Nikoshvili L.Zh., Kislitza O.V.¹, Sulman M.G.¹, Bronstein L.M.²

Synthesis of Mannitol from Inulin Using a Magnetic Catalyst

1 – Tver State Technical University, Department of Biotechnology and Chemistry, Tver, Russia

2 – Indiana University, Department of Chemistry, Bloomington, IN 47405, USA

PP-V-13

Melnikov D.P., Stytsenko V.D., Glotov A.P., Vinokurov V.A.

Surface Modified Bimetallic Catalysts for Selective Hydrogenation of Acetylene

National University of Oil and Gas «Gubkin University», Moscow, Russia

PP-V-14

Nenasheva M.V., Gorbunov D.N.

New Heterogeneous Rh/Tertiary Amine Catalysts for Tandem Hydroformylation/Hydrogenation of Olefins

Department of Petroleum Chemistry and Organic Catalysis, Faculty of Chemistry, Moscow State University, Moscow, Russia

PP-V-15

Pichugov A.V.^{1,2}, Zhizhko P.A.², Zarubin D.N.²

Well-Defined Silica-Supported Titanium Imido Complex as a Catalyst for Direct Imidation of Lactones

1 – Higher Chemical College, D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia

2 – A. N. Nesmeyanov Institute of Organoelement Compounds RAS, Moscow, Russia

PP-V-16

Savinov A.A., Vinogradov N.A., Tochilin N.V., Pimerzin Al.A.

Aluminosilicate Modified Supports for CoMo Catalysts for Hydroisomerization of n-Hexadecane

Samara State Technical University, Samara, Russia

PP-V-17

Vinogradov N.A.¹, Savinov A.A.¹, Glotov A.P.², Pimerzin Al.A.^{1,2}

The Effect of Mesoporous Zeolite Additive Application in Supported Sulfide Catalysts for 4,6-DMDBT Conversion

1 – Samara State Technical University, Samara, Russia

2 – Gubkin Russian State University of Oil and Gas, Moscow, Russia

PP-V-18

Vorobyeva E.E., Shamanaeva I.A., Polukhin A.V., Parkhomchuk E.V.

Hydrodenitrogenation of Heavy Oil Feedstock on Composite Catalysts: SAPO-5 and SAPO-11 as a Part of Conventional Hydrotreatment Catalysts

Boreskov Institute of Catalysis, Novosibirsk, Russia

PP-V-19

Vosmerikov A.A., Barbashin Y.E, Vosmerikova L.N.

Aromatization of Propane over Zn-Aluminosilicates with a Hierarchical Pore System

Institute of Petroleum Chemistry SB RAS, 4, Akademichesky prosp., Tomsk, 634055, Russia

PP-V-20

Zanina A., Makhmutov D., Kondratenko E.V.

Study of Catalyst Activity and Selectivity in Oxidative Coupling of Methane in Presence of Water

Leibniz-Institute for Catalysis, Rostock, Germany

PP-V-21

Ruban N.V.^{1,3}, Potemkin D.I.^{1,2,3}, Rogozhnikov V.N.^{1,4},
Emelyanov V.A.^{3,5}, Snytnikov P.V.¹

Ru/Ce_{0.75}Zr_{0.25}O_{2-δ}-η-Al₂O₃/FeCrAl Structured Catalyst for CO₂ Methanation and Steam Reforming of Natural Gas

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2 – UNICAT Ltd, Novosibirsk, Russia

3 – Novosibirsk State University, Novosibirsk, Russia

4 – Gubkin Russian State University of Oil and Gas, Moscow, Russia

5 – Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia

Section 6 - Catalysis for environmental protection, photocatalysis, electrocatalysis

PP-VI-1

Chernykh M.V., Mikheeva N.N., Mamontov G.V.

Designing Ag/CeO₂ Sorbent-Catalysts for Toluene Removal

Tomsk State University, Tomsk, Russia

PP-VI-2

Lakina N.V.¹, Doluda V.Yu.¹, Sulman M.G.¹, Sidorov A.I.^{1,2},
Matveeva V.G.^{1,2}, Tumanov G.A.¹

The Study of Surface Morphology of Conductive Biopolymer Matrices

1 – Tver State Technical University, Tver, Russia

2 – Tver State University, Tver, Russia

PP-VI-3

Goncharova D.A., Kharlamova T.S., Svetlichnyi V.A.

CuO NPs Obtained by Laser Ablation for 4-Nitrophenol Hydrogenation and Dye Degradation

Tomsk State University, Tomsk, Russia

PP-VI-4

Gosteva A.N., Semushina Yu.P.

Cr-Co Catalysts for Benzene Oxidation Based on Double Salt Oxidation Products

Tananaev Institute of Chemistry - Subdivision of the Federal Research Centre «Kola Science Centre of the Russian Academy of Sciences»
Science Centre of Russian Academy of Sciences, Apatity, Murmansk region, 184209, Russia

PP-VI-5

Kobelev A.D.^{1,2}, Ananikov V.P.^{1,2}

Custom Build 3D-Printed Reactor for Photochemical Synthesis

1 – Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Leninsky prospect 47, Moscow, 119991 Russia

2 – Lomonosov Moscow State University, Leninskie Gory GSP-1, 1-3, Moscow, 119991 Russia

PP-VI-6

Pinigina A.E.^{1,2}, Badmaev S.D.¹

Partial Catalytic Oxidation of Dimethoxymethane to Synthesis Gas over Supported Noble Metal Catalysts

1 – Borekov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

PP-VI-7

Savchuk T.P., Gavrilin I.M., Dronov A.A., Gavrilov S.A.

Photocatalytic and Photoelectrochemical Properties of Carbon Modified Anodic TiO₂ Nanotube Arrays

Institute AMT MIET, Zelenograd, Russia

PP-VI-8

Shmelev N.Y.^{1,2}, Kuchkaev A.M.^{3,4}, Gushchin A.L.^{1,2}, Yakhvarov D.G.^{3,4}

Hydrolysis of Element (White) Phosphorus in the Presence of Heterometallic Cubane-Type {Mo₃PdS₄} Cluster Complexes

1 – Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

3 – Arbuzov Institute of Organic and Physical Chemistry, Kazan, Russia

4 – Kazan Federal University, Kazan, Russia

PP-VI-9

Svintsitskiy D.A., Sokovikov N.A., Fedorova E.A., Slavinskaya E.M., Boronin A.I.

Ternary Mixed Oxide of Silver, Copper and Manganese - Novel Catalytic Material for Oxidation Reactions

Boreskov Institute of Catalysis, Novosibirsk, Russia

PP-VI-10

Taratayko A.V., Mamontov G.V.

Reduced Graphene Oxide Decorated with Ag and CeO₂ Nanoparticles Composite for 4-Nitrophenol Reduction

Tomsk State University, Tomsk, Russia

PP-VI-11

Zasypkina A.A.¹, Spasov D.D.^{1,2}, Seregina E.A.¹, Mensharapov R.M.¹, Ivanova N.A.¹

Aspects of the Synthesis of Catalytic Layers Based on Structured Carbon Materials by Impregnation

1 – NRC "Kurchatov Institute" Moscow, Russia

2 – National Research University "MPEI" Moscow, Russia

PP-VI-12

Zhurenok A.V.¹, Kozlova E.A.^{1,2}

Composites Based on Solid Sulfides Solutions of Cd and Zn and Graphitic Carbon Nitride for the Photocatalytic Hydrogen Evolution under Visible Light Irradiation

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia