

Boreskov Institute of Catalysis SB RAS, Russia  
Institute of Solid State Chemistry UB RAS, Russia  
Russian Foundation for Basic Research, RFBR

**3rd International School-Conference on Catalysis  
for Young Scientists “CATALYST DESIGN”**

July 13-18, 2009

The tourist center “Chusovaya”, Ekaterinburg region, Russia

**SCIENTIFIC PROGRAM**

Novosibirsk-2009

***Dear Colleagues!***

Boreskov Institute of Catalysis, Siberian Branch of the Russian Academy of Sciences (Novosibirsk, Russia) in collaboration with Institute of Solid State Chemistry, Ural Branch of Russian Academy of Sciences (Ekaterinburg, Russia) cordially invite Young Scientists (up to 35 years old) to participate in the **3<sup>rd</sup> International School-Conference on Catalysis “CATALYST DESIGN”** to be held on 13-18 July, 2009 in the tourist center “Chusovaya”, Ekaterinburg region, Russia. This event continues the tradition established in Novosibirsk, Russia (2002) and Altay, Russia (2005)

***Organizing Committee*****PROGRAM SCIENTIFIC COMMITTEE**

**Chairperson:** Academician RAS Valentin N. Parmon, BIC SB RAS, Novosibirsk

**Co-Chairperson:** Corresponding member RAS Vladimir L. Kozhevnikov, ISSC SB RAS, Ekaterinburg

Dr. Eugeny V. Polyakov, ISSC UB RAS, Ekaterinburg

Dr. Vladimir I. Sobolev, BIC SB RAS, Novosibirsk

Dr. Denis V. Kozlov, BIC SB RAS, Novosibirsk

Dr. Alexey A. Vedyagin, BIC SB RAS, Novosibirsk

**ORGANIZING COMMITTEE**

Dr. Andrey V. Matveev, BIC SB RAS, Novosibirsk (**Chairperson**)

Dr. Tatiayna A. Denisova, ISSC UB RAS, Ekaterinburg (**Co-Chairperson**)

Alexey V. Gubar, BIC SB RAS, Novosibirsk,

Nataliya V. Mezentseva, BIC SB RAS, Novosibirsk

Dr. Larisa B. Vedmid, IM UB RAS, Ekaterinburg

Dr. Eugeny V. Starokon, BIC SB RAS, Novosibirsk

Dr. Andrey I. Stadnichenko, BIC SB RAS, NSU, Novosibirsk

Olga Stoyanovskaya, BIC SB RAS, Novosibirsk

Anastasia Pashigreva, BIC SB RAS, Novosibirsk

**School-Conference Secretary**

Inna Yu. Mutas, BIC SB RAS, Novosibirsk

## SCIENTIFIC PROGRAM

The Organizing committee has received materials from 85 young scientists from 7 countries.

The program of the School-Conference consists of 9 plenary lecturers, 42 oral presentations and 15 posters. The oral presentations are scheduled in 6 sessions:

- Preparation of catalysts and adsorbents
- Mechanisms of heterogeneous catalysis, methods of catalyst characterization
- Kinetics and modeling of catalytic reactions and reactors
- Catalysis for environmental protection, photocatalysis
- Catalysis for fine organic synthesis, natural gas and petroleum chemistry
- Catalysis in energy production, electrocatalysis

## SCHOOL-CONFERENCE PUBLICATIONS

Compact Disk with the abstracts of plenary and keynote lectures, oral and poster presentations will be available at the registration desk. Each registrant will also receive the final scientific program-brochure. The full texts of oral contributions will be published in a special issue of the "Kinetics & Catalysis".

## SCHOOL-CONFERENCE LANGUAGE

The official language of the School-Conference is English.

## PRESENTATION

The time of presentation (including some time for questions) is 40 min for a plenary lecture, 15 min for an oral presentation.

Overhead facilities will be provided. It is recommended that you prepare computer presentations in \*.ppt format (Microsoft Power Point from the package MS Office).

Space for poster is 100 cm width x 100 cm height. Posters should be readable from 2 m distance. The authors are requested to place their posters in the morning of the corresponding Poster session day according to the School-Conference schedule.

**SOCIAL PROGRAM**

The Organizing Committee offers all registered participants and accompanying persons to take part in the following social events:

July 12 - sightseeing of Ekaterinburg

July 13 at 7 p.m. - the Welcome Reception

July 15, at 9 p.m. - Musical Party

July 17 at 7 p.m. - School-Conference Banquet

July 18 – Excursion day

The tourist center offers the participants the following extra paid service: rafting tour down the Chusovaya, horse rides, walking tours, Russian bath and sauna. Also you can visit the Kourov Astronomical Observatory, which is situated 1 km away from the tourist-center “Chusovaya”.

## Time table

July 12, Sunday	July 13, Monday		July 14, Tuesday		July 15, Wednesday	
<b>REGISTRATION</b>	08.30	Breakfast	14.00	Lunch	08.30	Breakfast
	09.30	Opening	15.00	PL-3 Kaichev	09.30	PL-5 Beloshapkin
	09.40	PL-1 Melgunov	15.40	PL-4 Vernikovskaya	10.10	PL-6 Kozlov
	10.20	PL-2 Kuznetsov	16.20	O-II-1 Sarusi	10.50	O-III-1 Danilevich
	11.00	O-I-1 Shutilov	16.35	O-II-3 Gulyaev	11.05	O-III-2 Fetisova
	11.15	O-I-2 Mironenko	16.50	O-II-4 Bulavchenko	11.20	O-III-3 Frantsina
	11.30	O-I-3 Yakutova			11.35	O-III-4 Popova
	11.45	O-I-6 Ilyina				
	12.00	Coffee-break	17.05	Coffee-break	11.50	Coffee-break
	12.30	O-I-7 Sabirova	17.35	O-II-5 Elumeeva	12.20	O-III-5 Potemkin
	12.45	O-I-8 Shuvaeva	17.50	O-II-6 Ischenko	12.35	O-III-6 Zhivonitko
	13.00	O-I-9 Usoltsev	18.05	O-II-7 Ivanov	12.50	O-IV-1 Bukhtiyarova
	13.15	O-I-10 Yeletsky	18.20	O-II-8 Glazneva	13.05	O-IV-2 Kozlova
	13.30	O-I-11 Streltsov	18.35	O-II-9 Gubanova	13.2	O-IV-3 Marko
	13.45	O-I-12 Kapokova	18.50	O-II-10 Kovtunov		
	14.00	Lunch			14.00	Lunch
	19.00	Reception	19.05	Dinner	19.00	Dinner
					21.00	Discotheque

July 16, Thursday		July 17, Friday		July 18, Saturday
14.00	Lunch	08.30	Breakfast	<b>EXCURSIONS</b>
15.00	PL-7 Sobolev	09.30	PL-9 Okunev	
15.40	PL-8 Malyschew	10.10	O-V-5 Prikhod'ko	
16.20	O-V-1 Delidovich	10.25	O-V-6 Selivanova	
16.35	O-V-2 Hollmann	10.40	O-V-7 Sigaeva	
16.50	O-V-3 Konev	10.55	O-V-8 Nemykina	
		11.10	O-V-9 Budukva	
		11.25	O-V-12 Pashigreva	
		11.40	O-VI-1 Churakova	
17.05 Coffee-break Poster Session		11.55	Coffee-break	
		12.25	O-VI-2 Mezentseva	
		12.40	O-VI-3 Zyryanov	
		12.55	O-VI-5 Dundich	
		13.10	O-I-13 Nalbant	
		13.25	Closing	
		14.00	Lunch	
19.00	Dinner	19.00	Banquet	

**July 13, Monday**  
*The Session Hall*

**09.30 OPENING**

*Chairperson Dr. Eugeny V. Polyakov*

**PLENARY LECTURES**

*Chairperson Dr. Vladimir L. Kuznetsov*

**09.40**

**PL-1** Dr. Maxim S. Mel'gunov

**TEMPLATING MECHANISMS OF CATALYSTS AND ADSORBENTS FORMATION**

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

**10.20**

**PL-2** Dr. Vladimir L. Kuznetsov

**CATALYSTS DESIGN FOR PRODUCTION OF CARBON NANOTUBES AND NANOWHISKERS**

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

**ORAL SESSION**

**Section I. Preparation of catalysts and adsorbents**

**11.00**

**O-I-1** Shutilov A.<sup>1</sup>, Zenkovets G.<sup>1,2</sup>, Tsybulya S.<sup>1,2</sup>, Gavrilov V.<sup>1</sup>

**EFFECT OF TiO<sub>2</sub> (ANATASE) MICROSTRUCTURE ON THE THERMAL STABILITY AND CATALYTIC PROPERTIES OF Pt-SUPPORTED TiO<sub>2</sub> CATALYSTS IN CO OXIDATION**

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

<sup>2</sup>*Novosibirsk state university, Novosibirsk, Russia*

**11.15**

**O-I-2** Mironenko R.M., Belskaya O.B., Likholobov V.A.

**INFLUENCE OF ALUMINA SPECIAL ADSORPTION CENTERS ON PLATINUM PROPERTIES IN Pt/Al<sub>2</sub>O<sub>3</sub> CATALYST**

*Institute of Hydrocarbon Processing SB RAS, Omsk, Russia*

**11.30**

**O-I-3** Yakutova A.M.<sup>1</sup>, Matus E.V.<sup>1</sup>, Protasova L.N.<sup>1,2</sup>,  
Ismagilov I.Z.<sup>1</sup>, Rebrov E.V.<sup>2</sup>, Kerzhentsev M.A.<sup>1</sup>, Ismagilov Z.R.<sup>1</sup>,  
Schouten J.C.<sup>2</sup>

**DEVELOPMENT OF BIMETALLIC Pt-Sn/TiO<sub>2</sub> CATALYSTS  
FOR SELECTIVE HYDROGENATION OF CITRAL**

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

<sup>2</sup>*Eindhoven University of Technology, Eindhoven, Netherlands*

**11.45**

**O-I-6** Ilyina E.V., Mishakov I.V., Vedyagin A.A.

**PREPARATION OF NANOSCALE BINARY OXIDE  
SYSTEMS VO<sub>x</sub>/MgO BY AEROGEL TECHNIQUE**

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

**12.00 Coffee-break**

*Chairperson Dr. M.S. Melgunov*

**ORAL SESSION****Section I. Preparation of catalysts and adsorbents****12.30**

**O-I-7** Sabirova Z.A., Danilova M.M., Kuzin N.A., Kirillov V.A.,  
Zaikovskii V.I. and Krieger T.A.

**METHANE STEAM REFORMING ON NICKEL  
REINFORCED Cr<sub>2</sub>O<sub>3</sub>-FREE CATALYSTS**

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

**12.45**

**O-I-8** Shuvaeva M.A., Tsybulya S.V., Bajukov O.A.<sup>1</sup>,  
Kaichev V.V., Bukhtiyarova G.A.

**CALCINATION TEMPERATURE EFFECT ON PROPERTIES  
OF IRON-CONTAINING SILICA SUPPORTED CATALYSTS  
IN HYDROGEN SULFIDE OXIDATION REACTION**

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

<sup>1</sup>*Kirenskii Institute of Physics, SB RAN, Krasnoyarsk, Russia*



**13.00**

**O-I-9** Usoltsev V.V., Tikhov S.F., Sadykov V.A., Tsybulya S.V., Golubkova G.A.<sup>1</sup>, Lomovskii O.I.<sup>1</sup>

**DESIGN OF CERMET MONOLITHS FOR HIGH TEMPERATURE CATALYTIC PROCESSES**

*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia; <sup>1</sup>Institute of Solid State Chemistry and Mechanochemistry, Novosibirsk, Russia*

**13.15**

**O-I-10** Yeletsky P.M., Yakovlev V.A.

**DEVELOPMENT OF SYNTHESIS OF POROUS CARBONACEOUS ADSORBENTS AND CATALYST SUPPORTS FROM HIGH-ASH BIOMASS – RICE HUSK**

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

**13.30**

**O-I-11** Strel'tsov I.A.<sup>1</sup>, Mishakov I.V.<sup>1,2</sup>, Vedyagin A.A.<sup>1,2</sup>, Zhukova E.A.<sup>2</sup>

**USP CATALYSTS FOR CNF GROWTH**

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

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

**13.45**

**O-I-12** Kapokova L., Korobitsyna L., Vosmerikov A.

**SUPER-HIGH SILICA ZEOLITES IN MTH PROCESS**

*Institute of Petroleum Chemistry SB RAS, Tomsk, Russia*

**14.00 Lunch****19.00 RECEPTION**

**July 14, Tuesday**

*The Session Hall*

*Chairperson Dr. Sergey Beloshapkin*

**PLENARY LECTURES**

**15.00**

**PL-3** Dr. Vasilii V. Kaichev, V.I. Bukhtiyarov  
**APPLICATION OF SURFACE SCIENCE METHOD FOR IN  
SITU STUDING OF HETEROGENEOUS CATALYTIC  
REACTIONS**

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

**15.40**

**PL-4** Dr. Nadezhda V. Vernikovskaya  
**THE ROLE OF MATHEMATICAL MODELING IN THE  
DESIGN OF CATALYTIC PROCESSES AND REACTORS**

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

**ORAL SESSION**

**Section II. Mechanisms of heterogeneous catalysis, methods of  
catalyst characterization**

**16.20**

**O-II-1** Sarusi I., Markó K., Baán K., Erdőhelyi A.  
**ETHANOL DECOMPOSITION ON ALUMINA SUPPORTED  
NOBLE METAL CATALYSTS**

*Institute of Solid State and Radiochemistry at the University of  
Szeged, Szeged Hungary*

**16.35**

**O-II-3** Gulyaev R.V.<sup>1</sup>, Ivanova A.S.<sup>1</sup>, Slavinskaya E.M.<sup>1</sup>,  
Boronin A.I.<sup>1,2</sup>

**REDUCTION AND OXIDATION FEATURES PROCESSES  
XPS INVESTIGATION ON Pd/CeO<sub>2</sub> CATALYSTS SURFACE**

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

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

16.50

**O-II-4** Bulavchenko O.A.<sup>1,2</sup>, Cherepanova S.V.<sup>1,2</sup>,  
Tsybulya S.V.<sup>1,2</sup>

**IN SITU XRD INVESTIGATION OF ACTIVATION OF  
COBALT CATALYST AND MODEL COBALT OXIDE**

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

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

17.05 Coffee-break

*Chairperson Dr. Vasilii V. Kaichev*

**ORAL SESSION**

**Section II. Mechanisms of heterogeneous catalysis, methods of  
catalyst characterization**

17.35

**O-II-5** Elumeeva K. V.<sup>1,2</sup>, Kuznetsov V.L.<sup>1,2</sup>, Boldyreva N.N.<sup>1</sup>,  
Dovlitova L.S.<sup>1</sup>, Molina I.U.<sup>1</sup>, Plyasova L.M.<sup>1</sup>, Ischenko A.V.<sup>1,2</sup>,  
Delidovich A.I.<sup>1,2</sup>

**THE COMPARATIVE STUDY OF PHASE COMPOSITION OF  
Fe-Co CATALYSTS FOR THE MULTIWALLED CARBON  
NANOTUBES SYNTHESIS**

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

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

17.50

**O-II-6** Ischenko E.V., Andrushkevich T.V., Popova G.Ya.,  
Kardash T.Yu., Ischenko A.V., Chesalov Yu.A., Plyasova L. M.,  
Dovlitova L.G.

**EFFECT OF SYNTHESIS CONDITIONS ON PHASE  
COMPOSITION OF MoVTe(Nb) OXIDE CATALYST FOR  
OXIDATIVE TRANSFORMATIONS OF PROPANE**

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

**18.05**

**O-II-7** Ivanov D.V., Pinaeva L.G., Sadovskaya E.M.,  
Isupova L.A.

**EFFECT OF OXYGEN MOBILITY ON CATALYTIC  
ACTIVITY OF La-Sr-(Mn,Fe)-O MIXED OXIDES IN THE  
REACTIONS OF METHANE OXIDATION AND NITROUS  
OXIDE DECOMPOSITION**

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

**18.20**

**O-II-8** Glazneva T.S., Sadovskaya E.M., Paukshtis E.A.,  
Suknev A.P., Goncharov V.B., Simonova L.G., Bal'zhinimaev B.S.

**NEW APPROACH TO H/D-EXCHANGE USING FOR  
CHARACTERIZATION OF CATALYST ACIDITY**

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

**18.35**

**O-II-9** Gubanova E.<sup>1</sup>, Sazonova N.<sup>1</sup>, Sadykov V.<sup>1,2</sup>, Bobin A.<sup>1</sup>,  
Mirodatos C.<sup>3</sup>

**SYNGAS GENERATION BY PARTIAL OXIDATION OF  
METHANE: TRANSIENT STUDY**

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

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

<sup>3</sup>*Institute de recherches sur la catalyse et l'environnement de Lyon,  
Lyon, France*

**18.50**

**O-II-10** Kovtunov K., Zhivonitko V., Koptyug I., Beck I.<sup>1</sup>,  
Bukhtiyarov Valery<sup>1</sup>

**NEW METHOD OF STUDY OF HETEROGENEOUS  
CATALYTIC HYDROGENATION REACTION MECHANISMS  
BY USING PARAHYDROGEN**

*International Tomography Center SB RAS, Novosibirsk, Russia;*

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

**19.05 Dinner**

**July 15, Wednesday**

*The Session Hall*

*Chairperson Dr. Nadezhda V. Vernikovskaya*

**PLENARY LECTURES**

**09.30**

**PL-5** Dr. Sergey Beloshapkin

**APPLICATION OF FOCUSED ION BEAM TECHNIQUE FOR THE STRUCTURED CATALYSTS INVESTIGATION. CROSS-SECTIONAL STUDY AND SPECIMEN PREPARATION FOR TRANSMISSION ELECTRON MICROSCOPY**

