

Federal Research Center Boreskov Institute of Catalysis  
Synchrotron Radiation Facility — Siberian Circular Photon Source "SKIF"  
Budker Institute of Nuclear Physics of SB RAS  
Ministry of Science and Higher Education of the Russian Federation  
National Research Center "Kurchatov Institute"  
Government of the Novosibirsk Region  
Siberian Branch of the Russian Academy of Sciences

## International Conference

# "Synchrotron Radiation: Science, Knowledge, Innovations, Future" (SKIF-2026)

18–23 October, 2026 | Novosibirsk, Russia

## Scientific Program

Novosibirsk – 2026

## Organizers



Federal Research Center Boreskov  
Institute of Catalysis, Novosibirsk,  
Russia



Synchrotron Radiation Facility —  
Siberian Circular Photon Source  
"SKIF", Koltsovo, Russia



Budker Institute of Nuclear Physics  
of SB RAS, Novosibirsk, Russia



Ministry of Science and Higher  
Education of the Russian  
Federation, Moscow, Russia



National Research Center  
"Kurchatov Institute", Moscow,  
Russia



Government of the Novosibirsk  
Region, Novosibirsk, Russia



Siberian Branch of the Russian  
Academy of Sciences, Novosibirsk,  
Russia

The event is supported by the  
Russian Science Foundation



## Golden Conference Partners

The logo for simplepro, with the word 'simplepro' in a red, lowercase, sans-serif font.

*SIMPLE PRO*



*Nauchnoe  
Oborudovanie,  
Pharma LLC*



*Optikon LLC*

## Bronze Conference Partners

The logo for Ekston Analytic, featuring a blue horizontal bar with dots and the text 'Экситон Аналитик' in blue.

*Exiton Analytic*



*INSCAN*

The logo for Tokyo Boeki Group, featuring a large black 'ТБ' followed by 'TOKYO BOEKI' in black.

*Tokyo Boeki Group*



*MTEON*

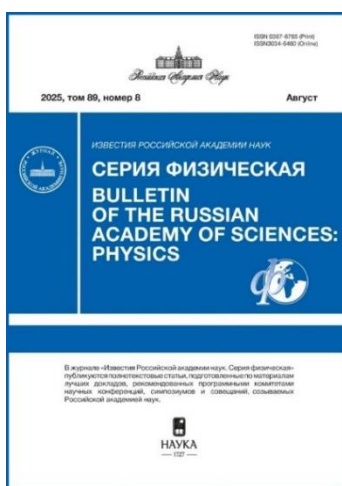


*IMC Group*

## Informational Partners



*Kinetics and Catalysis*



*Bulletin of the Russian  
Academy of Sciences:  
Physics*



*Instruments and  
Experimental Techniques*

*The Organizing Committee expresses its sincere gratitude to the organizations that provided financial and informational support to the conference!*

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|                                 |                                                                                |
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### Organizing committee

|                                 |                                                     |
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| <b>Aleksandra MALYGINA</b> | SRF SKIF, Koltsovo, Russia                                            |

# Scientific program

The Scientific Program includes plenary (45 min), keynote (30 min) lectures, oral (15 min), and poster presentations.

The main topics of the Conference scientific program are:

## Fundamental and Applied researches

- Chemistry and catalysis
- Structural biology and pharma
- Engineering materials science
- Archaeology and cultural heritage
- Frontier techniques

## Industrial applications

- Structural materials
- Materials processing technologies (additive manufacturing, laser welding, etc.)
- Industrial catalysis
- Oil production, digital core

## Instrumentation, detectors and data acquisition

- Novel optics
- Detectors
- Sample environment
- Control systems, data processing software, digital services

## SR sources and IDs

- Low-emittance structures
- Superconducting undulators
- Undulators for circular polarization

*Working language of the Conference — English*

## Satellite Events

The conference will feature the following **scientific schools of young scientists**:

- School of Young Scientists for Studying of Fast Processes Using Synchrotron Radiation  
October 20–21, 2026
- School of Young Scientists on Synchrotron Methods for Investigating Catalysts, Sorbents, and Other Materials  
October 20–21, 2026
- V School of Young Scientists on Synchrotron Research Methods in Materials Science  
October 19–21, 2026

On October 19, the **RSF School** will be held in the Big Hall of the House of Scientists:

- Lecture: "RSF Grant Support"  
11:00 AM
- Roundtable: "How the RSF Expert Review Process Works: An Insider's Perspective"  
12:00 PM
- RSF Mega-Grant Special Lectures  
14.30 PM

An **exhibition and presentation by industrial companies** will also be held as part of the SKIF-2026 international conference.

## Presentation of Materials

Speakers may use a multimedia projector to display computer-generated visuals on a large screen. Presentations should be in \*.ppt or \*.pptx format (Microsoft PowerPoint from the MS Office suite) with a 16:9 aspect ratio. The time allotted to speakers in the program includes 2–3 minutes for Q&A.

Poster size: A0 (841 × 1189 mm), portrait orientation. Poster session will take place on Monday, October 19, from 17:00 to 19:00 in the lobbies of the first and second floors of the House of Scientists.

## Publications

The Organizing Committee invites conference reporters to publish their papers in special issues of the journals \*Kinetics and Catalysis\*, \*Bulletin of the Russian Academy of Sciences: Physics\* and \*Instruments and Experimental Techniques\*. Participants are responsible for submitting their manuscripts directly to the respective editorial offices. All submissions will undergo standard peer-review procedures.

Formatting guidelines and contact details can be found in the "Publications" section of the conference website: <https://skif-conf.ru/#publications>.

## Registration

On-site registration of participants will be held in the House of Scientists from 09.00 October 18, 2026. Address: Russia, Novosibirsk, Morskoy Prospekt, 23.

Participant registration will remain open throughout the conference.

## Social Program

### For conference participants, accompanying persons, and residents of Akademgorodok:

#### October 18, 16.30

##### **Popular Science Lecture (RUS)**

Small Hall, House of Scientists

*Speaker:* Darya Dorokhova, Researcher at the SRF "SKIF" and BINP SB RAS

Small Hall, House of Scientists

#### October 18, 17.15

##### **Documentary Screening: "Lords of the Rings" (RUS)**

Produced by GTRK "Novosibirsk" (2022)

Small Hall, House of Scientists

#### October 18, 18.00

##### **Photo Exhibition Opening: "SKIF: Everyday Life of Big Science" (RUS)**

*Photographer:* Anna Plis

Small Hall, House of Scientists

### For conference participants:

#### October 18, at 13:00

**Group Photo**, House of Scientists' main entrance

#### October 18, 18:00-21:00

##### **Welcome buffet**

House of Scientists, Morskoy Prospekt 23, 2-floor lobby

#### October 18, 18:00-21:00

**Speakers' Dinner** (by invitation), "Akadem Banket" Banquet Hall, Zolotodolinskaya St. 11

#### October 19, 19:00 – 21:00

##### **Intellectual Evening with Elena Potanina (RUS)**

Big Hall of the House of Scientists

#### October 22, 14:30 – 16:30

**Gala dinner** (closing reception), Akadempark Atrium, Inzhenernaya St. 20, 1 floor

#### October 22, 19:00 – 21:00

**BALLET "NOTRE DAME DE PARIS"**, (for participants with reports)

NOVAT (Krasny Prospekt, 36)

Buses depart from the Atrium between 16:30 and 17:00.

## EXCURSION TO SKIF

**October 22** (departure from the Atrium)

Group 1 – 16:00

Group 2 – 17:00

### **October 23**

Group 1 – 08:30 - **for FOREIGN participants only**,  
(departure from the Domina Hotel - Lenina str., 26)

Group 2 – 10:00

Group 3 – 11:00

Group 4 – 12:00

Group 5 – 13:00

Group 6 – 14:00

Group 7 – 15:00

**Groups 2–7 depart from the House of Scientists  
(Morskoy Prospekt 23)**

The journey to SKIF takes about half an hour.

The excursion program lasts one hour.

**Synchrotron Radiation Facility - Siberian Circular Photon Source "SKIF"** invites participants and guests of the conference to take part in guided tour!

During the tour, guests will be introduced to the SKIF facility, learn about its design and the opportunities it offers to researchers, and discover how synchrotron radiation is generated. They will also visit one of the beamlines and learn about the scientific fields and industrial sectors where synchrotron research is applied, illustrated by examples from global practice.

Tour itinerary: administrative building, glass walkway to the storage ring building, observation deck within the storage ring building, walk through the experimental hall, visit to one of the beamlines, and photo zone.

Please note that, due to radiation safety requirements, areas of the accelerator-storage complex (linear accelerator, booster synchrotron, and storage ring tunnel) are closed to visitors during the tour.

# Timetable

| OCTOBER 18, SUNDAY |                                      |
|--------------------|--------------------------------------|
| 09.00-11.00        | Registration                         |
|                    | <b>Big hall, House of Scientists</b> |
| 11.00-12.15        | <b>Opening</b>                       |
| 12.15-13.00        | <b>PL-01_Blagov</b>                  |
| 13.00-13.10        | <b>Photo</b>                         |
| 13.10-14.30        | <i>break</i>                         |
|                    | <b>Big hall, House of Scientists</b> |
|                    | <i>Chairs: Blagov, Liu</i>           |
| 14.30-15.15        | <b>PL-02_Bukhtiyarov V.</b>          |
| 15.15-16.00        | <b>PL-03_Kalmykov</b>                |
| 16.00-16.30        | <i>coffee</i>                        |
|                    | <b>Big hall, House of Scientists</b> |
|                    | <i>Chairs: Levichev, Jiao</i>        |
| 16.30-17.15        | <b>PL-04_Fokin</b>                   |
| 17.15-17.45        | <b>KL-01_Sinha</b>                   |
| 18.00-21.00        | <i>Welcome buffet</i>                |

## Symbols:

**PL**- plenary lecture

**KL**- Keynote lecture

**OPInv** – Invited oral presentation

**OP** – oral presentation

**\*OP, \*PL,\*KL**– online presentations

**PP** – poster presentation

**House of Scientists**

(Morskoy Pr. 23)

**BIC – Boreskov Institute of Catalysis SB RAS**  
(pr. Acad. Lavrentieva 5)

**BINP – Budker Institute of Nuclear Physics of SB RAS**  
(pr. Acad. Lavrentieva 11)

## scientific sections:

**1** Fundamental and Applied researches

**1.1** Chemistry and catalysis

**1.2** Structural biology and pharma

**1.3** Engineering materials science

**1.4** Archaeology/geology and cultural heritage

**1.5** Frontier techniques

**2** Industrial applications

**3.1** Instrumentation beamlines

**3.2** Instrumentation beamlines components

**4** SR sources and IDs

| OCTOBER 19, MONDAY |                                                                                                       |                                                                                |
|--------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
|                    | <b>Big hall, House of Scientists</b>                                                                  |                                                                                |
|                    | <b><i>Chairs: Choi, Kalmykov</i></b>                                                                  |                                                                                |
| 09.00-09.45        | <b>PL-05_Tang</b>                                                                                     |                                                                                |
| 09.45-10.30        | <b>PL-06_Liu</b>                                                                                      |                                                                                |
| <i>10.30-11.00</i> | <i>coffee</i>                                                                                         |                                                                                |
|                    | <b>Big hall, House of Scientists</b>                                                                  | <b>Small hall, House of Scientists</b>                                         |
| 11.00-12.00        | Lecture: Grant Support from the Russian Science Foundation (RUS )                                     | <b><i>Chair: Zubavichus</i></b>                                                |
| 12.00-13.00        |                                                                                                       | Round Table "Industry consortia around SKIF: achievements and prospects" (ENG) |
| 12.00-13.00        | Discussion: How Expert Review Works at the Russian Science Foundation: An Insider's Perspective (RUS) |                                                                                |
| <i>13.00-14.30</i> | <i>break</i>                                                                                          |                                                                                |
|                    | <b>Big hall, House of Scientists</b>                                                                  |                                                                                |
|                    | <b><i>Chairs: Gorbunova, Martyanov</i></b>                                                            |                                                                                |
| 14.30-15.00        | RSF school _PL-1_Alabugin                                                                             |                                                                                |
| 15.00-15.30        | RSF school _PL-2_Singh                                                                                |                                                                                |
| 15.30-16.00        | RSF school _PL-3_Jafari                                                                               |                                                                                |
| 16.00-16.30        | RSF school _PL-4_Gelash                                                                               |                                                                                |
| <i>16.30-17.00</i> | <i>coffee</i>                                                                                         |                                                                                |
| 17.00-19.00        | <b>POSTER SESSION<br/>(House of Scientists)</b>                                                       |                                                                                |
| 19.00-21.00        | <b><i>Intellectual Evening with Elena Potanina (RUS)<br/>(House of Scientists)</i></b>                |                                                                                |

# OCTOBER 20, TUESDAY

**Big hall, House of Scientists**

**Chairs: Bukhtiyarov A., Pankratov**

|             |                         |
|-------------|-------------------------|
| 09.00-09.45 | PL-07_Choi              |
| 09.45-10.15 | KL-02_Li                |
| 10.15-10.45 | KL-03_Ananikov          |
| 10.45-11.15 | coffee                  |
| 11.15-11.30 | Bus to BIC, Bus to BINP |

|             | Big hall, HS       | Small hall, HS        | Hall 3, HS                                           | BIC                  | BINP                |
|-------------|--------------------|-----------------------|------------------------------------------------------|----------------------|---------------------|
|             | Chair: Arkhipov    | Chair: Malikov        | Chair: Kolesova                                      | Chair: Saraev        | Chair: Semenov      |
| 11.30-11.45 | OPInv-1.2-01_Gilep | *OPInv-1.3-01_Song    | Round Table<br>"Interuniversity<br>consortium" (ENG) | OPInv-1.1-01_Lin R.  | OPInv-4-01_Shkaruba |
| 11.45-12.00 | OP-1.2-02_Boyko    | OP-1.3-02_Dubinskiy   |                                                      | OP-1.1-02_Shor       | OP-4-02_Komlev      |
| 12.00-12.15 | OP-1.2-03_Mishin   | *OP-1.3-03_Khodaei    |                                                      | OP-1.1-03_Smirnova   | OP-4-03_Gurov       |
| 12.15-12.30 | OP-1.2-04_Samygina | OP-1.3-04_Sidorov     |                                                      | OP-1.1-04_Rodriguez  | OP-4-04_Erofeev     |
| 12.30-12.45 | OP-1.2-05_Usachev  | OP-1.3-05_Syrtanov    |                                                      | OP-1.1-05_Kharchenko | OPInv-4-05_Yan      |
| 12.45-13.00 | OP-1.2-06_Popov    | OP-1.3-06_Zabolotskiy |                                                      | OP-1.1-06_Kashin     | OPInv-4-06_Zang W.  |
| 13.00-13.15 | OP- S_SIMPLE PRO   | break                 |                                                      |                      |                     |
| 13.15-14.30 |                    |                       |                                                      |                      |                     |

|             | Big hall, HS                | Small hall, HS        | Hall 3, HS              | BIC                       | BINP                   |
|-------------|-----------------------------|-----------------------|-------------------------|---------------------------|------------------------|
|             | <b>Chair: Borshchevskiy</b> | <b>Chair: Shmakov</b> | <b>Chair: Dovzhenko</b> | <b>Chair: Bulavchenko</b> | <b>Chair: Shkaruba</b> |
| 14.30-14.45 | OP-1.2-07_Borisevich        | OPInv-2-01_Zhang X.   | OP-1-01_Emurlaev        | OP-1.1-07_Yakushev        | OP-4-07_Rozhkov        |
| 14.45-15.00 | OP-1.2-08_Kuznetsov N.      | OP-2-02_Malikov       | OP-1-02_Krupovich       | OP-1.1-08_Kulakova        | OP-4-08_Ivanov V.Ya.   |
| 15.00-15.15 | OP-1.2-09_Araujo            | OP-2-03_Oskar         | OP-1-03_Nizovskii       | OP-1.1-09_Kuzenkova       | OP-4-09_Arsentyeva     |
| 15.15-15.30 | *OP-1.2-10_Bourenkov        | OP-2-04_Fokin M.      | OP-1-04_Moryachkov      | OP-1.1-10_Koval           | OP-4-10_Semenov        |
| 15.30-15.45 | OPInv-1.2-11_Wang           | OP-2-05_Gorenkov      | OP-1-05_Larichev        | OP-1.1-11_Shefer          |                        |
| 15.45-16.00 | OP-1.2-12_Shaikenov         | OP-2-06_Mochalova     |                         | OP-1.1-12_Cherepanova     |                        |
| 16.00-16.30 | coffee                      |                       |                         |                           |                        |

|             | Big hall, HS           | Small hall, HS          | Hall 3, HS            | BIC                       | BINP                     |
|-------------|------------------------|-------------------------|-----------------------|---------------------------|--------------------------|
|             | <b>Chair: Boyko</b>    | <b>Chair: Syrtanov</b>  | <b>Chair: Guda S.</b> | <b>Chair: Cherepanova</b> | <b>Chair: Arsentyeva</b> |
| 16.30-16.45 | OP-1.2-13_Yanshin      | OPInv-3.1-01_Denisov    | OP-1-06_Cassim        | OPInv-1.1-13_Mansurov     | OP-3.2-01_Zverev         |
| 16.45-17.00 | OP-1.2-14_Drokov       | OP-3.1-02_Shmakov       | OP-1-07_Shakirov      | OP-1.1-14_Kiskin          | OP-3.2-02_Studennikov    |
| 17.00-17.15 | OP-1.2-15_Osinkina     | OP-3.1-03_Dovzhenko     | OP-1-08_Vakhrushev    | OP-1.1-15_Asanov          | *OP-3.2-03_Minasbekyan   |
| 17.15-17.30 | OP-1.2-16_Radchenko D. | OP-3.1-04_Kuznetsova T. | OP-1-09_Kholmanskii   | OP-1.1-16_Arakcheev       | OP-3.2-04_Kuznetsov S.   |
| 17.30-17.45 | OP- S_Chunlong Guo     | OP-3.1-05_Okotrub       | OP-1-10_Bryndin       | OP-1.1-17_Eremeev         | OP-3.2-05_Karpyuk        |
| 17.45-18.00 | OP- S_Shkoldina        | OP-3.1-06_Veber         |                       | OP-1.1-18_Bulavchenko     | OP-3.2-06_Dubov          |

# OCTOBER 21, WEDNESDAY

**Big hall, House of Scientists**

**Chairs: Baranov, Li**

|             |                                      |                        |                        |                         |
|-------------|--------------------------------------|------------------------|------------------------|-------------------------|
| 09.00-09.45 | *PL-08_Dong                          |                        |                        |                         |
| 09.45-10.15 | *KL-04_Mun                           |                        |                        |                         |
| 10.15-11.15 | KL-05_Mishchenko                     |                        |                        |                         |
| 11.00-11.30 | coffee                               |                        |                        |                         |
| 11.15-11.30 | Bus to BIC, Bus to BINP, Bus to SKIF |                        |                        |                         |
|             | Big hall, HS                         | Small hall, HS         | BIC                    | BINP                    |
|             | Chair: Avdeev                        | Chair: Ovchinnikov     | Chair: Nartova         | Chair: Zakharov         |
| 11.30-11.45 | OPInv-1.2-17_Kucerka                 | OPInv-1.5-01_Huang     | OPInv-1.1-19_Karpinsky | OPInv-3.2-07_Shehtman   |
| 11.45-12.00 | OPInv-1.2-18_Bukhdruker              | OP-1.5-02_Shendrik     | OP-1.1-20_Kalinina     | OP-3.2-08_Burdin        |
| 12.00-12.15 | OP-1.2-19_Konarev                    | OP-1.5-03_Turishchev   | OP-1.1-21_Bogdanov     | OP-3.2-09_Kovalenko     |
| 12.15-12.30 | OP-1.2-20_Marchenkova                | OP-1.5-04_Barannikov   | OP-1.1-22_Sharaya      | OP-3.2-10_Snegirev      |
| 12.30-12.45 | OPInv -1.2-21_Strushkevich           | OP-1.5-05_Siddhi       | OP-1.1-23_Zuraev       | OP-3.2-11_Guda S.       |
| 12.45-13.00 | OP-1.2-22_Lifar                      | OP-1.5-06_Kodess       | OP-1.1-24_Suslov       | OP-3.2-12_Palchikov     |
| 13.00-13.15 | OP_S_OPTIKON                         |                        |                        |                         |
| 13.15-14.30 | break                                |                        |                        |                         |
|             | Big hall, HS                         | Small hall, HS         | BIC                    | BINP                    |
|             | Chair: Kucerka                       | Chair: Turishchev      | Chair: Pakharukova     | Chair: Kovalenko        |
| 14.30-14.45 | OP-1.2-23_Avdeev                     | OP-1.5-07_Elmekawy     | OPInv-1.1-25_Kang      | OP-3.1-07_Reunov        |
| 14.45-15.00 | OP-1.2-24_Gorshkova                  | OP-1.5-08_Socolovsky   | OP-1.1-26_Kaichev      | OP-3.1-08_Zakharov      |
| 15.00-15.15 | OP-1.2-25_Krylov                     | OP-1.5-09_Ovchinnikov  | OP-1.1-27_Beissenov    | OP-3.1-09_Fedorenko     |
| 15.15-15.30 | OP-1.2-26_Maryasevskaya              | OP-1.5-10_Storchak     | OP-1.1-28_Novoselova   | OP-3.1-10_Reznikova     |
| 15.30-15.45 | OP-1.2-27_Umarov                     | OP-1.5-11_Zhaketov     | OP-1.1-29_Valeev       | OP-3.1-11_Guda A.       |
| 15.45-16.00 | OP-1.2-28_Samodelkin                 | OP-1.5-12_Platunov     | OP-1.1-30_Nartova      | OP-3.1-12_Amirov        |
| 16.00-16.30 | coffee                               |                        |                        |                         |
|             | Big hall, HS                         | Small hall, HS         | BIC                    | BINP                    |
|             | Chair: Bukhtiyarov A.                | Chair: Platunov        | Chair: Valeev          | Chair: Guda A.          |
| 16.30-16.45 | OP-3.1-13_Baranov                    | OP-1.5-13_Gulina       | OPInv-1.1-31_Yakhvarov | OP-1.4-01_Zhang F.      |
| 16.45-17.00 | OP-3.1-14_Sharafutdinov              | OP-1.5-14_Boubnov      | OP-1.1-32_Romanov      | OP-1.4-02_Chu G.        |
| 17.00-17.15 | OP-3.1-15_Vinokurov                  | OP-1.5-15_Ovsiyannikov | OP-1.1-33_Petrov       | OP-1.4-03_Kruk          |
| 17.15-17.30 | OP-3.1-16_Rubtsov                    | OP-1.5-16_Anokhin      | OP-1.1-34_Pakharukova  | OP-1.4-04_Prokopyev     |
| 17.30-17.45 | OP-3.1-17_Saraev                     | OP-1.5-17_Moskovsky    | OP-1.1-35_Svintsitskiy | OP-1.4-05_Podurets      |
| 17.45-18.00 | OP-3.1-18_Kuper                      | OP-1.5-18_Kriventsov   | OP-1.1-36_Titova Yu.   | OP-1.4-06_Luu           |
| 18.00-18.15 | OP-3.1-19_Golyashov                  | OP-1.5-19_Kichkailo    | OP-1.1-37_Boborika     | OP-1.4-07_Nevmerzhitsky |
| 18.15-18.30 | OP-3.1-20_Arkhipov                   |                        |                        |                         |

| OCTOBER 22, THURSDAY          |                                                                                                       |
|-------------------------------|-------------------------------------------------------------------------------------------------------|
| Big hall, House of Scientists |                                                                                                       |
|                               | <i>Chairs: Martyanov, Zolotarev K.</i>                                                                |
| 09.00-09.45                   | PL-09_Pankratov                                                                                       |
| 09.45-10.30                   | PL-10_Jiao                                                                                            |
| 10.30-11.00                   | *KL-06_Gel'mukhanov                                                                                   |
| 11.00-11.30                   | coffee                                                                                                |
| 11.30-13.30                   | <i>Chair: Bukhtiyarov A.</i>                                                                          |
|                               | roundtable<br>"SKIF User Policy" (ENG)                                                                |
| 13.30-14.15                   | CLOSING                                                                                               |
| 14.15-14.30                   | bus to ATRIUM                                                                                         |
|                               | Akadempark Atrium                                                                                     |
| 14.30 -16.30                  | Gala dinner (closing reception)<br>Akadempark Atrium, Inzhenernaya St. 20, 1 floor                    |
| 16.30-17.00                   | bus departure to NOVAT                                                                                |
| 19.00-21.00                   | NOVAT (Krasny Prospect, 36)<br><b>BALLET "NOTRE DAME DE PARIS"</b><br>(for participants with reports) |

| OCTOBER 23, FRIDAY |                                                     |
|--------------------|-----------------------------------------------------|
| 09.00-18.00        | Excursion to SKIF (Group excursions by appointment) |

October 18, Sunday

## SCIENTIFIC PROGRAM

### Big Hall of the House of Scientists

(Morskoy Prospekt, 23)

**09.00-11.00 Registration**  
Foyer of the House of Scientists, 1<sup>st</sup> floor  
Novosibirsk, Morskoy Prospekt, 23

**11.00-12.15 OPENING OF THE CONFERENCE SKIF-2026**  
Big Hall of the House of Scientists

#### *Plenary Session*

**12.15-13.00 PL-01**  
Reporter: Professor Aleksandr Blagov  
**Synchrotron radiation and neutron sources are the foundation of scientific and technological development**  
*National Research Center "Kurchatov Institute", Moscow, Russia*

**13.00-13.10 Photo**

**13.10-14.30 Break**

### Big Hall of the House of Scientists

(Morskoy Prospekt, 23)

#### *Plenary Session*

##### *Chairs:*

**Professor Aleksandr Blagov**, *National Research Center "Kurchatov Institute", Moscow, Russia*  
**Professor Zhi-Jie James Liu**, *iHuman Institute, ShanghaiTech University, Shanghai, China*

**14.30-15.15 PL-02**  
Reporter: Professor Valerii Bukhtiyarov  
**Fourth generation synchrotron light source SKIF: status and perspectives**  
*Borekov Institute of Catalysis, Novosibirsk, Russia*

**15.15-16.00 PL-03**  
Reporter: Professor Stepan Kalmykov  
**Application of synchrotron radiation in nuclear chemistry**  
*Lomonosov Moscow State University, Moscow, Russia*

**16.00-16.30 Coffee**

October 18, Sunday

**Big Hall of the House of Scientists**

(Morskoy Prospekt, 23)

**Plenary Session**

**Chairs:**

**Professor Evgeny Levichev**, SRF SKIF, Koltsovo, Russia

**Professor Jiao Yi**, Institute of High Energy Physics (IHEP), Chinese Academy of Sciences, Beijing, China

**16.30-17.15 PL-04**

Reporter: Professor Valery Fokin

**From Molecule to Patient: Chemistry of Discovery and Biomedical Innovation**

*University of Southern California, USA*

**17.15-17.45 KL-01**

Reporter: Professor Dr. Anil Kumar Sinha

**Decoding active sites in heterogeneous catalysts by synchrotron XAFS: from titanosilicates and manganese oxides to Ni/NiO hydrogenation catalysts**

*1 – CSIR–Indian Institute of Petroleum, Dehradun, India*

*2 – The Academy of Scientific and Innovative Research (AcSIR), Ghaziabad, India*

**18.00-21.00 Welcome buffet**

**Big Hall of the House of Scientists**

(Morskoy Prospekt, 23)

**Plenary Session**

**Chairs:**

**Professor Wonyong Choi**, Korea Institute of Energy Technology (KENTECH), Naju, Korea

**Professor Stepan Kalmykov**, Lomonosov Moscow State University, Moscow, Russia

**09.00-09.45 PL-05**

Reporter: Professor Jingyu Tang

**Accelerator facilities and activities at USTC**

*University of Science and Technology of China, Hefei, China*

**09.45-10.30 PL-06**

Reporter: Professor Zhi-Jie James Liu

**Ligand recognition and activation of chemosensory GPCRs**

Tian Wang, Tian Hua, Zhijie Liu

*iHuman Institute, ShanghaiTech University, Shanghai, China*

**10.30-11.00 Coffee**

**Big Hall of the House of Scientists**

(Morskoy Prospekt, 23)

**14.30-15.15 Russian Science Foundation School**

**Lecture: Grant Support from the Russian Science Foundation**

*(Working language: Russian)*

**15.15-16.00 Russian Science Foundation School**

**Discussion: How Expert Review Works at the Russian Science Foundation: An Insider's Perspective**

*(Working language: Russian)*

**13.00-14.30 Break**

**Big Hall of the House of Scientists**

(Morskoy Prospekt, 23)

**Chairs:**

**Professor Yuliya Gorbunova**, Skolkovo Institute of Science and Technology, Moscow, Russia

**Professor Oleg Martyanov**, Boreskov Institute of Catalysis, Novosibirsk, Russia

**14.30-15.00 RSF\_PL-1**

Reporter: Professor Igor Alabugin

**Packing and unpacking molecular energy: hotspots, islands of stability, stereoelectronic frustration and electron upconversion**

1 – Department of Chemistry and Biochemistry, Florida State University, Tallahassee, USA

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

## October 19, Monday

- 15.00-15.30 RSF\_PL-2**  
Reporter: Professor Charanjit Singh  
**Microwave absorbers-theory and application**  
*Chandigarh University, Uttar Pradesh, India*
- 15.30-16.00 RSF\_PL-3**  
Reporter: Professor Seid-Mahdi Jafari  
**The next generation food industry with the help of nanotechnology**  
*Gorgan University of Agricultural Sciences and Natural Resources, Iran*
- 16.00-16.30 RSF\_PL-4**  
Reporter: Professor Andrey Gelash  
**Soliton microcomb technology: advanced materials for microresonator fabrication and theoretical search for novel coherent states**  
Kolesnikova A.Yu., Akopyan A.M., Pshenichnyuk I.A., Gelash A.A.  
*Skolkovo Institute of Science and Technology, Moscow, Russia*
- 16.30-17.00 Coffee**
- 17.00-19.00 POSRTER SESSION**  
(House of Scientists , Morskoy Prospekt, 23)
- 19.00-21.00 Intellectual Evening with Elena Potanina**  
**The event is conducted in Russian**  
(Big Hall of the House of Scientists, Morskoy Prospekt, 23)

**Small Hall of the House of Scientists**  
(Morskoy Prospekt, 23)

**Chair:**

**Professor Yan Zubavichus**, SRF SKIF, Koltsovo, Russia

**11.00-13.00 Round Table**

**"Industry consortia around SKIF: achievements and prospects" (ENG)**

11:00-11:15

Sergey V. Golovin

**Synchrotron Radiation for Oil Production**

*Novosibirsk State University*

11:15-11:30

Nikolay N. Kruk

**Synchrotron radiation for strategic types of forecasting and searching technologies**

*Sobolev Institute of Geology and Mineralogy SB RAS*

11:30-11:45

Natalia A. Rudaya

**Synchrotron Research on Objects of Ecology, Earth Sciences, Archaeology, Paleanthropology and Cultural Heritage (SYN-GEOARCH)**

*Institute of Archaeology and Ethnography SB RAS*

11:45-12:00

Valentin I. Borshchevskiy

**Synchrotron Radiation for Structural Biology in biomedicine and biotechnology**

*Moscow Institute of Physics and Technology*

12:00-12:15

Olga V. Kolesova

**SKIF interuniversity consortium**

*Novosibirsk State Technical University*

12:15-13:00

GENERAL DISCUSSION

**13.00-14.30 Break**

**Big Hall of the House of Scientists**

(Morskoy Prospekt, 23)

**Plenary Session**

**Chairs:**

**Professor Andrey Bukhtiyarov**, SRF SKIF, Koltsovo, Russia

**Professor Vladimir Pankratov**, Institute of Solid State Physics, University of Latvia, Riga, Latvia

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 09.00-09.45 | <b>PL-07</b><br><u>Reporter: Professor Wonyong Choi</u><br><b>Tracking active sites and reaction pathways in environmental photo- and electrocatalysis</b><br><i>Korea Institute of Energy Technology (KENTECH), Naju, Korea</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 09.45-10.15 | <b>KL-02</b><br><u>Reporter: Professor Na Li</u><br><b>AI-empowered intelligent design of nucleic acid therapeutics enabled by synchrotron SAXS</b><br><u>Li B.N.<sup>1</sup>, Song P.Q.<sup>1</sup>, Li K.M.,<sup>1,2</sup>, Li N.<sup>1</sup></u><br><i>1 – National Facility for Protein Science Shanghai, Shanghai Advanced Research Institute, Shanghai, People's Republic of China</i><br><i>2 – Key Laboratory for Advanced Materials and Joint International Research Laboratory of Precision Chemistry and Molecular Engineering, Feringa Nobel Prize Scientist Joint Research Center, School of Chemistry and Molecular Engineering, East China University of Science and Technology, Shanghai 2, People's Republic of China</i> |
| 10.15-10.45 | <b>KL-03</b><br><u>Reporter: Professor Valentine Ananikov</u><br><b>Studying catalytic systems with advanced structural methods</b><br><i>Zelinsky Institute of Organic Chemistry, Moscow, Russia</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 10.45-11.15 | <b>Coffee</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 11.15-11.30 | <b>Bus to BIC, Bus to BINP</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

**Big Hall of the House of Scientists**

(Morskoy Prospekt, 23)

**Section 1.2\_Structural biology and pharma**

**Chair:**

**Dr. Arkhipov Sergey, SRF "SKIF", Kol'tsovo, Russia**

**11.30-11.45**

**OPInv-1.2-01**

Reporter: Professor Andrei Gilep

**Structural insights in resolving drug and immune resistance in *M. tuberculosis***

Gilep A.<sup>1,2</sup>, MacCarthy C.<sup>3</sup>, Karpova M.<sup>4</sup>, Varaksa T.<sup>1</sup>, Grabovec I.<sup>1</sup>, Karpushenkova V.<sup>4</sup>, Kapranov I.<sup>3</sup>, Bukhdruker S.<sup>3</sup>, Sushko T.<sup>5</sup>, Karputs A.<sup>1</sup>, Borshchevskiy V.<sup>3</sup>, Strushkevich N.<sup>4</sup>

1 – Institute of Bioorganic Chemistry, NASB, Minsk, Belarus

2 – Institute of Biomedical Chemistry, Moscow, Russia

3 – Moscow Center for Advanced Studies, Moscow, Russia

4 – The Center for Bio- and Medical Technologies, Moscow, Russia

5 – Department of Bioengineering, School of Engineering, The University of Tokyo, Japan

**11.45-12.00**

**OP-1.2-02**

Reporter: Dr. Konstantin Boyko

**Structural studies of antibody-antigen complexes as revealed by X-ray crystallography**

Boyko K.M.<sup>1,2</sup>, Varfolomeeva L.A.<sup>1</sup>, Matyuta I.O.<sup>1</sup>, Favorskaya I.A.<sup>2</sup>, Korobkova A.I.<sup>2</sup>, Alekseeva I.A.<sup>2</sup>, Belyi Y.F.<sup>2</sup>, Popov V.O.<sup>1</sup>, Sluchanko N.N.<sup>1,2</sup>, Shcheblyakov D.V.<sup>2</sup>, Logunov D.Y.<sup>2</sup>

1 – Research Center of Biotechnology RAS, Moscow, Russia

2 – Federal State Budget Institution "National Research Center for Epidemiology and Microbiology Named after Honorary Academician N.F. Gamaleya", Moscow, Russia

**12.00-12.15**

**OP-1.2-03**

Reporter: Dr. Alexey Mishin

**Modern X-ray crystallography of lipid-sensing GPCRs: implementation for structure-based drug design**

Mishin A.V., Luginina A.P., Borshchevskiy V.I.

Research Center for Molecular Mechanisms of Aging and Age-related Diseases, Moscow Institute of Physics and Technology, Dolgoprudny, Russia

**12.15-12.30**

**OP-1.2-04**

Reporter: Dr. Valeriya Samygina

**The role of structure in the properties of fluorescent proteins and fluorescent biosensors**

Samygina V.R., Subach O.M., Subach F.V.

NRC "Kurchatov Institute", Moscow, Russia

**12.30-12.45**

**OP-1.2-05**

Reporter: Professor Konstantin Usachev

**An integrative structural biology approach to studying protein translation**

Usachev K.S.<sup>1,2,3</sup>

1 – FRC "Kazan Scientific Center of RAS", Kazan, Russia

2 – Kazan Federal University, Kazan, Russia

3 – NRC "Kurchatov Institute", Moscow, Russia

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| 12.45-13.00 | <b>OP-1.2-06</b><br><u>Reporter: Dr. Alexander Popov</u><br><b>Optimal strategy for multi-crystal data collection</b><br>Borshchevskiy V., Zaglavov S., <u>Popov A.</u><br><i>Moscow Institute of Physics and Technology, Dolgoprudny, Russia</i>                                                                                                               |
| 13.00-13.15 | <b>OP-S</b><br><b>Presentation report by company Simple PRO</b><br><u>Reporter: Olga Konkina</u><br><b>Laboratory spaces: the foundation for outstanding results in fundamental and applied research (Лабораторные пространства: основа выдающихся результатов в фундаментальных и прикладных исследованиях)</b><br><i>Simple PRO, Saint-Petersburg, Russia</i> |
| 13.15-14.30 | <b>Break</b>                                                                                                                                                                                                                                                                                                                                                    |

**Big Hall of the House of Scientists**  
(Morskoy Prospekt, 23)

**Section 1.2\_Structural biology and pharma**

**Chair:**

**Professor Valentin Borshchevskiy**, *Moscow Institute of Physics and Technology, Moscow, Russia*

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|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14.30-14.45           | <b>OP-1.2-07</b><br><u>Reporter: Dr. Sophia Borisevich</u><br><b>Generalized mechanism of k-casein catalytic cleavage by chymosin</b><br>Borisevich S.S. <sup>1</sup> , Ilyina M.G. <sup>1</sup> , Ukladov E.O. <sup>1,2</sup> , Mustaev E.A. <sup>1,2</sup> , Shcherbakov D.N. <sup>3</sup> , Arkhipov S.G. <sup>1</sup><br>1 – <i>Synchrotron Radiation Facility - Siberian Circular Photon Source "SKIF" Boreskov Institute of Catalysis of Siberian Branch of the Russian Academy of Sciences, Koltsovo, Russia</i><br>2 – <i>Novosibirsk State University, Novosibirsk, Russia</i><br>3 – <i>Research Institute of Biological Medicine, Altai State University, Barnaul, Russia</i> |
| 14.45-15.00           | <b>OP-1.2-08</b><br><u>Reporter: Dr. Nikita Kuznetsov</u><br><b>Structure based rational design of DNA polymerases with advanced properties required for biotechnology application</b><br>Kuznetsov N.A. <sup>1,2</sup><br>1 – <i>Institute of Chemical Biology and Fundamental Medicine, Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia</i><br>2 – <i>Department of Natural Sciences, Novosibirsk State University, Novosibirsk, Russia</i>                                                                                                                                                                                                                        |
| 15.00-15.15           | <b>OP-1.2-09</b><br><u>Reporter: Dr. Evandro Araujo</u><br><b>Advancing structural biology at Sirius: From cryogenic to ambient macromolecular crystallography</b><br><u>Araujo E.A.</u> , Ramos F.C., Benetton P., Maldonado I.A.V., Rodriguez J.R.S., Silva A.J.Z., Boff G., Aun G., Nascimento A.F.Z.<br><i>Brazilian Synchrotron Light Laboratory, Brazilian Center for Research in Energy and Materials, Campinas, São Paulo, Brazil</i>                                                                                                                                                                                                                                            |
| 15.15-15.30<br>online | <b>OP-1.2-10</b><br><u>Reporter: Dr. Gleb Bourenkov</u><br><b>Towards routine sub-Ångström resolution studies of biological macromolecules</b><br>Bourenkov G.P.<br><i>European Molecular Biology Laboratory EMBL, Hamburg Unit, Hamburg, Germany</i>                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15.30-15.45 | <b>OPInv-1.2-11</b><br>Reporter: Professor Qisheng Wang<br><b>Status of MX beamlines at SSRF: technology development and application</b><br>Qisheng Wang, Feng Yu, Yuzhu Wang<br>Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai, China                                                                                                                                                                                                  |
| 15.45-16.00 | <b>OP-1.2-12</b><br>Reporter: Roman Shaikenov<br><b>Application of X-ray, laser and synchrotron techniques for the analysis of drug delivery systems</b><br>Shaikenov R.O. <sup>1</sup> , Snetkov P.P. <sup>1,2,3</sup> , Morozkina S.N. <sup>1,2,3</sup><br>1 – ITMO University, Saint-Petersburg, Russia<br>2 – Kabardino-Balkarian State University Named After H.M. Berbekov, Nalchik, Russia<br>3 – Saint Petersburg State University, Saint-Petersburg, Russia |
| 16.00-16.30 | Coffee                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

