

Federal Research Center Boreskov Institute of Catalysis  
Synchrotron Radiation Facility SKIF  
Budker Institute of Nuclear Physics of SB RAS  
Novosibirsk State University

**II International Conference  
«Synchrotron Radiation Techniques  
for Catalysts and Functional Materials»**

October 23 – 27, 2023  
Novosibirsk, Russia

# **Scientific Program**

Novosibirsk-2023

## ORGANISED BY

Federal Research Center Boreskov Institute of Catalysis  
Synchrotron Radiation Facility SKIF  
Budker Institute of Nuclear Physics of SB RAS  
Novosibirsk State University



**BORESKOV INSTITUTE  
OF CATALYSIS**



**Budker Institute of  
Nuclear Physics of  
SB RAS**



**UNDER THE AUSPICES OF**  
Ministry of Science and Higher  
Education of the Russian  
Federation



## Acknowledgement



## CONFERENCE CHAIR



**Prof. Valerii Bukhtiyarov**  
Boreskov Institute of Catalysis,  
Novosibirsk, Russia

## SCIENTIFIC COMMITTEE

### *Chair of the Scientific Committee*

**Prof. Oleg Martyanov**

Boreskov Institute of Catalysis, Novosibirsk, Russia

### *Deputy Chair of the Scientific Committee*

**Prof. Yan Zubavichus**

SRF SKIF, Boreskov Institute of Catalysis, Novosibirsk Russia

**Prof. Danil Dybtsev**

Nikolaev Institute of Inorganic Chemistry, Novosibirsk Russia

**Prof. Dmitry Zharkov**

Institute of Chemical Biology and Fundamental Medicine,  
Novosibirsk Russia

**Dr. Vasily Kaichev**

Boreskov Institute of Catalysis, Novosibirsk, Russia

**Prof. Sergey Tsybulya**

Boreskov Institute of Catalysis, Novosibirsk, Russia

## ORGANIZING COMMITTEE

**Dr. Andrey Bukhtiyarov**

SRF SKIF, Boreskov Institute of Catalysis, Novosibirsk Russia

**Dr. Andrey Saraev**

SRF SKIF, Boreskov Institute of Catalysis, Novosibirsk Russia

**Dr. Mikhail Platunov**

SRF SKIF, Boreskov Institute of Catalysis, Novosibirsk Russia

**Dr. Kristina Shefer**

SRF SKIF, Boreskov Institute of Catalysis, Novosibirsk Russia

**Marina Shabanova**

Boreskov Institute of Catalysis, Novosibirsk Russia

**Marina Suvorova**

Boreskov Institute of Catalysis, Novosibirsk Russia

**Svetlana Logunova**

Boreskov Institute of Catalysis, Novosibirsk Russia

**Daria Almaeva**

Boreskov Institute of Catalysis, Novosibirsk Russia

## SCIENTIFIC PROGRAM

The Scientific Program of the Conference includes plenary lectures (40 min), oral (20 min) and poster presentations.

### The main topics are:

- Topic I** Theoretical and applied aspects of experimental techniques utilizing synchrotron radiation
- Topic II** Structure-driven design of catalysts and functional materials based on synchrotron diagnostics
- Topic III** Synchrotron radiation for structural biology
- Topic IV** Development of instrumentation for synchrotron beamlines
- Topic V** New data processing algorithms, artificial intelligence and machine learning in bulk data analysis

## **SOCIAL PROGRAM**

### **Group Photo**

October 23, Monday, 13.00 – 13.10

Academpark, Nikolaeva St. 11, main entrance

### **Welcome reception**

October 23, Monday, 18.40 – 22.00

Banquet hall "Teplitsa", Nikolaeva St. 12/2, 3 floor

### **Excursions to scientific institutes**

(you can choose one excursion)

October 25, Wednesday, 10.50-13.00

- Boreskov Institute of Catalysis
- Budker Institute of Nuclear Physics of SB RAS
- Nikolaev Institute of Inorganic Chemistry SB RAS
- Institute of Chemical Biology and Fundamental Medicine SB RAS
- Novosibirsk State University

Excursions start from the Academpark (Nikolaeva St. 11, 1 floor)

### **Conference Closing Party**

October 25, Wednesday, 19.00-22.00

Café Kukuruzza, Nikolaeva St. 12, 2 floor

## TRANSFER

### «Boiling Point» Novosibirsk Academpark

Novosibirsk, Akademgorodok, Nikolaeva St. 11, 13 floor

### «Golden Valley» Hotel

Novosibirsk, Akademgorodok, Ilyicha St., 10

For participants staying at the «Golden Valley» Hotel will be organized a transfer to the venue according to the following schedule:

<b>October 23, Monday</b>	
09.45	«Golden Valley» Hotel → Academpark
<b>October 24, Tuesday</b>	
08.05	«Golden Valley» Hotel → Academpark
<b>October 25, Wednesday</b>	
08.05	«Golden Valley» Hotel → Academpark

The boarding start time is indicated

# Scientific Program

October 23, Monday

Place: «Boiling Point» Novosibirsk Academpark  
Nikolaeva St. 11, 13 floor  
Morning session

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**10.00-11.00** Registration

**11.00-11.20** OPENING CEREMONY

*Chair: Professor Valerii Bukhtiyarov*

## PLENARY LECTURES

**11.20-12.00** PL-1

**Reporter: Professor Vladimir Fedin**  
**Metal-Organic Frameworks: From Synthesis and Structure to Porous Materials for Separation of Hydrocarbons**

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

**12.00-12.40** PL-2

**Reporter: Dr. Roman Svetogorov**  
**Kurchatov Synchrotron Radiation Source: Current Status, Research and Development Prospects**

*National Research Centre "Kurchatov Institute",  
Moscow, Russia*

## **ORAL PRESENTATION**

**12.40-13.00 OP-01**

**Reporter: Dr. Ilya Yakushev**

Yakushev I.A., Smirnova N.S., Vargaftik M.N.

**Combined Studies of Crystal Structure and Catalytic  
Properties of Pt and Pd-Based Heterometallics**

*Kurnakov Institute of General and Inorganic Chemistry,  
Russian Academy of Sciences, Moscow, Russia*

**13.00-13.10 Group Photo**

**13.10-14.30 Lunch**

Café Kukuruzza – Nikolaeva St. 12, 2 floor



## October 23, Monday

Place: «Boiling Point» Novosibirsk Academpark  
Nikolaeva St. 11, 13 floor  
Afternoon session

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***Chair: Professor Vladimir Fedin***

### PLENARY LECTURE

**14.30-15.10 PL-3**

**Reporter: Professor Mikhail Marchenko**

**Digital Twin of the Siberian Ring Source of Photons - a  
Modern Tool to Support the Life Cycle of a Mega-  
Science Facility and Manage Big Scientific Data**

*The Institute of Computational Mathematics and  
Mathematical Geophysics SB RAS, Novosibirsk, Russia*

### ORAL PRESENTATIONS

**15.10-15.30 OP-02**

**Reporter: Polina Rud**

Rud P.A., Burachevskaya O.A., Gritsai M.A.,  
Soldatov M.A.

**XANES Investigation of Oxaliplatin Loaded Zr-MOFs  
for Targeted Drug Delivery**

*Southern Federal University, The Smart Materials  
Research Institute, Rostov-on-Don, Russia*

- 15.30-15.50 OP-03**  
**Reporter: Dr. Boris Zakharov**  
Zakharov B.A.<sup>1,2</sup>  
**Single-Crystal X-Ray Diffraction for Molecular Crystals at Synchrotron vs. Laboratory Source**  
*1 – Boreskov Institute of Catalysis, Novosibirsk, Russia*  
*2 – Novosibirsk State University, Novosibirsk, Russia*
- 15.50-16.10 OP-04**  
**Reporter: Dr. Olga Bulavchenko**  
Bulavchenko O.A.<sup>1</sup>, Vinokurov Z.S.<sup>1,2</sup>, Konovalova V.P.<sup>1</sup>,  
Mishchenko D.D.<sup>1,2</sup>  
**Application of *In Situ* XRD to Study of MnOx-CeO<sub>2</sub>-ZrO<sub>2</sub> Catalysts Formation**  
*1 – Boreskov Institute of Catalysis, Novosibirsk, Russia*  
*2 – SKIF Synchrotron Radiation Facility, BIC, Kol'tsovo, Russia*
- 16.10-16.30 OP-05**  
**Reporter: Professor Leon Avakyan**  
Avakyan L.A.<sup>1</sup>, Alexeev R.O.<sup>2</sup>, Firsova J.A.<sup>2,3</sup>,  
Shakhgildyan G.Yu.<sup>2</sup>, Sukharina G.B.<sup>1</sup>, Sigaev V.N.<sup>2</sup>,  
Bugaev L.A.<sup>1</sup>  
**Middle-Range Atomic Order in Glasses of La<sub>2</sub>O<sub>3</sub>-Nb<sub>2</sub>O<sub>5</sub>-B<sub>2</sub>O<sub>3</sub> and BaO-Nb<sub>2</sub>O<sub>5</sub>-P<sub>2</sub>O<sub>5</sub> Systems**  
*1 – Southern Federal University, Rostov-on-Don, Russia*  
*2 – Mendeleev University of Chemical Technology of Russia, Moscow, Russia*  
*3 – Corporation «Lytkarino Optical Glass Plant», Lytkarino, Russia*
- 16.30-17.00 Coffee**

## October 23, Monday

Place: «Boiling Point» Novosibirsk Academpark  
Nikolaeva St. 11, 13 floor  
Evening session

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**Chair: Dr. Andrey Bukhtiyarov**

### ORAL PRESENTATIONS

**17.00-17.20 OP-06**

**Reporter: Professor Vladimir Grebennikov**

Grebennikov V.I., Kuznetsova T.V.

**Interatomic Transitions End Excitations in  
Photoemission from  $\text{Cu}_2\text{SnS}_3$**

*Mikheev Institute of Metal Physics UB RAS,  
Ekaterinburg, Russia*

**17.20-17.40 OP-07**

**Reporter: Professor Sergey Vakhrushev**

Vakhrushev S.B.<sup>1</sup>, Bronwald Iu.A.<sup>1</sup>, Petroukhno K.A.<sup>1,2</sup>,  
Filimonov A.V.<sup>1,2</sup>, Raevski I.P.<sup>3</sup>

**Improper Ferrielectric Phase Transitions in the PMN-  
PSN Solid Solutions**

*1 – Ioffe Institute, St.Petersburg, Russia*

*2 – Peter the Great St.Petersburg Polytechnic  
University, St.Petersburg, Russia*

*3 – Southern Federal University, Rostov-on-Don, Russia*

- 17.40-18.00 OP-08**  
**Reporter: Dr. Vera Pakharukova**  
Pakharukova V.<sup>1</sup>, Kharchenko N.<sup>1,2</sup>, Vinokurov Z.<sup>1</sup>,  
Stonkus O.<sup>1</sup>, Saraev A.<sup>1</sup>, Gorlova A.<sup>1,2</sup>, Rogozhnikov V.<sup>1</sup>  
Potemkin D.<sup>1,2</sup>  
**Application of High-Energy X-Rays and Atomic Pair  
Distribution Function Analysis to Structural  
Diagnostics of Ni/Ce<sub>0.75</sub>Zr<sub>0.25</sub>O<sub>2</sub> Catalysts for  
Methanation of Carbon Oxides**  
*1 – Boreskov Institute of Catalysis, Novosibirsk, Russia*  
*2 – Novosibirsk State University, Novosibirsk, Russia*
- 18.00-18.20 OP-09**  
**Reporter: Professor Daria Lazurenko**  
Lazurenko D.V.<sup>1</sup>, Lozanov V.V.<sup>2</sup>, Dovzhenko G.D.<sup>1,3</sup>  
**Influence of Alloying Elements on the Retention of  
Al<sub>11</sub>Ti<sub>5</sub> at Room Temperature**  
*1 – Novosibirsk State Technical University, Novosibirsk,  
Russia*  
*2 – Institute of Solid State Chemistry and  
Mechanochemistry SB RAS, Novosibirsk, Russia*  
*3 – Synchrotron Radiation Facility - Siberian Circular  
Photon Source «SKIF», Boreskov Institute of Catalysis  
SB RAS, Novosibirsk, Russia*
- 18.20-18.40 OP-10**  
**Reporter: Vladimir Lazarenko**  
Lazarenko V.A., Dorovatovskii P.V., Svetogorov R.D.  
**Current Experimental Capabilities of the “XSA/Belok”  
Beamline of the Kurchatov Synchrotron Radiation  
Source for Single Crystals X-Ray Diffraction Analysis  
and 2022/2023 Highlight Results**  
*NRC “Kurchatov institute”, Moscow, Russia*
- 18.40-22.00 Welcome reception**  
Banquet hall "Teplitsa", Nikolaeva St. 12/2, 3 floor

## October 24, Tuesday

Place: «Boiling Point» Novosibirsk Academpark  
Nikolaeva St. 11, 13 floor  
Plenary session

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**Chair: Professor Yan Zubavichus**

### PLENARY LECTURES

**09.00-09.40 PL-4**

**Reporter: Dr. Andrey Bukhtiyarov**

Bukhtiyarov A.V.<sup>1</sup>, Zubavichus Y.V.<sup>1</sup>, Levichev E.B.<sup>1</sup>,  
Bukhtiyarov V.I.<sup>2</sup>

**Current Progress of the SRF «SKIF» Project**

*1 – Synchrotron Radiation Facility SKIF, Boreskov  
Institute of Catalysis, Kol'tsovo, Russia*

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

**09.40-10.20 PL-5**

**Reporter: Dr. Mikhail Platunov**

**Magnetism as Seen with X-Rays**

*Synchrotron radiation facility SKIF, Boreskov Institute of  
Catalysis SB RAS, Kol'tsovo, Russian Federation*

**10.20-10.50 Coffee**

**October 24, Tuesday**

Place: «Boiling Point» Novosibirsk Academpark  
Nikolaeva St. 11, 13 floor  
Morning session

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**Chair: Dr. Andrey Saraev**

**ORAL PRESENTATIONS**

**10.50-11.10 OP-11**

**Reporter: Dr. Tatyana Kuznetsova**

Kuznetsova T.V., Grebennikov V.I., Ponomareva E.A.