*Materials and Surface Science Institute, University of Limerick, Ireland*

**10.10**

**PL-6** Dr. Denis V. Kozlov

**PHOTOCATALYSIS: FUNDAMENTALS AND APPLICATIONS**

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

**ORAL SESSION**

**Section III. Kinetics and modeling of catalytic reactions and reactors**

**10.50**

**O-III-1** Danilevich E.V., Popova G.Ya., Andrushkevich T.V.

**KINETICS OF FORMALDEHYDE OXIDATION OVER V/Ti OXIDE CATALYST**

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

**11.05**

**O-III-2** Fetisova V.A., Shnidorova I.O., Ivashkina E.N.

**ALKYLATION REACTOR KINETIC MODELING**

*Tomsk Polytechnic University, Tomsk, Russia*

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**11.20**

**O-III-3** Frantsina E.V., Afanasjeva Y.I., Ivashkina E.N.  
**HIGHER HYDROCARBONS C<sub>9</sub>-C<sub>14</sub> DEHYDROGENATION  
PROCESS MODELLING ON SURFACE OF PLATINUM  
ACCELERATORS**

*Tomsk Polytechnic University, Tomsk, Russia*

**11.35**

**O-III-4** Popova M.M.<sup>1,2</sup>, Snytnikov P.V.<sup>1,2</sup>, Sobyenin V.A.<sup>1,2</sup>  
**KINETIC STUDIES OF THE SELECTIVE CO  
METHANATION OVER Ni/CeO<sub>2</sub> CATALYSTS**

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

<sup>2</sup>*Borekov Institute of Catalysis, Novosibirsk, Russia*

**11.50 Coffee-break**

*Chairperson Dr. Denis V.Kozlov*

**ORAL SESSION**

**Section III. Kinetics and modeling of catalytic reactions  
and reactors**

**12.20**

**O-III-5** Potemkin D.I.<sup>1,2</sup>, Popova M.M.<sup>1,2</sup>, Semin G.L.<sup>1</sup>,  
Snytnikov P.V.<sup>1,2</sup>, Sobyenin V.A.<sup>1,2</sup>

**PREFERENTIAL CO OXIDATION IN HYDROGEN-RICH  
GAS MIXTURES OVER A Cu/CeO<sub>2</sub> CATALYSTS**

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

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

**12.35**

**O-III-6** Zhivonitko V., Koptyug I.  
**MRI AS A TOOLKIT FOR INVESTIGATION OF  
AUTOCATALYTIC REACTION FRONTS PROPAGATION**

*International Tomography Center SB RAS, Novosibirsk, Russia*

**ORAL SESSION****Section IV. Catalysis for environmental protection, photocatalysis****12.50**

**O-IV-1** Bukhtiyarova M.V., Ivanova A.S., Plyasova L.M., Litvak G.S., Rogov V.A., Kaichev V.V., Slavinskaya E.M., Kuznetsov P.A. and Polukhina I.A.

**SELECTIVE CATALYTIC REDUCTION OF NITRIC OXIDE BY AMMONIA ON Mn(Fe)-SUBSTITUTED Sr(La) ALUMINATES**

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

**13.05**

**O-IV-2** Kozlova E.A., Korobkina T.P., Vorontsov A.V.

**PHOTOCATALYTIC WATER SPLITTING OVER Pt/TiO<sub>2</sub> CATALYST WITH Ce<sup>3+</sup>/Ce<sup>4+</sup> SHUTTLE REDOX SYSTEM**

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

**13.20**

**O-IV-3** Markó K., Oszkó A., Baán K., Sarusi I., Dömök M., Erdőhelyi A., Nagy K.<sup>1</sup>

**STEAM REFORMING OF ETHANOL OVER Cu/ZnO/CeO<sub>2</sub> CATALYSTS**

*Institute of Solid State and Radiochemistry of University of Szeged, Szeged, Hungary;*

<sup>1</sup>*Department of Colloid Chemistry of University of Szeged, Szeged, Hungary*