**Big Hall of the House of Scientists**

(Morskoy Prospekt, 23)

**Section 1.2\_Structural biology and pharma**

**Chair:**

**Dr. Konstantin Boyko**, Research Center of Biotechnology RAS, Moscow, Russia

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| 16.30-16.45 | <b>OP-1.2-13</b><br>Reporter: Alexei Yanshin<br><b>Structural and dynamic characterization of Beiji nairovirus and Songling virus nucleoproteins: From AlphaFold 3 to SAXS and X-ray crystallography</b><br>Yanshin A. <sup>1,2</sup> , Ukladov E. <sup>2,3</sup> , Pospelov V. <sup>4</sup> , Imatdinov I. <sup>1</sup> , Rizhikov Y. <sup>4</sup> , Borshchevsky V. <sup>4</sup> , Gladysheva A. <sup>1</sup><br>1 – State Research Center of Virology and Biotechnology "Vector" of Rospotrebnadzor, Koltsovo, Russia<br>2 – Novosibirsk State University, Novosibirsk, Russia<br>3 – SRF "SKIF" Koltsovo, Russia<br>4 – Moscow Institute of Physics and Technology, Moscow, Russia                                                                                                                                                                                         |
| 16.45-17.00 | <b>OP-1.2-14</b><br>Reporter: Danil Drokov<br><b>Investigation of the feasibility of using recombinant vaccinia viruses expressing apoptin and sodium/iodide symporter transgenes for theranostics of human tumors using synchrotron radiation</b><br>Drokov D.V. <sup>1,2</sup> , Lapshin K.A. <sup>2,3,4</sup> , Semenova A.V. <sup>1</sup> , Grazhdanceva A.A. <sup>1</sup> , Legkodymov A.A. <sup>3,4</sup> , Kochneva G.V. <sup>1</sup><br>1 – State Research Center of Virology and Biotechnology "Vector" of Rospotrebnadzor, Koltsovo, Russia<br>2 – Novosibirsk State University, Novosibirsk, Russia<br>3 – Budker Institute of Nuclear Physics, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia<br>4 – Community Center "SKIF" of the Boreskov Institute of Catalysis, Siberian Branch of the Russian Academy of Sciences, Koltsovo, Russia |

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|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 17.00-17.15 | <p><b>OP-1.2-15</b><br/> <b>Reporter: Irina Osinkina</b><br/> <b>Integrated structural characterization of the Haseki tick virus SP1 protein using AI-modelling, bioinformatic analysis and small angle X-ray scattering</b><br/> <u>Osinkina I.A.<sup>1</sup>, Gladysheva A.V.<sup>1</sup>, Yanshin A.O.<sup>1,2</sup>, Ukladov E.O.<sup>2,3</sup>, Ryzhykay Y.L.<sup>4</sup></u><br/> <i>1 – State Research Center of Virology and Biotechnology “Vector”, Kol’tsovo, Russia</i><br/> <i>2 – Novosibirsk State University, Novosibirsk, Russia</i><br/> <i>3 – SRF “SKIF”, Kol’tsovo, Russia</i><br/> <i>4 – Research Center for Molecular Mechanisms of Aging and Age-Related Diseases, Moscow Institute of Physics and Technology, Dolgoprudny, Russia</i></p>                                                                                                                                                                                                  |
| 17.15-17.30 | <p><b>OP-1.2-16</b><br/> <b>Reporter: Daria Radchenko</b><br/> <b>Conformational landscape of Kindia tick virus RNA untranslated regions in solution by SAXS</b><br/> <u>Radchenko D.A.<sup>1</sup>, Yanshin A.O.<sup>1,2</sup>, Ukladov E.O.<sup>2,3</sup>, Osinkina I.A.<sup>1</sup>, Ryzhykau Yu.L.<sup>4</sup>, Sudarev V.V.<sup>4</sup>, Osipov S.D.<sup>4</sup>, Vlasov A.V.<sup>4,5</sup>, Agafonov A.P.<sup>1</sup>, Gladysheva A.V.<sup>1</sup></u><br/> <i>1 – State Research Center of Virology and Biotechnology “Vector” Rospotrebnadzor, Koltsovo, Russia</i><br/> <i>2 – Novosibirsk State University, Novosibirsk, Russia</i><br/> <i>3 – SRF “SKIF”, Koltsovo, Russia</i><br/> <i>4 – Research Center for Molecular Mechanisms of Aging and Age-Related Diseases, Moscow Institute of Physics and Technology, Dolgoprudny, Russia</i><br/> <i>5 – Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, Dubna, Russia</i></p> |
| 17.30-17.45 | <p><b>OP-S</b><br/> <b>Sponsor presentation report</b><br/> <b>Reporter: Chunlong Guo</b><br/> <b>TOTEM 300s: AI-Driven Next-Generation High-Throughput CryoEM</b><br/> <i>Shuimu BioSciences Ltd., China</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 17.45-18.00 | <p><b>OP-S</b><br/> <b>Sponsor presentation report</b><br/> <b>Reporter: Anna Shkoldina</b><br/> <b>Laue beam splitter</b><br/> <i>SPE Group, Novosibirsk, Russia</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

**Small Hall of the House of Scientists**  
(Morskoy Prospekt, 23)

**Section 1.3\_ Engineering materials science**

**Chair:**

**Dr. Aleksandr Malikov**, Khristianovich Institute of Theoretical and Applied Mechanics Siberian Branch  
Russian Academy of Sciences, Novosibirsk, Russia

**11.30-11.45**  
**online**

**OPInv-1.3-01**

Reporter: Prof. Dr. Lin Song

**In-situ synchrotron HEXRD study on the microstress evolution and phase transformations in high Nb TiAl alloys**

Song Lin<sup>1</sup>, Liu Xu<sup>1</sup>, Stark A.<sup>2</sup> Pyczak F.<sup>2</sup>, Zhang Tiebang<sup>1</sup>

*1 – State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi'an, Shaanxi, China*

*2 – Institute of Materials Physics, Helmholtz-Zentrum Hereon, Geesthacht, Germany*

**11.45-12.00**

**OP-1.3-02**

Reporter: Dr. Sergey Dubinskiy

**Features of Ti-based BCC  $\beta$ -phase crystal lattice**

Dubinskiy S.<sup>1</sup>, Strakhov O.<sup>1</sup>, Baranova A.<sup>1</sup>, Sundeev R.<sup>1</sup>, Veligzhanin A.<sup>2</sup>, Khramov E.<sup>2</sup>, Kolyshkin N.<sup>2</sup>, Markova G.<sup>3</sup>, Permyakova D.<sup>3</sup>, Bazlov A.<sup>1</sup>, Menushenkov A.<sup>4</sup>, Grishina O.<sup>4</sup>, Smirnov G.<sup>5</sup>, Pisarev V.<sup>5</sup>, Prokoshkin S.<sup>1</sup>

*1 – National University of Science and Technology MISIS, Moscow, Russia*

*2 – NRC Kurchatov Institute, Moscow, Russia*

*3 – Tula State University, Tula, Russia*

*4 – National Research Nuclear University "MEPhI", Moscow, Russia*

*5 – HSE University, Moscow, Russia*

**12.00-12.15**  
**online**

**OP-1.3-03**

Reporter: Professor Mehdi Khodaei

**Depth-resolved nondestructive residual stress analysis in thermal barrier coatings of turbine blades using a deconvolution method applied to synchrotron X-ray diffraction data**

Khodaei M., Seyedsalehi M.

*Faculty of Materials Science and Engineering, K. N. Toosi University of Technology, Tehran, Iran*

**12.15-12.30**

**OP-1.3-04**

Reporter: Evgenii Sidorov

**Patterns of structure formation and deformation behaviour of FSW joints of high-strength aluminium alloy 7075**

Sidorov E.A.<sup>1,2</sup>, Chumaevskii A.V.<sup>2</sup>, Filippov A.V.<sup>1,2</sup>, Knyazhev E.O.<sup>2</sup>, Kolubaev E.A.<sup>2,3</sup>

*1 – Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia*

*2 – Institute of Strength Physics and Materials Science SB RAS, Tomsk, Russia*

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

**12.30-12.45**

**OP-1.3-05**

Reporter: Maxim Syrtanov

**In situ XRD study of Ti<sub>3</sub>Al(Si)C<sub>2</sub>/Mo composites during high-temperature oxidation**

Syrtanov M.S.<sup>1</sup>, Kashkarov E.B.<sup>1</sup>, Abdulmenova A.V.<sup>1</sup>, Krotkevich D.G.<sup>1</sup>, Shmakov A.N.<sup>2</sup>

*1 – National Research Tomsk Polytechnic University, Tomsk, Russia*

*2 – SRF SKIF, Novosibirsk, Russia*

**12.45-13.00** **OP-1.3-06**  
Reporter: Dr. Andrey Zabolotskii  
**Development of a phenomenological model for the destruction of quasi-brittle composite under dynamic loading**  
Zabolotskiy A.V.<sup>1</sup>, Dmitriev A.I.<sup>2</sup>, Migashkin A.O.<sup>1</sup>, Turchin M.Yu.<sup>1</sup>,  
Khadyev V.T.<sup>1</sup>, Danilchenko S.V.<sup>1</sup>  
1 – *Magnezit Group Ltd., Satka, Russia*  
2 – *Institute of Strength Physics and Material Science, Tomsk, Russia*