**Application of Resonant X-Ray Photoemission Spectroscopy for Studying the Local Electronic Characteristics of Multicomponent Functional Materials, Including Localized and Itinerant Aspects of the Behavior of f- and d-Electrons**

*Mikheev Institute of Metal Physics UB RAS,  
Ekaterinburg, Russia*

**11.10-11.30 OP-12**

**Reporter: Anna Gaydamaka**

Gaydamaka A.A.<sup>1,2</sup>, Arkhipov S.G.<sup>1,2</sup>, Zakharov B.A.<sup>1,2</sup>,  
Bogdanov N.E.<sup>1,2</sup>, Rashchenko S.V.<sup>2,3</sup>, Semerikova A.I.<sup>2,3</sup>,  
Smirnova E.S.<sup>4</sup>, Ivanova A.G.<sup>4</sup>, Boldyreva E.V.<sup>1,2</sup>

**High Pressure and Low Temperature Study of Purine Nucleobases Salt Crystals**

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

*2 – Novosibirsk State University, Novosibirsk, Russia*

*3 – Sobolev Institute of Geology and Mineralogy SB  
RAS, Novosibirsk, Russia*

*4 – FSRC “Crystallography and Photonics” RAS,  
Moscow, Russia*

**11.30-11.50 OP-13**

**Reporter: Dr. Evgeny Gerber**

Gerber E.<sup>1,2</sup>, Krot A.<sup>1,2</sup>, Chernyshev V.<sup>1,2</sup>, Trigub A.<sup>3</sup>,  
Sobolev N.<sup>2</sup>, Averin A.<sup>2</sup>, Maksimov S.<sup>2</sup>, Svetogorov R.<sup>3</sup>,  
Nevolin I.<sup>1,2</sup>

**Structural Investigation of Layered Ammonia  
Polyuranates**

*1 – Frumkin Institute of Physical Chemistry and  
Electrochemistry, Moscow, Russia*

*2 – Lomonosov Moscow State University, Department  
of Chemistry, Moscow, Russia*

*3 – National Research Centre “Kurchatov Institute”,  
Moscow, Russia*

**11.50-12.10 OP-14**

**Reporter: Dr. Anastasiya Fedorenko**

Fedorenko A.D.<sup>1</sup>, Asanov I.P.<sup>1</sup>, Asanova T.I.<sup>1</sup>,  
Nikolenko A.D.<sup>2</sup>

**X-ray Absorption Spectroscopy Study on Spin-Orbit  
Interaction in Osmium Compounds**

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

*2 – Budker Institute of Nuclear Physics, Novosibirsk,  
Russia*

**12.10-12.30 OP-15**

**Reporter: Dr. Svetlana Titova**

Titova S.G.<sup>1</sup>, Yi-Ying Chin<sup>2</sup>, Pei-Ci Lai<sup>2</sup>, Shu lun Chang<sup>2</sup>,  
Kuzhetsova T.V.<sup>3</sup>, Grebennikov V.I.<sup>3</sup>, Sterkhov E.V.<sup>1</sup>,  
Trigub A.L.<sup>4</sup>

**XMCD and XANES Study of Double Manganite  
NdBaMn<sub>2</sub>O<sub>6</sub>**

*1 – Institute of Metallurgy UB RAS, Ekaterinburg, Russia*

*2 – National Chung Cheng University, Taiwan*

*3 – Mikheev Institute of Metal Physics UB RAS,  
Ekaterinburg, Russia*

*4 – SRC Kurchatov Institute, Moscow, Russia*

- 12.30-12.50 OP-16**  
**Reporter: Svetlana Gutorova**  
Gutorova S.V.<sup>1</sup>, Trigub A.L.<sup>1,2</sup>, Novichkov D.A.<sup>1</sup>,  
Matveev P.I.<sup>1</sup>  
**EXAFS Study of Actinide Complexes with N,O-Donor  
Polydentate Ligands**  
*1 – Lomonosov Moscow State University, Chemistry  
Department, Moscow, Russia*  
*2 – National Research Centre “Kurchatov institute”,  
Moscow, Russia*
- 12.50-13.10 OP-17**  
**Reporter: Dr. Mikhail Syrokvashin**  
Syrokvashin M.M., Korotaev E.V.  
**Lanthanide-Doped Solid Solutions Based on  $\alpha$ -MnS  
with Thermoelectric Properties: XANES Investigation**  
*Nikolaev Institute of Inorganic Chemistry, Novosibirsk,  
Russia*
- 13.10-14.30 Lunch**  
Café Kukuruzza – Nikolaeva St. 12, 2 floor



## October 24, Tuesday

Place: «Boiling Point» Novosibirsk Academpark  
Nikolaeva St. 11, 13 floor  
Afternoon session

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**Chair: Professor Alexander Guda**

### PLENARY LECTURE

**14.30-15.10 PL-6**

**Reporter: Professor Victor Khrustalev**

**Art in Chemistry: Cage-Like Metallasilsesquioxanes**

*Peoples Friendship University of Russia (RUDN University), Moscow, Russia*

### ORAL PRESENTATIONS

**15.10-15.30 OP-18**

**Reporter: Sergey Abrosimov**

Abrosimov S.V., Guda A.A., Guda S.A., Shapovalova S.O.

**Wavelet Analysis and Machine Learning. New Methodology for XAS Spectrum Analysis**

*The Smart Materials Research Institute at the Southern Federal University, Rostov-on-Don, Russia*

**15.30-15.50 OP-19**

**Reporter: Dr. Tatyana Kardash**

Kardash T.Yu., Cherepanova S.V., Stonkus O.A.,  
Ivanova A.S., Bondareva V.M.

**PDF and XRD Analysis of Promoted Layered Double Ni-Al-O Catalysts for Oxidative Dehydrogenation of Propane**

*Boreskov Institute of Catalysis, Novosibirsk, Russia*

**15.50-16.10 OP-20**

**Reporter: Dr. Dmitri Bulushev**

Bulushev D.A.<sup>1</sup>, Golub F.S.<sup>1</sup>, Trubina S.V.<sup>2</sup>, Zvereva V.V.<sup>2</sup>

**Nature of Pd Sites Supported on Covalent Triazine Frameworks**

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

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

**16.10-16.30 OP-21**

**Reporter: Dr. Gleb Dovzhenko**

Dovzhenko G.D.<sup>1,2</sup>, Emurlaev K.I.<sup>1</sup>, Kutkin O.M.<sup>1</sup>,

Burdilov A.A.<sup>1</sup>, Nasyrova A.K.<sup>1</sup>, Zverev D.A.<sup>3</sup>,

Snigirev A.A.<sup>3</sup>, Bataev I.A.<sup>1</sup>

**2-1 “High Energy for Structural Materials Research”  
Beamline Concept for the Synchrotron Radiation  
Facility “SKIF”**

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

*2 – Siberian Circular Photon Source “SKIF” Boreskov Institute of Catalysis of Siberian Branch of the Russian Academy of Sciences (SRF “SKIF”), Koltsovo, Russia*

*3 – Immanuel Kant Baltic Federal University, Kaliningrad, Russia*

**16.30-17.00 Coffee**

**October 24, Tuesday**

Place: «Boiling Point» Novosibirsk Academpark  
Nikolaeva St. 11, 13 floor  
Evening session

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***Chair: Professor Victor Khrustalev***

**ORAL PRESENTATIONS**

**17.00-17.20 OP-22**

**Reporter: Dr. Sergey Kuznetsov**

Kuznetsov S.V.<sup>1</sup>, Ermakova Yu.A.<sup>1</sup>, Sedov V.S.<sup>1</sup>,  
Boldyrev K.N.<sup>2</sup>, Batygov S.Ch.<sup>1</sup>, Alexandrov A.A.<sup>1</sup>,  
Drobysheva A.R.<sup>1</sup>, Martyanov A.K.<sup>1</sup>, Rezaeva A.D.<sup>1</sup>,  
Voronov V.V.<sup>1</sup>, Tiazhelov I.A.<sup>1</sup>, Tarala V.A.<sup>3</sup>, Vakalov D.S.<sup>3</sup>

**Radiation-Resistant Luminescent Diamond Composites  
Based on Polycrystalline Diamond with Embedded  
Oxide and Fluoride Nanoparticles**

*1 – Prokhorov General Physics Institute of the Russian  
Academy of Sciences, Moscow, Russia*

*2 – Institute of Spectroscopy of the Russian Academy of  
Sciences*

*3 – Scientific and Laboratory Complex Clean Room,  
North Caucasus Federal University*

**17.20-17.40 OP-23**

**Reporter: Dr. Yuriy Knyazev**

Knyazev Yu.V.<sup>1</sup>, Kuznetsov S.V.<sup>2</sup>, Sedov V.S.<sup>2</sup>,  
Martyanov A.K.<sup>2</sup>, Tyazhelov I.A.<sup>2</sup>, Nikolenko A.D.<sup>3</sup>,  
Platunov M.S.<sup>3</sup>, Semenov S.V.<sup>1</sup>, Shestakov N.P.<sup>1</sup>

**Composite Diamond Thin Film with Embedded  
Fe-Based Nanoparticles**

*1 – Kirensky Institute of Physics, Federal Research Center  
KSC SB RAS, Krasnoyarsk, Russia*

*2 – Prokhorov General Physics Institute of the Russian  
Academy of Sciences, Moscow, Russia*

*3 – Synchrotron radiation facility SKIF, Boreskov Institute  
of Catalysis SB RAS, Kol'tsovo, Russia*

**17.40-18.00 OP-24**

**Reporter: Dr. Yuliya Fedoseeva**

Fedoseeva Yu.V.<sup>1</sup>, Vorfolomeeva A.A.<sup>1</sup>, Shlyakhova E.V.<sup>1</sup>,  
Sysoev V.I.<sup>1</sup>, Makarova A.A.<sup>2</sup>, Smirnov D.A.<sup>3</sup>,  
Bulusheva L.G.<sup>1</sup>, Okotrub A.V.<sup>1</sup>

**In situ XPS and NEXAFS Study of Halogenated Carbon  
for Accumulation of Alkali Metals**

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

*2 – Physical Chemistry, Institute of Chemistry and  
Biochemistry, Freie Universität Berlin, Berlin, Germany*

*3 – Institut für Festkörper- und Materialphysik,  
Technische Universität Dresden, Dresden, Germany*

**18.00-18.20 OP-25**

**Reporter: Anastasia Glushak**

Aulchenko V.M.<sup>1</sup>, Glushak A.A.<sup>1,2,3,4,5,6</sup>, Zhulanov V.V.<sup>1,2</sup>,  
Titov V.M.<sup>1</sup>, Shekhtman L.I.<sup>1,2,3,5</sup>

**Current Status of the Development of a One-Coordinate X-Ray Counting Detector**

*1 – Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russian Federation*

*2 – Novosibirsk State University, Novosibirsk, Russian Federation*

*3 – Synchrotron Radiation Facility SKIF, Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russian Federation*

*4 – Tomsk State University, Tomsk, Russian Federation*

*5 – Institute of Solid State Chemistry and Mechanochemistry, SB RAS, Novosibirsk, Russian Federation*

*6 – Novosibirsk State Technical University, Novosibirsk, Russian Federation*

**18.20-18.40 OP-26**

**Reporter: Professor Alexander Guda**

Guda A., Shapovalov V., Chapek S., Bulgakov A., Soldatov A.V.

**Microfluidic Systems for the In Situ X-Ray Spectral Diagnostics and Screening of Synthesis Parameters**

*The Smart Materials Research Institute, Southern Federal University, Rostov-on-Don, Russia*

## October 25, Wednesday

Place: «Boiling Point» Novosibirsk Academpark  
Nikolaeva St. 11, 13 floor  
Plenary session

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**Chair: Dr. Mikhail Platunov**

### PLENARY LECTURES

**09.00-09.40 PL-7**

**Reporter: Dr. Anatoly Snigirev**

**Coherent X-Ray Optics and Microscopy for Advanced  
Material Research Applications**

*International Science Research Center "Coherent X-ray  
Optics for Megascience Facilities" Immanuel Kant Baltic  
Federal University, Kaliningrad, Russia*

**09.40-10.20 PL-8**

**Reporter: Dr. Konstantin Kuper**

**Synchrotron Radiation Station "Diagnostics In The  
High-Energy X-Ray Range" Present And Future**

*SRF SKIF, Koltsovo, Russia*

**10.20-10.50 Coffee**

## **October 25, Wednesday**

### **Excursions to scientific institutes**

#### ***Meeting point for excursion participants:***

Novosibirsk Academpark  
Nikolaeva St. 11, 1 floor

- 10.50-13.00**
- Boreskov Institute of Catalysis
  - Budker Institute of Nuclear Physics of SB RAS
  - Nikolaev Institute of Inorganic Chemistry SB RAS
  - Institute of Chemical Biology and Fundamental Medicine SB RAS
  - Novosibirsk State University

**13.00-14.30 Lunch**

Café Kukuruzza – Nikolaeva St. 12, 2 floor

## October 25, Wednesday

Place: «Boiling Point» Novosibirsk Academpark  
Nikolaeva St. 11, 13 floor  
Afternoon session

**Chair: Dr. Sergey Arkhipov**

### PLENARY LECTURES

**14.30-15.10 PL-9**

**Reporter: Professor Dmitry Zharkov**

**Structural Biology in the Study of Enzyme Catalysis: An Example of DNA Glycosylases**

*1 - Novosibirsk State University, Novosibirsk, Russia*

*2 - Institute of Chemical Biology and Fundamental Medicine SB RAS, Novosibirsk, Russia*

**15.10-15.50 PL-10**

**Reporter: Dr. Konstantin Boyko**

**Structure Guided Assistance in Biological Tasks**

*Research Center of Biotechnology RAS, Moscow, Russia*

### ORAL PRESENTATIONS

**15.50-16.10 OP-27**

**Reporter: Dr. Sophia Borisevich**

Borisevich S.S.<sup>1</sup>, Ilyina M.G.<sup>1</sup>, Khamitov E.M.<sup>2</sup>,  
Diusenova S.E.<sup>1,3</sup>, Belenkaya S.V.<sup>4</sup>, Shevtsov M.B.<sup>5</sup>,  
Borshchevskiy V.I.<sup>5</sup>, Kolosov P.V.<sup>6</sup>, Volosnikova E.A.<sup>4</sup>,  
Elchaninov V.V.<sup>7</sup>, Kolybalov D.S.<sup>1,3</sup>, Arkhipov S.G.<sup>1,3</sup>,  
Shcherbakov D.N.<sup>4</sup>

**Characterization of Altai Wapiti Chymosin Interaction with the Chymosin-Sensitive Region of Three Different  $\kappa$ -Caseins: Experimental and Modelling Studies**

*1 – Synchrotron Radiation Facility - Siberian Circular Photon Source "SKIF" Boreskov Institute of Catalysis of*



*Siberian Branch of the Russian Academy of Sciences,  
Koltsovo, Russia*  
2 – *Ufa Institute of Chemistry, Ufa Federal Research  
Center of the Russian Academy of Sciences, Ufa, Russian  
Federation*  
3 – *Novosibirsk State University, Novosibirsk, Russia*  
4 – *State Research Center of Virology and Biotechnology  
Vector, Koltsovo, Russia*  
5 – *Research Center for Molecular Mechanisms of Aging  
and Age-Related Diseases, Moscow Institute of Physics  
and Technology, Moscow, Russia*  
6 – *Altai State University, Barnaul, Russia*  
7 – *Federal Altay Scientific Centre of  
Agrobiotechnologies, Siberian Institute of Cheese  
Making*

**16.10-16.30 OP-28**

**Reporter: Dr. Anna Kichkailo**

Kichkailo A.S.<sup>1,2</sup>, Zabluda V.N.<sup>1,3</sup>, Moryachkov R.V.<sup>1</sup>,  
Tomilin F.N.<sup>1,3</sup>

**The Role of Small-Angle X-Ray Scattering and  
Molecular Simulations in Elucidation of Aptamers  
3D Structure**

1 – *Federal Research Center “Krasnoyarsk Science  
Center SB RAS,” Krasnoyarsk, Russia*  
2 – *Krasnoyarsk State Medical University, Krasnoyarsk,  
Russia*  
3 – *Kirensky Institute of Physics, Krasnoyarsk, Russia*

**16.30-16.40 Открытие школы молодых ученых по  
синхротронным методам исследования в  
материаловедении**

**16.40-17.10** Coffee

**16.40-18.40** **POSTER SESSION**  
**СТЕНДОВАЯ СЕССИЯ**

**18.40-19.00** Conference Closing

**19.00-22.00** Conference Closing party  
Café Kukuruzza,  
Nikolaeva St. 12, 2 floor

## POSTER PRESENTATIONS

### PP-01

**Reporter: Albert Akimov**

Akimov A.I.<sup>1</sup>, Petrenko T.V.<sup>1</sup>, Akimov A.S.<sup>1,2</sup>

**X-Ray Studies of Nanocluster Polyoxometalate Molybdenum Compounds**

*1 – Institute of Petroleum Chemistry SB of the RAS, Tomsk, Russia*

*2 – National Research Tomsk State University, Tomsk Russia*

### PP-02

**Reporter: Natalia Aleksandrova**

Aleksandrova N.S.

**Investigation of the Formation of a Ti-Al-Based Metal-Intermetallic Laminated (MIL) Composite during Heating Using Synchrotron Radiation**

*Novosibirsk State Technical University, Novosibirsk, Russia*

### PP-03

**Reporter: Artur Asylkaev**

Asylkaev A.M.

**Restoration of the Density Distribution behind the Front of a Strong Shock Wave in a Porous Medium**

*1 – Novosibirsk State University, Novosibirsk, Russia*

*2 – Lavrentiev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia*

### PP-04

**Reporter: Egor Aydakov**

Aydakov E.E., Saraev A.A.

**Features of X-ray Photoelectron Spectra of Cobalt and Cobalt Oxides**

*Boreskov Institute of Catalysis, Novosibirsk, Russia*

## PP-05

**Reporter: Nikita Bogdanov**

Bogdanov N.E.<sup>1,2</sup>, Zakharov B.A.<sup>1,2</sup>, Boldyreva E.V.<sup>1,2</sup>

### **Effect of Hydrostatic Compression on the Structural Changes of $\delta$ -Chlorpropamide**

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

2 – *Novosibirsk State University, Novosibirsk, Russia*

## PP-06

**Reporter: Lyubov Bulusheva**

Bulusheva L.G., Fedoseeva Yu.V., Kotsun A.A., Okotrub A.V.

### **Synchrotron Spectroscopy Study of the Effect of Carbon Support on the Transformation of Molybdenum Sulfides under Annealing**

*Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia*

## PP-07

**Reporter: Irina Krasniakova**

Krasniakova I.O.<sup>1</sup>, Nikitenko D.V.<sup>2</sup>, Krasnyakova T.V.<sup>2</sup>, Guda A.A.<sup>1</sup>, Mitchenko S.A.<sup>2</sup>

### **The XAS Magic to Prove Solvent-Specific Reduction of Pt<sup>IV</sup> into Pt<sup>II</sup> with NaI in Acetone Solution**

1 – *The Smart Materials Research Institute at the Southern Federal University,*

*Rostov-on-Don, Russia*

2 – *Institute of Physical Organic and Coal Chemistry, Donetsk, Russia*

## PP-08

**Reporter: Boris Goldenberg**

Goldenberg B.G.<sup>1,2,3</sup>, Gusev I.S.<sup>2</sup>, Krupovich E.S.<sup>1,4</sup>, Legkodymov A.A.<sup>1,2</sup>, Kolmogorov Yu.P.<sup>5</sup>

### **Detection of Low-Z Elements by SR-XRF Method on the VEPP-4M Storage Ring**

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

2 – *Budker Institute of Nuclear Physics, Novosibirsk, Russia*

3 – *Novosibirsk State University, Novosibirsk, Russia*

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

5 – *Sobolev Institute of Geology and Mineralogy, Novosibirsk, Russia*

## PP-09

**Reporter: Aleksandr Gorkusha**

Gorkusha A.S.<sup>1,2</sup>, Cherepanova S.V.<sup>2</sup>, Shmakov A.N.<sup>1,2,3</sup>, Tsybulya S.V.<sup>1,2</sup>

**Method for Estimating the Content of Planar Defects in Structures of the  $A_2BO_4$  Type from Diffraction Data**

*1 – Novosibirsk State University, Novosibirsk, Russia*

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

*3 – Siberian Circular Photon Source "SKIF" Borekov Institute of Catalysis, Koltsovo, Russia*

## PP-10

**Reporter: Nina Ignatova**

Ignatova N.Y.<sup>1</sup>, Polyutov S.P.<sup>1</sup>, Kimberg V.V.<sup>1,2</sup>, Krasnov P.O.<sup>1</sup>, Gel'mukhanov F. Kh.<sup>1,2</sup>

**A New Method for Studying Inter-Atomic Interactions Based on the Non-Linear Dispersion of the Resonances in Resonant inelastic X-Ray Scattering Map**

*1 – International Research Center of Spectroscopy and Quantum Chemistry, Siberian Federal University, Krasnoyarsk, Russia*

*2 – Royal Institute of Technology, Stockholm, Sweden*

## PP-11

**Reporter: Arthur Ishteev**

Ishteev A.<sup>1</sup>, Konstantinova K.<sup>1,2</sup>, Saranin D.<sup>1</sup>

**Ionizing detectors based on perovskite absorbers**

*1 – The Laboratory of Advanced Solar Energy (LASE), NUST MISIS, Moscow, Russia*

*2 – Research and Practical Clinical Center for Diagnostics and Telemedicine Technologies of the Moscow Health Care Department, Moscow, Russia*

## PP-12

**Reporter: Polina Kalinina**

Kalinina P.P.<sup>1,2</sup>, Zakharov B.A.<sup>1,2</sup>

**Effect of Temperature, Hydrostatic Pressure and Irradiation on Photosensitive Complexes  $[\text{Co}(\text{NH}_3)_5\text{NO}_2]\text{XNO}_3$ ,  $\text{X} = \text{Br, I}$  and  $[\text{Co}(\text{NH}_3)_5\text{NO}_2]_2\text{I}_3\text{Cl}$**

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

*2 – Novosibirsk State University, Novosibirsk, Russia*

## PP-13

**Reporter: Mark Khainovsky**

Khainovsky M.A.<sup>1,2</sup>

**DFT-Modeling of structural evolution in crystals of organic piezoelectrics on the example of  $\gamma$ -glycine**

*1 - Novosibirsk State University, Novosibirsk, Russia,*

*2 - Borekov Institute of Catalysis of the Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia*

## PP-14

**Reporter: Ekaterina Konopkina**

Konopkina E.A.<sup>1</sup>, Novichkov D.A.<sup>1</sup>, Trigub A.L.<sup>2</sup>, Matveev P.I.<sup>1</sup>, Borisova N.E.<sup>1</sup>

**EXAFS Spectroscopy for Establishing the Structure of Eu(III) Complexes in Solution: Advantages, Limitations, Supporting Methods**

*1 – Department of Chemistry, Lomonosov Moscow State University, Moscow, Russian Federation*

*2 – National Research Center “Kurchatov Institute”, Moscow, Russian Federation*

## PP-15

**Reporter: Stepan Korneev**

Korneev S.P., Syrtanov M.S.

***In Situ* XRD Synchrotron Investigation of Cr/Ta-Coated Zr-1Nb Alloy under High-Temperature Oxidation**

*Tomsk Polytechnic University, Tomsk, Russia*

## PP-16

**Reporter: Evgeniy Korotaev**

Korotaev E.V.<sup>1</sup>, Syrokvashin M.M.<sup>1</sup>, Nikolenko A.D.<sup>2,3</sup>

**The Lanthanide Doped Chromium Disulfides  $\text{CuCr}_{0.99}\text{Ln}_{0.01}\text{S}_2$   
(Ln=La...Lu): XANES Investigation**

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

*2 – Budker Institute of Nuclear Physics, Novosibirsk, Russia*

*3 –SRF SKIF, Boreskov Institute of Catalysis, Novosibirsk, Russia*

## PP-17

**Reporter: Pavel Krasnov**

Blinov S.N.<sup>1</sup>, Kimberg V.V.<sup>1</sup>, Krasnov P.O.<sup>1</sup>, Gelmukhanov F.Kh.<sup>1,2</sup>,  
Polyutov S.P.<sup>1</sup>

**Pump-Probe Spectroscopy of Vibrational Wave Packet Revival for  
Mapping Molecular Potentials**

*1 – Siberian Federal University, Krasnoyarsk, Russia*

*2 – KTH Royal Institute of Technology, Stockholm, Sweden*

## PP-18

**Reporter: Anna Krot**

Krot A.D.<sup>1</sup>, Trigub A.L.<sup>2</sup>, Yapaskurt V.O.<sup>1</sup>, Tolpeshta I.I.<sup>1</sup>, Vlasova I.E.<sup>1</sup>

**XAS Investigation of U Local Structure in Nuclear Legacy Sites**

*1 – Lomonosov Moscow State University, Moscow, Russia*

*2 – National Research Center “Kurchatov Institute”, Moscow, Russia*

## PP-19

**Reporter: Svetlana Lavrukina**

Lavrukina S.A., Fedorenko A.D., Sysoev V.I., Semushkina G.I., Okotrub  
A.V.

**Study of CA(TCA)/SWCNTs Hybrid Sensor Materials by XES, NEXAFS,  
XPS, and Quantum Chemistry Methods**

*Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia*

## PP-20

**Reporter: Kseniya Litvintseva**

Litvintseva K.A.<sup>1,2</sup>, Chesalov Yu.A.<sup>1</sup>, Selivanova A.V.<sup>1</sup>, Saraev A.A.<sup>1,2</sup>,  
Kaichev V.V.<sup>1,2</sup>

**Mechanistic Study of Methanol Oxidation over Monolayer V<sub>2</sub>O<sub>5</sub>/CeO<sub>2</sub>  
and V<sub>2</sub>O<sub>5</sub>/TiO<sub>2</sub> Catalysts**

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

*2 – Novosibirsk State University, Novosibirsk, Russia*

## PP-21

**Reporter: Evgeniy Losev**

Losev E.A.<sup>1,2,3</sup>, Zheltikova D.Ya.<sup>1</sup>, Boldyreva E.V.<sup>1,2</sup>

**Investigation of Polymorphic Transition in Carbamazepine Induced by  
Mechanical Treatment**

*1 – Novosibirsk State University, Novosibirsk, Russia*

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

*3 – Voevodsky Institute of Chemical Kinetics and Combustion SB RAS,  
Novosibirsk, Russia*

## PP-22

**Reporter: Anna Maximova**

Maximova A.D., Yakushev I.A.

**X-Ray and Computational Studies of Platinum Acetate Polymorphs  
and Solvatomorphs**

*Kurnakov Institute of General and Inorganic Chemistry of the Russian  
Academy of Sciences, Moscow, Russia*

## PP-23

**Reporter: Denis Mishchenko**

Mishchenko D.D., Vinokurov Z.S., Shmakov A.N.

**Unusual Lattice Parameters Behavior for La<sub>1.9</sub>Ca<sub>0.1</sub>NiO<sub>4+δ</sub> at the  
Temperatures below Oxygen Loss**

*SRF SKIF BIC SB RAS, Koltsovo, Russia*



#### PP-24

**Reporter: Evgeny Naranov**

Naranov E.<sup>1</sup>, Sadovnikov A.<sup>1</sup>, Arapova O.<sup>1</sup>, Guda A.<sup>2</sup>

#### **Determination of Active Sites of Ru- and Ir-Catalysts during Hydrogenation of Bio-Oils and Aromatics**

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

*2 – The Smart Materials Research Institute, Southern Federal University, Rostov-on-Don, Russia*

#### PP-25

**Reporter: Igor Nasennik**

Nasennik I.E.<sup>1,2</sup>

#### **Evolution of the Structure of a Metal Wire under Tension, Observed by Synchrotron X-Ray Diffraction**

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

*2 – Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia*

#### PP-26

**Reporter: Maria Nesterenko**

Nesterenko M.Yu., Panina M.V., Yakushev I.A.

#### **Synthesis and Structural Investigation of Carboxylic Platinum-Based Complexes for Catalytical and Biological Application**

*Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia*

#### PP-27

**Reporter: Aleksandr Nizovskii**

Nizovskii A.I.<sup>1</sup>, Shmakov A.N.<sup>2</sup>, Ligkodymov A.A.<sup>2</sup>, Bukhtiyarov V.I.<sup>1</sup>

#### **Phase Composition of Biomineral Objects by HARD X-Ray Diffracton Data**

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

*2 – SRF SKIF, Novosibirsk, Russia*

### PP-28

**Reporter: Tatiana Ogneva**

Ogneva T.S.<sup>1</sup>, Emurlaev K.S.<sup>1</sup>, Malyutina Yu.N.<sup>1</sup>, Kuper K.E.<sup>2</sup>

**In-Situ X-Ray Synchrotron Diffraction Study of Solid–Liquid Transitions in the Structure of Al-Co-Cr-Fe-Ni High-Entropy Alloys during Heating**

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

*2 – Budker Institute of Nuclear Physics, Novosibirsk, Russia*

### PP-29

**Reporter: Aleksey Pirozhkov**

Pirozhkov A.V., Sidelev D.V.

**In Situ XRD Study of TiC Coating for HfH<sub>x</sub> Neutron Control Rods**

*National Research Tomsk Polytechnic University, Tomsk, Russia*

### PP-30

**Reporter: Anna Popova**

Popova A.N., Sozinov S.A.

**Structure Investigation of Carbon Materials by Synchrotron Radiation**

*Federal Research Center of Coal and Coal Chemistry SB RAS, Kemerovo, Russia*

### PP-31

**Reporter: Stepan Prianichnikov**

Pryanichnikov S.V.<sup>1</sup>, Likhacheva A.Yu.<sup>2</sup>, Sterkhov E.V.<sup>1</sup>, Sidorov V.A.<sup>3</sup>, Titova S.G.<sup>1</sup>

**High Pressure Synchrotron Study of Double Manganite NdBaMn<sub>2</sub>O<sub>6</sub>**

*1 – Institute of Metallurgy UB RAS, Ekaterinburg, Russia*

*2 – G.I. Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russia*

*3 – Institute of High Pressure Physics RAS, Moscow, Russia*

### PP-32

**Reporter: Victor Roldugin**

Roldugin V.A., Medvedev P.V., Gritsai M.A., Soldatov M.A.

**Transition Metal Nanocomposites as a Catalyst for Hydrogen Production: Structure and Evolution Synchrotron Study**

*The Smart Materials Research Institute, Southern Federal University, Rostov-on-Don, Russia*

### PP-33

**Reporter: Darya Rubanik**

Rubanik D.S.<sup>1</sup>, Srabionyan V.V.<sup>1</sup>, Vetchinnikov M.V.<sup>2</sup>, Durymanov V.A.<sup>1</sup>, Viklenko I.A.<sup>1</sup>, Avakyan L.A.<sup>1</sup>, Shakhgildyan G.Yu.<sup>2</sup>, Sigaev V.N.<sup>2</sup>, Bugaev L.A.<sup>1</sup>

**Local Electric Field Enhancement Around Ag Nanoparticles and their Agglomerates in Silicate and Zinc-Phosphate Glasses**

*1 – Southern Federal University, Rostov-on-Don, Russia*

*2 – Mendeleev University of Chemical Technology, Moscow, Russia*

### PP-34

**Reporter: Ivan Rubtsov**

Rubtsov I.A.<sup>1</sup>, Bukhtiyarov A.V.<sup>1</sup>, Zubavichus Y.V.<sup>1</sup>, Kazantsev S.R.<sup>1</sup>, Kashkarov A.O.<sup>2</sup>, Kuper K.E.<sup>1</sup>, Pruel E.R.<sup>2</sup>, Studennikov A.A.<sup>1</sup>, Ten K.A.<sup>2</sup>, Tolochko B.P.<sup>3</sup>, Halemenchuk V.P.<sup>2</sup>, Shekhtman L.I.<sup>4</sup>

**Beamline for Studying Fast-Flowing Processes at the Synchrotron Radiation Facility SKIF**

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

*2 – Lavrentiev Institute of Hydrodynamics, Novosibirsk, Russia*

*3 – Institute of Solid State Chemistry and Mechanochemistry, Novosibirsk, Russia*

*4 – Budker Institute of Nuclear Physics, Novosibirsk, Russia*

### PP-35

**Reporter: Aleksey Sadovnikov**

Sadovnikov A.<sup>1</sup>, Naranov E.<sup>1</sup>, Guda A.<sup>2</sup>

#### **The *In-Situ* XAS and *Ex-Situ* XPS Studies of the Oxidation State on a RuO<sub>2</sub>-Based Catalyst after Hydrogenation of Oxygen Containing Substances**

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

*2 – The Smart Materials Research Institute, Southern Federal University, Rostov-on-Don, Russia*