**14.00 Lunch****19.00 Dinner****21.00 DISCOTHEQUE**

**July 16, Thursday**

*The Session Hall*

*Chairperson Dr. Alexander Malyschew*

**PLENARY LECTURES**

**15.00**

**PL-7** Dr. Vladimir I. Sobolev

**FUNDAMENTAL AND TECHNOLOGICAL ASPECTS OF  
HETEROGENEOUS SELECTIVE OXIDATION OF C<sub>1</sub>-C<sub>4</sub>  
ORGANIC COMPOUNDS**

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

**15.40**

**PL-8** Dr. Alexander Malyschew

**ALUMINA AND MIXED OXIDE CATALYST SUPPORTS FOR  
SOPHISTICATED CATALYST DESIGN**

*SASOL Germany GmbH, Hamburg FR Germany*

**ORAL SESSION**

**Section V. Catalysis for fine organic synthesis, natural gas  
and petroleum chemistry**

**16.20**

**O-V-1** Delidovich I.V.<sup>1</sup>, Pestunova O.P.<sup>1,2</sup>, Matvienko L.G.<sup>1,2</sup>,  
Simonov A.N.<sup>1,2</sup>, Simakova I.L.<sup>1</sup>, Kholodovich A.N.<sup>1</sup>, Parmon V.N.<sup>1,2</sup>

**COMPARATIVE STUDY OF SELECTIVE GLUCOSE  
OXIDATION OVER Pt AND Pd CATALYSTS**

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

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

**16.35**

**O-V-2** Hollmann F., Mifsud Grau Maria, Arends Isabel W.C.E

**LIGHT-DRIVEN BIOCATALYTIC REDOX REACTIONS**

*Biocatalysis and Organic Chemistry Group, Department of  
Biocatalysis, Delft University of Technology, Delft, The Netherlands*