**13.00-14.30** **Break**

**Small Hall of the House of Scientists**  
(Morskoy Prospekt, 23)

**Section 2\_ Industrial applications**

**Chair:**

**Dr. Alexander Shmakov**, *SRF "SKIF", Novosibirsk, Russia*

**14.30-14.45** **OPInv-2-01**  
Reporter: Professor Xingxing Zhang  
**In-Situ diffraction studies on the mechanical behavior of additively manufactured metals**  
Zhang Xingxing  
*Institute of High Energy Physics, Chinese Academy of Sciences, Beijing, China*

**14.45-15.00** **OP-2-02**  
Reporter: Dr. Aleksandr Malikov  
**Synchrotron Radiation Source as a tool for advanced research and development of novel materials at ITAM SB RAS**  
Malikov A.G.<sup>1</sup>, Fomin V.M.<sup>1</sup>, Golyshev A.A.<sup>1</sup>, Gulov M.A.<sup>1</sup>, Gertsel I.S.<sup>1,2</sup>, Zavyalov A.P.<sup>2</sup>,  
Kuper K.E.<sup>2</sup>, Shmakov A.N.<sup>2</sup>, Stepanenko A.I.<sup>3</sup>  
1 – *Khristianovich Institute of Theoretical and Applied Mechanics Siberian Branch Russian Academy of Sciences, Novosibirsk, Russia*  
2 – *Synchrotron Radiation Facility – Siberian Circular Photon Source «SKIF» Boreskov Institute of Catalysis of Siberian Branch of the Russian Academy of Sciences, Koltsovo, Russia*  
3 – *JSC Gormasheexport*

**15.00-15.15** **OP-2-03**  
Reporter: Facknwie Oscar  
**Exploring distilled tall oil effectiveness in heavy oil upgrading: Is the catalyst important?**  
Oscar F.K., Aliiev F., Onishenko Y., Vakhin A.  
*Institute of Geology and Petroleum Technologies, Kazan Federal University, Kazan, Russia*

**15.15-15.30** **OP-2-04**  
Reporter: Mikhail Fokin  
**Application of synchrotron micro-CT imaging for in situ studies of processes in rock samples**  
Fokin M.I.<sup>1,2</sup>, Duchkov A.A.<sup>1,2</sup>, Gorenkov I.A.<sup>1,2</sup>  
1 – *Novosibirsk State University, Novosibirsk, Russia*  
2 – *Trofimuk Institute of Petroleum Geology and Geophysics SB RAS, Novosibirsk, Russia*

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| 15.30-15.45 | <b>OP-2-05</b><br><u>Reporter: Ivan Gorenkov</u><br><b>Pore-scale measurement of wettability and interfacial curvature via 3D Convolutional Neural Networks</b><br><u>Gorenkov I.A.<sup>1,2</sup>, Duchkov A.A.<sup>1,2</sup></u><br><i>1 – Novosibirsk State University, Novosibirsk, Russia</i><br><i>2 – Petroleum Geology and Geophysics SB RAS, Novosibirsk, Russia</i>                                                                                                                                                                                                                                                                                        |
| 15.45-16.00 | <b>OP-2-06</b><br><u>Reporter: Valentina Mochalova</u><br><b>Shock response of heterogeneous anisotropic polymer composites</b><br><u>Mochalova V.<sup>1</sup>, Utkin A.<sup>1</sup>, Nikolaev D.<sup>1</sup>, Akhmetova M.<sup>1</sup>, Mochalova E.<sup>2</sup>, Misuragin Z.<sup>3</sup></u><br><i>1 – Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry RAS, Chernogolovka, Russian Federation</i><br><i>2 – Sechenov First Moscow State Medical University of the Ministry of Health of the Russian Federation, Moscow, Russia</i><br><i>3 – National Research University Moscow Power Engineering Institute, Moscow, Russia</i> |
| 16.00-16.30 | <b>Coffee</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**Small Hall of the House of Scientists**  
(Morskoy Prospekt, 23)

**Section 3.1\_ Instrumentation\_beamlines**

**Chair:**

**Maxim Syrtanov**, National Research Tomsk Polytechnic University, Tomsk, Russia

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| 16.30-16.45 | <b>OPInv-3.1-1</b><br><u>Reporter: Professor Vladimir Denisov</u><br><b>Instrumentation modules of the «Surface» beamline of the SRF SKIF for in situ research of the processes of coating synthesis and materials surface modification</b><br><u>Denisov V.V.<sup>1</sup>, Shmakov A.N.<sup>2,3</sup>, Koval N.N.<sup>1</sup>, Savchuk M.V.<sup>1</sup>, Kovalsky S.S.<sup>1</sup>, Ostroverkhov E.V.<sup>1</sup>, Beskonchin K.V.<sup>1</sup>, Ignatov D.Yu.<sup>1</sup>, Yakovlev V.V.<sup>1</sup>, Egorov A.O.<sup>1</sup>, Teresov A.D.<sup>1</sup>, Denisova Yu.A.<sup>1</sup>, Leonov A.A.<sup>1</sup>, Nazarov A.S.<sup>1</sup>, Solovyov A.A.<sup>1</sup>, Shneider A.V.<sup>1</sup>, Yakovlev E.V.<sup>1</sup>, Oks E.M.<sup>1,4</sup>, Yushkov Yu.G.<sup>4</sup></u><br><i>1 – Institute of High Current Electronics, Tomsk, Russia</i><br><i>2 – Budker Institute of Nuclear Physics, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia</i><br><i>3 – SRF SKIF, Boreskov Institute of Catalysis, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia</i><br><i>4 – Tomsk University of Control Systems and Radioelectronics, Tomsk, Russia</i> |
| 16.45-17.00 | <b>OP-3.1-02</b><br><u>Reporter: Dr. Alexander Shmakov</u><br><b>A “Surface” beamline of SKIF second term for In Situ synchrotron X-ray diffraction study of gas-metal plasma coating synthesis and evolution</b><br><u>Shmakov A.N.<sup>1</sup>, Denisov V.V.<sup>2</sup>, Koval N.N.<sup>2</sup>, Ratakhin N.A.<sup>2</sup>, Teresov A.D.<sup>2</sup>, Syrtanov M.S.<sup>3</sup>, Korneev S.P.<sup>3</sup>, Dovzhenko G.D.<sup>1</sup></u><br><i>1 – Synchrotron Radiation Facility SKIF, Novosibirsk, Russia</i><br><i>2 – Institute of High Current Electronics SB RAS, Tomsk, Russia</i><br><i>3 – National Research Tomsk Polytechnic University, Tomsk, Russia</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| 17.00-17.15 | <p><b>OP-3.1-03</b><br/> Reporter: <u>Dr. Gleb Dovzhenko</u><br/> <b>«Engineering Materials Science» beamline at SRF «SKIF»</b><br/> <u>Dovzhenko G.D.</u><sup>1,2</sup>, Bataev I.A.<sup>2</sup>, Emurlaev K.I.<sup>1,2</sup>, Nasennik I.E.<sup>1,2</sup>, Aleksandrova N.S.<sup>1,2</sup>, Yurgin A.B.<sup>1,2</sup>, Zverev D.A.<sup>3</sup>, Snigirev A.A.<sup>3</sup>, Klimova-Korsmik O.G.<sup>4</sup><br/> 1 – Synchrotron Radiation Facility «SKIF», Novosibirsk, Russia<br/> 2 – Novosibirsk State Technical University, Novosibirsk, Russia<br/> 3 – Immanuel Kant Baltic Federal University, Kaliningrad, Russia<br/> 4 – State Marine Technical University, St. Petersburg, Russia</p>                                                                                                                                                                                                                                                                                                                              |
| 17.15-17.30 | <p><b>OP-3.1-04</b><br/> Reporter: <u>Dr. Tatyana Kuznetsova</u><br/> <b>Final conceptual design and key experimental methods of the URAL beamline in the soft X-ray range for materials science research</b><br/> <u>Kuznetsova T.V.</u><sup>1,2</sup>, Tereshchenko O.E.<sup>1,3,4</sup>, Golyashov V.A.<sup>3,4</sup>, Vinokurov Z.S.<sup>4</sup>, Kuznetsov M.V.<sup>5</sup>, Bukhtiyarov A.V.<sup>4</sup>, Zubavichus Ya.V.<sup>4</sup><br/> 1 – IMP UB RAS, Yekaterinburg, Russia<br/> 2 – UrFU, Yekaterinburg, Russia<br/> 3 – ISP SB RAS, Novosibirsk, Russia<br/> 4 – SRF SKIF, Novosibirsk region, Russia<br/> 5 – ISSC UB RAS, Yekaterinburg, Russia</p>                                                                                                                                                                                                                                                                                                                                                              |
| 17.30-17.45 | <p><b>OP-3.1-05</b><br/> Reporter: <u>Professor Alexander Okotrub</u><br/> <b>High-resolution soft x-ray emission spectroscopy method at the NIIC SB RAS and prospects for its development at the SKIF 1-8 station "Soft x-ray spectroscopy and metrology"</b><br/> <u>Okotrub A.V.</u><sup>1</sup>, Guselnikov A.V.<sup>1</sup>, Bulusheva L.G.<sup>1</sup>, Fedorenko A.D.<sup>1</sup>, Nikolenko A.D.<sup>2</sup>, Zubavichus Ya.V.<sup>2</sup><br/> 1 – Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia<br/> 2 – SRF "SKIF", Novosibirsk, Russia</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 17.45-18.00 | <p><b>OP-3.1-06</b><br/> Reporter: <u>Dr. Sergey Veber</u><br/> <b>Infrared spectroscopy with the advantages of synchrotron radiation sources: global experience and prospects for the "IR-diagnostics" beamline at the SKIF facility</b><br/> <u>Veber S.L.</u><sup>1,2</sup>, Melnikov A.R.<sup>1,2</sup>, Tashkeev N.A.<sup>1,2</sup>, Borodulina A.V.<sup>1,2</sup>, Milekhin I.A.<sup>2,3</sup>, Milekhin A.G.<sup>3</sup>, Zhimuleva E.S.<sup>4</sup>, Soldatenko A.V.<sup>4</sup>, Vinokurov N.A.<sup>5</sup>, Zolotarev K.V.<sup>2,5</sup>, Zubavichus Ya.V.<sup>2</sup><br/> 1 – International Tomography Center SB RAS, Novosibirsk, Russia<br/> 2 – Center for Collective Use "SKIF", Boreskov Institute of Catalysis SB RAS, Koltsovo, Russia<br/> 3 – Rzhzanov Institute of Semiconductor Physics SB RAS, Novosibirsk, Russia<br/> 4 – Technological Design Institute of Scientific Instrument Engineering SB RAS, Novosibirsk, Russia<br/> 5 – Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russia</p> |

