International scientific conference

Catalysis for a Sustainable World

December 15-18, 2020

RUDN University, Moscow, Russia

Scientific Program

Moscow, 2020

International scientific conference

Catalysis for a Sustainable World

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Program Committee

Prof. Tsivadze A. Y.
Academician of the Russian Academy of Sciences, IPCP RAS
D. I. Mendeleev Russian Chemical Society

Prof. Aldoshin S. M.
Academician of the Russian Academy of Sciences, IPCP RAS

Prof. Anannikov V. P.
Academician of the Russian Academy of Sciences. IOCh RAS

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Utah State University USA

Prof. Kustov L. M.
Institute of Organic Chemistry RAS

Prof. Sadykov V. A.
Novosibirsk State University

Prof. Roessner F.
Oldenburg University, Germany

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Prof. Cherednichenko A.G. *RUDN University, Moscow, Russia*	Chairman of the Organizing Committee
Prof. Kogan V.M. *N.D. Zelinsky Institute of Organic Chemistry RAS, RUDN University, Moscow, Russia*	Deputy of Chairman of the Organizing Committee
Dr. Sheshko T. F. *RUDN University, Moscow, Russia*	Secretary of the Organizing Committee
Prof. Zagoruiko A.N. *Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*	Member of the Organizing Committee
Prof. Gennady L. Gutsev *University Tallahassee, Florida, USA*	Member of the Organizing Committee
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Dr. Zvereva I. A. *Saint Petersburg State University, Saint Petersburg, Russia*	Member of the Organizing Committee
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Scientific Sections

Section 1.	Homogeneous and heterogeneous catalysis
Section 2.	Synthesis and study of the structure and properties of catalysts
Section 3.	Mathematical modeling of catalytic processes, quantum-chemical calculations

Co-Chairs: Corr. RAS, prof. Terentyev A.O.; prof. Cherednichenko A.G., prof. Murzin D. Y., prof. Kogan V.M.

International scientific conference

Catalysis for a Sustainable World

December 15-18, 2020

Scientific Program

Tuesday, December 15, 2020

https://clck.ru/SQoY7

11.00-11.15	Opening ceremony
Welcome Speech	**Prof. Tsivadze A. Y.** *Academician of the Russian Academy of Sciences, IPCP RAS* *D. I. Mendeleev Russian Chemical Society* **Prof. Aldoshin S. M.** *Academician of the Russian Academy of Sciences, IPCP RAS* **Prof. Voskresensky L. G.** *RUDN University, Moscow, Russia*

Plenary Lectures

11.15-12.15	**Prof. Ananikov V.P.** «Progress in the development of the universal theory of catalysis» *N.D. Zelinsky Institute of Organic Chemistry RAS, Moscow, Russia*
12.15-13.15	**Prof. Roessner F.** «Tailor-made Modified Inorganic-Organic Composite Materials for Sorption and Catalysis» *Oldenburg University, Germany*
13.15-14.00	**Prof. Zagoruiko A.N.** «Structured micro-fibrous catalysts: flexibility as a source of mass transfer intensification» *Boreskov Institute of Catalysis, Novosibirsk, Russia*

Scientific Program

Wednesday, December 16, 2020

Presented in English

https://clck.ru/SQoY7

Plenary Lectures

11.00-12.00 **Prof. Murzin D. Y.**

«Kinetics of structure sensitive heterogeneous catalytic reactions»

Abo University, Finland

12.00-12.30 **Prof. Sadykov V.A.**

«Catalytic processes of biofuels transformation into syngas and hydrogen: fundamental problems of nanocomposite active components design, kinetics and reaction mechanism, operation parameters of reactors with structured catalysts and oxygen/hydrogen permeation membranes, their mathematical modeling»

Novosibirsk State University

12.30-13.00 **Prof. Gutsev L.**

«Theoretical Studies of Novel Homocoupling and Heterocoupling of Grignard Perfluorobenzene Reagents via Aryne Intermediates»

Louisiana State University, USA

Section 1. Homogeneous and heterogeneous catalysis

13.00-13.15 **Lyadov A.S.**

«Nanoheterogeneous catalysis in petrochemicals»

A.V.Topchiev Institute of Petrochemical Synthesis, RAS (TIPS RAS)

13.15-13.30 **Kazakova O.A.**

«Investigation of reactivity of adsorbed forms of methane in the reactions of aromatic hydrocarbons formation»

Center of New Chemical Technologies BIC, Boreskov Institute of Catalysis, Omsk, Russia

13.30-13.45 **Ezeldin O. M.**

«Synthesis of higher alcohols from syngas over K-modified $CoMoS_2$ catalyst supported on carbon-containing materials»

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

13.45-14.00 **Permyakov E.A.**

«On the state of late transition metal promoter on the edge of MoS_2 crystallite: electronic structure and adsorption of CO»

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

14.00-14.15 **Dipheko T.D.**

«Effect of Supports on MoS_2-based Catalysts for Ethanol Conversion to Long-chain Alcohols and Other Oxygenates»

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

Section 2. Synthesis and study of the structure and properties of catalysts

14.15-14.30 **Prof. Kobzar E.O**

«Study of the catalysts based on Mg(Ni, Co)Al layered hydroxides, prepared by different methods, in the reaction of furfural hydrogenation»

Center of New Chemical Technologies BIC, Boreskov Institute of Catalysis, Omsk, Russia

14.30-14.45 **Prof. Stepanova L. N.**

«Effect of the MgAl-layered double hydroxide composition on the properties of the platinum, gold, and gold-platinum catalysts in propane dehydrogenation»

Center of New Chemical Technologies BIC, Boreskov Institute of Catalysis, Omsk, Russia

14.45-15.00 **Prof. Kogan V. M.**

«Alkali-modified transition metal sulfide catalysts supported on carbon materials for syngas conversion into higher alcohols and other oxygenates. Mechanistic aspects»

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

15.00-15.40 **Open discussion**

For All «Modern aspects of the practical application of homogeneous and heterogeneous catalysis in oil and gas processing»

Co-Chairs:

Prof. Murzin D. Y., *Abo University, Finland*

Prof. Sadykov V.A., *Boreskov Institute of Catalysis SB RAS, Novosibirsk*

Scientific Program

Thursday, December 17, 2020

Presented in Russian

https://clck.ru/SQoY7

Plenary Lectures

11.00-11.30

Prof. Terentyev A. O.