**16.50**

**O-V-3** Konev V., Yushchenko D., Mattsat Yu., Khlebnikova T.,  
Pai Z.

**NOVEL CHIRAL NITROGEN CONTAINING LIGANDS FOR  
CATALYSTS OF ASYMMETRIC REACTIONS**

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

**17.05 Coffee-break**

**POSTER SESSION**

**19.00 Dinner**

**July 17, Friday**

*The Session Hall*

*Chairperson Dr. Vladimir I. Sobolev*

**PLENARY LECTURE**

**09.30**

**PL-9** Dr. Alexey G. Okunev

**CATALYSTS AND CATALYTIC LAYERS IN POLYMER  
ELECTROLYTE MEMBRANE FUEL CELLS**

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

**ORAL SESSION**

**Section V. Catalysis for fine organic synthesis, natural gas  
and petroleum chemistry**

**10.10**

**O-V-5** Prikhod'ko S.A., Adonin N.Yu., Parmon V.N.

**NICKEL CATALYSED HYDRODEFUORINATION OF  
PENTAFLUOROACETANILIDE IN IONIC LIQUIDS**

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

**10.25**

**O-V-6** Berdnikova P.V., Tuzikov F.V., Selivanova N.V.,  
Tuzikova N.A., Pai Z.P.

**CATALYTIC OXIDATION OF CYCLOALKENES AND  
ALCOHOLS IN BIPHASIC SYSTEM**

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

**10.40**

**O-V-7** Sigaeva S.S., Likholobov V. A., Tsyurulnikov P. G.

**OXIDATIVE PYROLYSIS OF METHANE WITH TREATED  
Fe/Cr/Al-WIRE**

*Institute of Hydrocarbons Processing SB RAS, Omsk, Russia*

**10.55****O-V-8** Nemykina E.<sup>1,2</sup>, Pakhomov N.<sup>1</sup>**DESIGN OF MICROSPHERIC Cr<sub>2</sub>O<sub>3</sub>/Al<sub>2</sub>O<sub>3</sub> CATALYST FOR C<sub>3</sub>-C<sub>4</sub> ALKANES DEHYDROGENATION**<sup>1</sup>*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*<sup>2</sup>*Novosibirsk State University, Novosibirsk, Russia***11.10****O-V-9** Budukva S., Klimov O., Pashigreva A., Bukhtiyarova G., Kochubey D., Chesalov Yu., Noskov A.**REJUVENATION OF THE NEW-GENERATION CoMo/Al<sub>2</sub>O<sub>3</sub> HYDROTREATING CATALYSTS AFTER OXIDIZING REGENERATION***Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia***11.25****O-V-12** Pashigreva A., Bukhtiyarova G.A., Klimov O.V., Chesalov Yu.A., Kochybey D.I., Noskov A.S.**TOWARDS A BETTER UNDERSTANDING OF THE PROCESSES IMPLYING DURING THE GENERATION OF THE ACTIVE PHASE OF THE CoMo HYDROTREATING CATALYSTS PREPARED USING CHELATING AGENTS***Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia***11.40****O-VI-1** Churakova E.M.<sup>1,2</sup>, Badmaev S.D.<sup>2</sup>, Gubanov A.I.<sup>3</sup>, Plyusnin P.E.<sup>3</sup>, Snytnikov P.V.<sup>1,2</sup>, Sobyenin V.A.<sup>1,2</sup>**STEAM REFORMING OF ETHANOL TO HYDROGEN-RICH GAS OVER BIMETALLIC Rh-Co/ZrO<sub>2</sub> CATALYSTS**<sup>1</sup>*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia;*<sup>2</sup>*Novosibirsk State University Novosibirsk, Russia;* <sup>3</sup>*Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia***11.55 Coffee-break**

*Chairperson Dr. Alexey G. Okunev*

## ORAL SESSION

### Section VI. Catalysis in energy production, electrocatalysis

**12.25**

**O-VI-2** Mezentseva N., Sadykov V., Alikina G., Pelipenko V., Usoltsev V., Tikhov S., Smorygo O.<sup>1</sup>, Ulyanitskii V.<sup>2</sup>

#### **SYNGAS PRODUCTION BY AUTOHERMAL/STEAM REFORMING OF NATURAL GAS AND BIOFUELS OVER MONOLITHIC CATALYSTS**

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

<sup>1</sup>*Powder Metallurgy Institute, Minsk, Belarus;*

<sup>2</sup>*Lavrentiev Institute of Hydrodynamics, Novosibirsk, Russia*

**12.40**

**O-VI-3** Zyryanov A.S.<sup>1,2</sup>, Belyaev V.D.<sup>1</sup>, Snytnikov P.V.<sup>1,2</sup>, Kirillov V.A.<sup>1</sup>, Sobyenin V.A.<sup>1,2</sup>

#### **DEVELOPMENT OF CATALYST FOR SELECTIVE CO<sub>2</sub> HYDROGENATION TO CO**

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

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

**12.55**

**O-VI-5** Dundich V.O.

#### **CATALYTIC HYDRODEOXYGENATION OF PLANT FATTY ACIDS DERIVATIVES**

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

**13.10**

**O-I-13** Nalbant A., Yurum Y.

#### **MCM-41 TYPE CATALYTIC MATERIALS VIA MICROWAVE SYNTHESIS**

*Faculty of Engineering and Natural Sciences, Sabanci University, Istanbul, Turkey*

**13.25 CLOSING**

**14.00 Lunch**

**19.00 BANQUET**

## LIST OF POSTER PRESENTATIONS

**P-I-1**     Chirkova O.A., Baklanova O.N., Leontyeva N.N.,  
Lavrenov A.V., Skorpluk A.A., Muromtsev I.V., Likholobov V.A.  
**MECHANOCHEMICAL CATALYST USE FOR GENERATION  
ACTIVE COMPONENT PRECURSOR OF BULK CATALYST  
HYDROPROCESSING**

*Institute of Hydrocarbons Processing of SB RAS Omsk, Russia*

**P-II-2**     Bryliakova A.<sup>1,2</sup>, Gorodetskii V.<sup>1</sup>, Tapilin V.<sup>1</sup>  
**QUANTUM-CHEMICAL STUDIES OF ADSORBED H, O, O<sub>2</sub>,  
OH AND H<sub>2</sub>O ON Pt(111) BY DFT**

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

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

**P-II-3**     Kibis L.S.<sup>1</sup>, Pajetnov E.M.<sup>1</sup>, Boronin A.I.<sup>1,2</sup>  
**XPS AND UPS INVESTIGATION OF OXYGEN  
INTERACTION WITH SILVER NANOPARTICLES**

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

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

**P-II-4**     Kirichenko E., Bukhtiyarova G.A., Klimov O.V.,  
Pashigreva A.V., Aleksandrov P.A., Noskov A.S.  
**THE CATALYTIC ACTIVITY OF CoMo/Al<sub>2</sub>O<sub>3</sub> AND  
NiMo/Al<sub>2</sub>O<sub>3</sub> CATALYSTS IN THE  
HYDRODESULFURIZATION OF THE SUBSTITUTED  
DIBENZOTHIOPHENES**