**Hall 3, House of Scientists**  
(Morskoy Prospekt, 23)

**Chair:**

**Professor Olga Kolesova**, Novosibirsk State Technical University, Novosibirsk, Russia

**11.00-13.00 Round Table**

**"SKIF Interuniversity consortium" (ENG)**

**11:30-11:55 Topic I.** Student Design Centers at universities in the production of SKIF beamline components

**Speakers:**

Alexander I. Smirnov (Novosibirsk State Technical University),  
Aleksey Gogolev (Tomsk polytechnic university),  
Dmitrii Zverev (Kant Baltic Federal University),  
Alexander A. Guda (Southern Federal University)

**11:55-12:20 Topic II.** Educational initiatives

**Speakers:**

Anatoly A. Bataev (Novosibirsk State Technical University),  
Mikhail A. Chervonnyy (Tomsk State Pedagogical University),  
Evgeny V. Altynbaev (Saint Petersburg State University),  
Alexander Yu. Nezvanov (Joint Institute for Nuclear Research)

**12:20-12:45 Topic III.** Experiment proposals for SKIF beamlines from consortium members

**Speakers:**

Yan V. Zubavichus (SRF SKIF),  
Victor Khrustalev (RUDN University),  
Sergey Yu. Turishchev (Voronezh State University),  
Alexander A. Guda (Southern Federal University),  
Valentin I. Borshchevskiy (Moscow Institute of Physics and Technology),  
Sergey A. Beznosyuk (Altai State University)

**12:45-13:00 GENERAL DISCUSSION**

**13.00-14.30 Break**

**Hall 3, House of Scientists**  
(Morskoy Prospekt, 23)

**Section 1\_ Fundamental and Applied researches**

**Chair:**

**Dr. Gleb Dovzhenko**, Synchrotron Radiation Facility «SKIF», Novosibirsk, Russia

**14.30-14.45 OP-1-01**

Reporter: Kemal Emurlaev

**Observation of friction-induced structural evolution of materials using synchrotron X-ray diffraction**

Emurlaev K.I.<sup>1,2</sup>, Bataev I.A.<sup>1</sup>

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

*2 – Synchrotron Radiation Facility - Siberian Circular Photon Source "SKIF", Boreskov Institute of Catalysis SB RAS, Kol'tsovo, Russia*

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| 14.45-15.00 | <p><b>OP-1-02</b><br/><u>Reporter: Elena Krupovich</u><br/><b>Determination of the trace element composition of bone marrow in clinical cases of patients with hemablastosis using the SRXRF</b><br/><u>Krupovich E.S.</u><sup>1,2</sup>, Trunova V.A.<sup>1,3</sup>, Voytko M.S.<sup>4</sup>, Pospelova T.I.<sup>4</sup>, Gavrilova K.S.<sup>1</sup><br/>1 – Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia<br/>2 – Synchrotron Radiation Facility - Siberian Circular Photon Source "SKIF" Boreskov Institute of Catalysis, Novosibirsk, Russia<br/>3 – Novosibirsk State University, Novosibirsk, Russia<br/>4 – Novosibirsk State Medical University, Novosibirsk, Russia</p> |
| 15.00-15.15 | <p><b>OP-1-03</b><br/><u>Reporter: Dr. Alexandr Nizovskii</u><br/><b>Analysis of the possibility of using SR for the study of kidney stones in the human body by X-ray diffraction</b><br/><u>Nizovskii A.I.</u><sup>1</sup>, Shmakov A.N.<sup>2</sup>, Legkodymov A.A.<sup>2</sup>, Bekhtereva K.A.<sup>3</sup>, Feofilov I.V.<sup>3</sup>, Bukhtiyarov V.I.<sup>1</sup><br/>1 – Boreskov Institute of Catalysis, Novosibirsk, Russia<br/>2 – SRF SKIF, Novosibirsk, Russia<br/>3 – Novosibirsk State Medical University, Novosibirsk, Russia</p>                                                                                                                                                |
| 15.15-15.30 | <p><b>OP-1-04</b><br/><u>Reporter: Roman Moryachkov</u><br/><b>Synchrotron SAXS method for biology</b><br/><u>Moryachkov R.V.</u><sup>1</sup>, Zabluda V.N.<sup>2</sup>, Shchugoreva I.A.<sup>1,3</sup>, Kichkailo A.S.<sup>1,3</sup><br/>1 – Federal Research Center "Krasnoyarsk Science Center of the Siberian Branch of the Russian Academy of Sciences", Krasnoyarsk, Russia<br/>2 – Kirensky Institute of Physics, Krasnoyarsk, Russia<br/>3 – Krasnoyarsk State Medical University named after Professor V. F. Voyno-Yasenetsky, Krasnoyarsk, Russia</p>                                                                                                                                   |
| 15.30-15.45 | <p><b>OP-1-05</b><br/><u>Reporter: Dr. Yurii Larichev</u><br/><b>Study of the structure of adsorbed proteins by small-angle X-ray scattering</b><br/><u>Larichev Yu.V.</u><sup>1,2,3</sup><br/>1 – Boreskov Institute of Catalysis, Novosibirsk, Russia<br/>2 – SRF «SKIF» of Boreskov Institute of Catalysis, Koltsovo, Russia<br/>3 – Novosibirsk State University, Novosibirsk, Russia</p>                                                                                                                                                                                                                                                                                                     |
| 16.00-16.30 | Coffee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

**Hall 3, House of Scientists**  
(Morskoy Prospekt, 23)

**Section 1\_ Fundamental and Applied researches**

**Chair:**

**Professor Sergey Guda**, Southern Federal University (SFedU), The Smart Materials Research Institute, Rostov-on-Don, Russia

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| 16.30-16.45 | <p><b>OP-01-06</b><br/><u>Reporter: Abdool Sattar Cassim</u><br/><b>Synchrotron-based characterisation of radiation-induced structural modifications in fibre Bragg grating sensors for extreme environments</b><br/><u>Cassim A.</u><sup>1,2</sup>, Connell S.H.<sup>1</sup>, Madyira D.<sup>1</sup>, Truong L.<sup>2</sup>, Igumbor E.<sup>1</sup>, Brooks T.<sup>2</sup>, Temaugee S.<sup>1</sup><br/>1 – University of Johannesburg, Johannesburg, South Africa<br/>2 – CERN, European Organization for Nuclear Research, Geneva, Switzerland</p> |
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16.45-17.00

**OP-1-07**

Reporter: Dr. Stanislav Shakirov

**Prototype digital twin of User Beamline 1-7 at the Synchrotron Radiation Facility  
“Siberian Circular Photon Source”**

Bakunovich D.S.<sup>1</sup>, Dovzhenko G.D.<sup>2</sup>, Marchenko M.A.<sup>1</sup>, Permyakov R.A.<sup>1</sup>, Saraev A.A.<sup>2</sup>,  
Shakirov S.R.<sup>1</sup>, Zubavichus Ya.V.<sup>2</sup>

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

*2 – Boreskov Institute of Catalysis SB RAS, Synchrotron Radiation Facility SKIF,  
Novosibirsk, Russia*

*3 – Novosibirsk State University, Novosibirsk, Russia*

17.00-17.15

**OP-1-08**

Reporter: Artem Vakhrushev

**An automatic approach for sequential XPS spectra analysis**

Vakhrushev A.A.<sup>1</sup>, Nartova A.V.<sup>1,2</sup>

*1 – Novosibirsk State University, Novosibirsk, Russia*

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

17.15-17.30

**OP-1-09**

Reporter: Artem Kholmanskii

**Integration of experimental data into the training dataset of a neural network for  
automated analysis of XPS spectra**

Kholmanskii A.A.<sup>1,2</sup>, Nartova A.V.<sup>1,2</sup>, Vakhrushev A.A.<sup>2</sup>, Kvon R.I.<sup>1</sup>, Dmitrachkov A.M.<sup>1</sup>,  
Ananina A.A.<sup>1</sup>, Prosvirin I.P.<sup>1</sup>, Bukhtiyarov V.I.<sup>1,2</sup>