### PP-36

**Reporter: Galina Semushkina**

Semushkina G.I.<sup>1</sup>, Fedoseeva Y.V.<sup>1</sup>, Makarova A.A.<sup>2</sup>, Pinakov D.V.<sup>1</sup>, Chekhova G.N.<sup>1</sup>, Okotrub A.V.<sup>1</sup>, Bulusheva L.G.<sup>1</sup>

#### **Photochemical Degradation of Fluorinated Graphite with Embedded Nitrogen Oxides under White-Beam Synchrotron Radiation**

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

*2 – Physikalische Chemie, Institut für Chemie und Biochemie, Freie Universität Berlin, Berlin, Germany*

### PP-37

**Reporter: Svetlana Sharaya**

Sharaya S.S.<sup>1,2</sup>, Zakharov B.A.<sup>2,1</sup>, Boldyreva E.V.<sup>2,1</sup>

#### **Structural Changes in Rochelle Salt on Cooling Across the Ferroelectric Phase Transition Points**

*1 – Novosibirsk State University, Novosibirsk, Russia*

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

### PP-38

**Reporter: Petr Snetkov**

Snetkov P.P., Morozkina S.N., Romanov A.E.

#### **Synchrotron and X-Ray Techniques for Hyaluronic Acid-Based Nanomaterials**

*ITMO University, Saint Petersburg, Russia*

### PP-39

**Reporter: Nadya Solovova**

Solovova N.Yu.<sup>1</sup>, Golyashov V.A.<sup>1,2,3</sup>, Tereshenko O.E.<sup>1,2,3</sup>

**ARPES Study of the Bismuth Thin Films Electronic Structure on the InAs(111)A-(2x2) Surface**

1 – Novosibirsk State University, Novosibirsk, Russia

2 – Rzhanov Institute Semiconductor Physics, Novosibirsk, Russia

3 – SRF “SKIF”, Koltsovo, Russia

### PP-40

**Reporter: Galina Sukharina**

Sukharina G.B., Ermakova A.M., Ponosova E.E., Gladchenko-Jevelekis J. N., Shemetova E.I., Pryadchenko V.V., Srabionyan V.V., Avakyan L.A., Bugaev L.A.

**XAFS Study of the Local Atomic Structure of Copper Centers in Cu-MOR**

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

### PP-41

**Reporter: Felix Tomilin**

Tomilin F.N.<sup>1,2</sup>, Artyushenko P.V.<sup>2,3</sup>, Shchugoreva I.A.<sup>2,3</sup>, Rogova, A.V.<sup>2,3</sup>, Moryachkov R.V.<sup>2,3</sup>, Zabluda V.N.<sup>2,3</sup>, Kichkailo A.S.<sup>2,3</sup>

**Molecular Simulations and Restoration of the Atomic Structure of DNA-Aptamers from SAXS Data**

1 – Kirensky Institute of Physics, Federal Research Center KSC SB RAS, Krasnoyarsk, Russia

2 – Laboratory for Digital Controlled Drugs and Theranostics, Federal Research Center KSC SB RAS, Krasnoyarsk, Russia

3 – Prof. V.F. Voyno-Yasenetsky Krasnoyarsk State Medical University, Krasnoyarsk, Russia

#### PP-42

**Reporter: Akmal Umarov**

Umarov A.Z.<sup>1</sup>, Nikitina E.A.<sup>2</sup>, Ivanov D.A.<sup>1,2</sup>

**New Class of Supersoft Adaptive Materials Based on Copolymers: Structural Studies with Synchrotron Radiation**

*1 – Faculty of Fundamental Physical and Chemical Engineering, Moscow State University, Moscow, Russia*

*2 – Department of Chemistry, Moscow State University, Moscow, Russia*

#### PP-43

**Reporter: Anatoly Utkin**

Gurov D.S., Zolotarev K.V., Zuev V.V., Utkin A.V., Cheskidov V.G.

**Operating Modes of the UE212M Elliptical Electromagnetic Undulator for Radiation at the Station "Electronic Structure" in the SKIF Project**

*Institute of Nuclear Physics. G.I. Budker SB RAS, Novosibirsk, Russia*

#### PP-44

**Reporter: Rishat Valeev**

Valeev R.G.<sup>1</sup>, Petkov A.A.<sup>2</sup>

**Structure, Morphology, Layered Chemical Composition and Magnetic Properties of Iron (Iron Oxide) Nanocoatings on the Surface of Porous Alumina Obtained by the Annealing of Magnetron Deposited Iron Films**

*1 – Udmurt Federal Research Center of UB RAS, Izhevsk, Russia*

*2 – Udmurt State University, Izhevsk, Russia*

#### PP-45

**Reporter: Zakhar Vinokurov**

Vinokurov Z.S.<sup>1</sup>, Zubavichus Y.V.<sup>1</sup>, Shmakov A.N.<sup>1</sup>, Mishchenko D.D.<sup>1</sup>, Selyutin A.G.<sup>1</sup>, Syrtanov M.S.<sup>2</sup>, Gogolev A.S.<sup>2</sup>, Denisov V.V.<sup>3</sup>, Teresov A.D.<sup>3</sup>, Panchenko Y.N.<sup>3</sup>, Kovalsky S.S.<sup>3</sup>, Beskonchin K.V.<sup>3</sup>, Kiselev V.N.<sup>3</sup>, Evdokimov A.A.<sup>3</sup>, Andreev M.V.<sup>3</sup>

**Development Status of the 1-2 Beamline “Structural Diagnostics” at the SRF SKIF**

1 – SRF “SKIF” BIC SB RAS, Novosibirsk, Russia

2 – Tomsk Polytechnic University, Russia

3 - Institute of High Current Electronics, Tomsk, Russia

#### PP-46

**Reporter: Malahat Mamedova**

Mamedova M.T., Tagiyev D.B., Abasov S.I, Xudiyev A.T., Chelabova K.S.

**Conjugation of the Oxidative Dehydrogenation of Ethylbenzene to Styrene with Steam Conversion of Carbon Monoxide on a 30%Cr<sub>2</sub>O<sub>3</sub>/1.5%CuO/15%K<sub>2</sub>CO<sub>3</sub> /Al<sub>2</sub>O<sub>3</sub> Catalyst**

*Y.H. Mammadaliyev Institute of Petrochemical Processes of Ministry of Science and Education of Azerbaijan, Baku, Azerbaijan*

#### PP-47

**Reporter: Malahat Mamedova**

Mamedova M.T., Abasov S.I., Agayeva S.B., Iskenderova A.A., Isayeva Y.S., Imanova A.A., Ibrahimzadə S.V.

**Isomerization of Gas Gasoline on Mordenitecontaining Composite Catalytic Systems**

*Y.H. Mammadaliyev Institute of Petrochemical Processes of Ministry of Science and Education of Azerbaijan, Baku, Azerbaijan*

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