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

**P-II-7**     Matveev A.V., Dubinin Yu.V., Kaichev V.V.,  
Gorodetskii V.V., Knop-Gericke A.<sup>1</sup>  
**THE REASON OF DEACTIVATION OF MODEL  
PALLADIUM CATALYST IN THE PROPYLENE OXIDATION**

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

<sup>1</sup>*Fritz Haber Institute of Max Planck Society, Berlin, Germany*

**P-II-8** Parfenov M.V., Starokon E.V., Semikolenov S.V. and Panov G.I.

**ISOTOPIC EXCHANGE OF O<sub>2</sub> IN THE PRESENCE OF O<sup>•</sup> RADICALS ON THE Fe-CONTAINING ZSM-5 ZEOLITES**

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

**P-IV-11** Krivobokov I., Gribov E., Okunev A.

**STUDYING AND OPTIMIZATION OF MEMBRANE-ELECTRODE ASSEMBLIES (MEA) FOR DIRECT METHANOL FUEL CELL (DMFC)**

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

**P-IV-12** Vanag S., Zagoruiko A., Lopatin S., Paukshtis E., Balzhinimaev B., Yankilevich V.<sup>1</sup>, Proskokov N.<sup>1</sup>, Zhukov Yu.<sup>1</sup>

**PILOT TESTS OF FIBER-GLASS CATALYSTS FOR FLUE GAS CONDITIONING OF COAL-FIRED POWER PLANTS**

*Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia; <sup>1</sup>Biysk Oleum Plant, Biysk, Russia*

**P-V-13** Chumachenko J., Skorpluk A., Lavrenov A.

**INFLUENCE OF THE NATURE OF METAL/METAL OXIDE MODIFIER ON CATALYTIC PROPERTIES OF Mt/MtO<sub>x</sub>/B<sub>2</sub>O<sub>3</sub>-Al<sub>2</sub>O<sub>3</sub> IN HYDROCONVERSION OF VEGETABLE OIL**

*Institute of Hydrocarbons Processing SB RAS, Omsk, Russia*

**P-V-14** Kazakov M.O., Lavrenov A.V., Belskaya O.B., Danilova I.G.

**OPTIMIZATION OF METAL-ACID PROPERTIES OF HYDROISOMERIZATION CATALYST BASED ON SULFATED ZIRCONIA-ALUMINA**

*Institute of Hydrocarbons Processing SB RAS, Omsk, Russia;*

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

**P-V-16** Mattsat Yu.V., Khlebnikova T.B., Berdnikova P.V., Pai Z.P.

**CATALYTIC OXIDATION OF NATURAL PRODUCTS WITH HYDROGEN PEROXIDE**

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

**P-V-17** Urzhumova E.V., Velichkina L.M., Vosmerikov A.V.,  
Yurkin N.A.<sup>1</sup>, Kilin O.L.<sup>1</sup>

**ISOMERIZATION OF n-HEXANE AND STRAIGHT-RUN  
GASOLINE OIL FRACTION OVER HIGH-MODULAR  
ZEOLITE**

*Institute of Petroleum Chemistry SB RAS, Tomsk, Russia; <sup>1</sup>Chemical  
Engineering Center, a research and production company Novosibirsk,  
Russia*

**P-V-19** Yushchenko D.Y., Konev V.N., Khlebnikova T.B.,  
Pai Z.P.

**RESIN ACIDS IN THE SYNTHESIS OF NEW CHIRAL  
CATALYSTS FOR ASYMMETRIC REDUCTION PROCESSES**

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

**P-VI-22** Zarubina V.<sup>1,2</sup>, Sadykov V.<sup>1,2</sup>, Pavlova S.<sup>1</sup>, Krieger T.<sup>1</sup>,  
Alikina G.<sup>1</sup>, Ishchenko A.<sup>1</sup>, Rogov V.<sup>1,2</sup>, Muzykantov V.<sup>1</sup>,  
Belyaev V.<sup>1</sup>, Uvarov N.<sup>3</sup>

**DESIGN OF ASSYMMETRIC MULTILAYER MEMBRANES  
FOR SYNTHESIS GAS PRODUCTION**

*<sup>1</sup>Borekov Institute of Catalysis SB RAS, Novosibirsk, Russia;  
<sup>2</sup>Novosibirsk State University, Novosibirsk, Russia; <sup>3</sup>Institute of Solid  
State Chemistry and Mechanochemistry, Novosibirsk, Russia*

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