«Heterogeneous catalysis in the reactions of peroxides and hydroperoxides of organic compounds»

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

11.30-12.00

Dr. Tskhovrebov A.G.

«Application of nitrous oxide in synthetic chemistry»

Semenov Institute of Chemical Physics, Moscow, Russia

12.00-12.30

Prof. Kovalchukova O.V.

«Metal complexes of hydroxyl-containing ligands as precursors for the synthesis of nanosized photocatalysts modified with transition metal cations»

RUDN University, Moscow, Russia

Section 1. Homogeneous and heterogeneous catalysis

12.30-12.45 **Dr. Golubina E.V.**

«Modification of alumina support with heteropolyacids or ZrO_2 in Ni catalysts for chlorinated aromatics hydrodechlorination»

Lomonosov Moscow State University, Moscow, Russia

12.45-13.00 **Prof. Locteva E. S.**

«Hydrodechlorination of 4-chlorophenol and Diclofenac on bimetallic Pd-Fe catalysts in aqueous solutions»

Lomonosov Moscow State University, Moscow, Russia

13.00-13.30 **Dr. Kritchenkov A. S.**

«Ultrasound-promoted polymer-analogous transformations of chitin and chitosan, antimicrobial activity of the derivatives obtained and new materials based on them»

RUDN University, Moscow, Russia

13.30-13.45 **Pinigina A. E.**

«Hydrogen-rich gas production by catalytic decomposition of oxygenated compounds of C_1 chemistry»

Boreskov Institute of Catalysis, Novosibirsk, Russia

13.45-14.00 **Sidorchik I. A.**

«The joint conversion of methane and ethane on resistive fechral catalyst: the path to C_3 and C_4 hydrocarbons»

Center of New Chemical Technologies BIC, Boreskov Institute of Catalysis, Omsk, Russia

14.00-14.15 **Dr. Zubkov F.I.**
"Synthesis of stable, industrially scalable, efficient metathesis Hoveyda-Grubbs catalysts with an N→Ru or S→Ru coordinate bond in a six-membered ring"

RUDN University, Moscow, Russia

14.15-14.30 **Dr. Pylinina A. I.**

«Solid electrolytes as catalysts of C_2-C_4 alcohols dehydration/dehydrogenation: properties – composition – activity»

RUDN University, Moscow, Russia

14.30-14.45 **Kaplin I.Yu.**

«Total CO oxidation over templated $CuO_x/CeSnO_2$: the influence of template nature and copper loading»

Department of Chemistry, Lomonosov Moscow State University, Moscow, Russia

Section 2. Synthesis and study of the structure and properties of catalysts

14.45-15.00 **Dr. Borisov V.A.**

«Effect of high-temperature treatment of sibunit on the activity of Ru-Cs(Ba)/Sibunit catalysts for methane dry reforming»

Center of New Chemical Technologies BIC, Boreskov Institute of Catalysis, Omsk, Russia

15.00-15.15 **Popandopulo M.V.**

«Effect of the active phase content of the catalyst on the main indicators of three-phase Fischer-Tropsch synthesis»

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

15.15-15.30 **Slastilov A. A.**

«Physical modeling of thermal transpiration in the porous structure of a membrane catalyst»

D.Mendeleev University of chemical Technology of Russia

15.30-15.45 **Vasilevich A.V.**

«A new approach to catalyst preparation using mechanical synthesis»

Center of New Chemical Technologies BIC, Boreskov Institute of Catalysis, Omsk, Russia

15.45-16.00 **Kravchenko G.V.**

«Relationship between composition, structure characteristic and catalytic properties of MFI zeolites $(H_x)[T_{n+x}Si_{4+2-x}O_2]\times wH_2O$»

Lomonosov Moscow State University of Fine Chemical Technologies, Moscow, Russia

Scientific Program

Friday, December 18, 2020

https://clck.ru/SQoY7

Plenary Lectures

11.00-11.30 **Prof. Skudin V.V.**

«Membrane catalyst or catalytic membrane? »

D.Mendeleev University of chemical Technology of Russia

11.30-12.00 **Prof. Buryak A.K.**

«Mass spectrometry in the study of catalysts»

The Institute of Physical Chemistry and Electrochemistry RAS (IPCE RAS)

Oral Presentations

12.15-12.30 **Prof. Kaziev G. Z.**

«Synthesis and study of hexamolybdochromate (III) and hexamolybdocobaltate (III) of pyridine-3-carboxylic acid»

Moscow Pedagogical State University, Moscow, Russia

12.30-12.45 **Prof. Cherednichenko A.G.**

RUDN University, Moscow, Russia

12.45-13.00 **Prof. Bozhenko K. V.**

«Quantum-chemical analysis of the acid structure of intransitional elements of periods II and III - Pauling's five-order rules»

Institute of Problems of Chemical Physics of Russian Academy of Sciences (IPCP RAS), Moscow, Russia

13.00-13.15 **Chuklina S.**

«Catalytic performances of Cu-containing Zr-Al oxides catalysts defined by their structure and synthesis conditions»

RUDN University, Moscow, Russia

13.15-13.30 **Closing ceremony**