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

*2 – Novosibirsk State University, Novosibirsk, Russia*

17.30-17.45

**OP-1-10**

Reporter: Dr. Evgenii Bryndin

**AI functionality for research experiments at Ring Photon Source**

*Research Center of Natural Information Technologies, Novosibirsk, Russia*

**Conference hall, Boreskov Institute of Catalysis, 3<sup>rd</sup> floor**  
(Prospekt Akademika Lavrentieva, 5)

**Section 1.1\_ Chemistry and catalysis**

**Chair:**

**Dr. Saraev Andrey**, SRF SKIF, Boreskov Institute of Catalysis, Kol'tsovo, Russia

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| <b>11.30-11.45</b> | <b>OPInv-1.1-01</b><br><u>Reporter: Professor Ronghe Lin</u><br><b>Functionalized carbon as a platform for rational design of low-nuclearity metal catalysts</b><br>Jiaxiang Qin <sup>1</sup> , Zizheng Liu <sup>1</sup> , Xiaoling Mou <sup>1</sup> , Yunjie Ding <sup>1,2</sup> , <u>Ronghe Lin</u> <sup>1</sup><br><i>1 – Key Laboratory of the Ministry of Education for Advanced Catalysis Materials, Zhejiang Key Laboratory of Advanced Catalysis and Adsorption Materials, Hangzhou Institute of Advanced Studies, Zhejiang Normal University, Hangzhou, China</i><br><i>2 – The State Key Laboratory of Catalysis, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China</i>                                                                                                            |
| <b>11.45-12.00</b> | <b>OP-1.1-02</b><br><u>Reporter: Dr. Elena Shor</u><br><b>Few-atom gold species at ceria nanoparticle: structure, adsorption properties, catalytic activity</b><br><u>Shor E.A.</u> <sup>1,2</sup> , Kormes E.S. <sup>1</sup> , Shor A.M. <sup>1</sup><br><i>1 – Institute of Chemistry and Chemical Technology SB RAS, Krasnoyarsk, Russia</i><br><i>2 – Siberian Federal University, Krasnoyarsk, Russia</i>                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>12.00-12.15</b> | <b>OP-1.1-03</b><br><u>Reporter: Dr. Nadezhda Smirnova</u><br><b>Bimetallic egg-shell Pd-Ag<sub>x</sub>/Al<sub>2</sub>O<sub>3</sub> catalysts for front-end selective acetylene hydrogenation</b><br><u>Smirnova N.S.</u> <sup>1</sup> , Mashkovsky I.S. <sup>1</sup> , Bukhtiyarov A.V. <sup>2</sup> , Panafidin M.A. <sup>2</sup> , Khramov E.V. <sup>3</sup> , Melnikov D.P. <sup>1,4</sup> , Markov P.V. <sup>1</sup> , Baeva G.N. <sup>1</sup> , Vaulina A.E. <sup>1</sup> , Stakheev A.Yu. <sup>1</sup><br><i>1 – N.D. Zelinsky Institute of Organic Chemistry, Moscow, Russia</i><br><i>2 – Boreskov Institute of Catalysis, Novosibirsk, Russia</i><br><i>3 – National Research Center Kurchatov Institute, Moscow, Russia</i><br><i>4 – National University of Oil and Gas «Gubkin University», Moscow, Russia</i> |
| <b>12.15-12.30</b> | <b>OP-1.1-04</b><br><u>Reporter: Ricardo Rodriguez Pineda</u><br><b>Redispersion of heterogeneous Ru catalysts for the hydrodeoxygenation of bio-oil compounds</b><br>Sadovnikov A.A., Arapova O.V., <u>Rodriguez Pineda R.A.</u> , Naranov E.R., Maximov A.L. A.V. <u>Topchiev Institute of Petroleum Chemistry RAS, Moscow, Russia</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>12.30-12.45</b> | <b>OP-1.1-05</b><br><u>Reporter: Nadezhda Kharchenko</u><br><b>Preparation of bimetallic catalysts Ru-Ni/Ce<sub>0.75</sub>Zr<sub>0.25</sub>O<sub>2</sub> by galvanic replacement</b><br><u>Kharchenko N.A.</u> <sup>1,2</sup> , Pakharukova V.P. <sup>1,2</sup> , Rogozhnikov V.N. <sup>1</sup> , Stonkus O.A. <sup>1</sup> , Saraev A.A. <sup>1</sup> , Gorlova A.M. <sup>1</sup><br><i>1 – Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia</i><br><i>2 – Novosibirsk State University, Novosibirsk, Russia</i>                                                                                                                                                                                                                                                                                                |

**12.45-13.00**    **OP-1.1-06**  
Reporter: Dr. Alexey Kashin  
**Transition metal thiolates: structural flexibility and adaptive catalytic properties**  
Kashin A.S., Ananikov V.P.  
*N.D. Zelinsky Institute of Organic Chemistry, Moscow, Russia*

**13.00-14.30**    **Break**

**Conference hall, Boreskov Institute of Catalysis, 3<sup>rd</sup> floor**  
(Prospekt Akademika Lavrentieva, 5)

**Section 1.1\_ Chemistry and catalysis**

**Chair:**

**Dr. Olga Bulavchenko**, Boreskov Institute of Catalysis, Novosibirsk, Russia

**14.30-14.45**    **OP-1.1-07**  
Reporter: Dr. Ilya Yakushev  
**Synchrotron radiation in structural and catalysis studies of bimetallic precious metal-based complexes and catalysts**  
Yakushev I.A.  
*Kurnakov Institute of General and Inorganic Chemistry, Moscow, Russia*

**14.45-15.00**    **OP-1.1-08**  
Reporter: Dr. Alena Kulakova  
**Control of structural anisotropy in metal–organic frameworks through co-ligand design for enhanced birefringence**  
Kulakova A.N.<sup>1</sup>, Knyazev I.A.<sup>1</sup>, Povarov S.A.<sup>1</sup>, Pavlov D.I.<sup>2</sup>, Potapov A.S.<sup>2</sup>, Milichko V.A.<sup>1</sup>  
*1 – ITMO University, Saint-Petersburg, Russia*  
*2 – Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia*

**15.00-15.15**    **OP-1.1-09**  
Reporter: Dr. Anastasiia Kuzenkova  
**Synchrotron-based structural study of Pu(V) and Np(V) double carbonates: effect of interlayer cations**  
Kuzenkova A.S.<sup>1,2</sup>, Plakhova T.V.<sup>1</sup>, Kulikova E.S.<sup>2</sup>, Svetogorov R.D.<sup>2</sup>, Trigub A.L.<sup>1,2</sup>, Tsybarenko D.M.<sup>1</sup>, Romanchuk A.Yu.<sup>1</sup>, Kalmykov S.N.<sup>1</sup>  
*1 – Lomonosov Moscow State University, Moscow, Russia*  
*2 – National Research Center Kurchatov Institute, Moscow, Russia*

**15.15-15.30**    **OP-1.1-10**  
Reporter: Dr. Olga Koval  
**Structural refinement of metastable wurtzite GaP as a new high-index photonic material**  
Shalin A.S.<sup>1</sup>, Linnik E.D.<sup>2</sup>, Koval O.Yu.<sup>3</sup>  
*1 – Moscow Institute of Physics and Technology, Dolgoprudny, Russia*  
*2 – Southern Federal University, Rostov-on-Don, Russia*  
*3 – National Research Centre “Kurchatov Institute”, Moscow, Russia*

**15.30-15.45**    **OP-1.1-11**  
Reporter: Dr. Kristina Shefer  
**X-ray diffraction analysis of nanosized oxide systems**  
Shefer K.I.<sup>1,2</sup>  
*1 – SRF “SKIF”, Koltsovo, Russia*  
*2 – Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

**15.45-16.00** **OP-1.1-12**  
Reporter: Dr. Svetlana Cherepanova  
**Development of a software package for calculating X-ray diffraction patterns for materials containing various planar defects, based on statistical models of 1D disordered crystals using two approaches**  
Cherepanova S.V., Yatsenko D.A.  
*Boreskov Institute of Catalysis, Novosibirsk, Russia*

**16.00-16.30** **Coffee**

**Conference hall, Boreskov Institute of Catalysis, 3<sup>rd</sup> floor**  
 (Prospekt Akademika Lavrentieva, 5)

**Section 1.1\_ Chemistry and catalysis**

**Chair:**

**Dr. Svetlana Cherepanova, Boreskov Institute of Catalysis, Novosibirsk, Russia**

**16.30-16.45** **OPInv-1.1-13**  
Reporter: Professor Zulkhair Mansurov  
**Functional nanomaterials for energy, environment and safety**  
Mansurov Z.A.<sup>1,2</sup>, Lesbayev B.T.<sup>1,2</sup>, Nurgozhina D.M.<sup>1</sup>  
*1 – Institute of Combustion Problems, Almaty, Kazakhstan*  
*2 – Al-Farabi Kazakh National University, Almaty, Kazakhstan*

**16.45-17.00** **OP-1.1-14**  
Reporter: Professor Mikhail Kiskin  
**Coordination compounds as promising photoresists for EUV lithography**  
Kiskin M.A., Bushuev V.A., Samulionis A.S., Yambulatov D.S.  
*N.S. Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia*

**17.00-17.15** **OP-1.1-15**  
Reporter: Dr. Igor Asanov  
**XANES study of Re (IV) magnetic complexes**  
Asanov I.P., Fedorenko A.D., Berdyugin S.N.  
*Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia*

**17.15-17.30** **OP-1.1-16**  
Reporter: Andrey Arakcheev  
**Interfacial assembly induced spin-crossover in Ni(II) porphyrinate-based coordination polymers**  
Arakcheev A.V., Dmitrienko A.A., Kroitor A.P., Gomzyak V.I., Martynov A.G., Selektor S.L.  
*Frumkin Institute of Physical Chemistry and Electrochemistry Russian Academy of Sciences, Moscow, Russia*

**17.30-17.45** **OP-1.1-17**  
Reporter: Professor Sergey Ereemeev  
**Low-dimensional electronic structure from DFT calculations and angle-resolved photoemission spectroscopy measurements**  
Ereemeev S.V.  
*Institute of Strength Physics and Materials Science Tomsk, Russia*

**17.45-18.00** **OP-1.1-18**  
Reporter: Dr. Olga Bulavchenko  
**Reducibility of CeO<sub>2</sub>: the role of crystalline size**  
Bulavchenko O.A.<sup>1,2</sup>, Vinokurov Z.S.<sup>2</sup>  
*1 – Boreskov Institute of Catalysis, Novosibirsk, Russia*  
*2 – SKIF Synchrotron Radiation Facility, BIC, Kol'tsovo, Russia*

Conference hall, Budker Institute of Nuclear Physics of SB RAS, 3<sup>rd</sup> floor  
(Prospekt Akademika Lavrentieva, 11)

Section 4\_ SR sources and IDs

Chair:

Dr. Alexey Semenov, Budker Institute of Nuclear Physics, Novosibirsk, Russia

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|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11.30-11.45 | <p><b>OPInv-4-01</b><br/>Reporter: <u>Dr. Vitaliy Shkaruba</u><br/><b>Superconducting insertion devices for synchrotron radiation generation at the SRF SKIF</b><br/><i>Budker Institute of Nuclear Physics, Novosibirsk, Russia</i></p>                                                                                                                                                                                                                  |
| 11.45-12.00 | <p><b>OP-4-02</b><br/>Reporter: <u>Dr. Aleksei Komlev</u><br/><b>Methods for tuning permanent-magnet undulator magnetic structures</b><br/><u>Komlev A.S.</u>, Samsonov D.O., Sokolov G.R., Beketov D.D., Goncharov S.V., Vetyugov I.A., Romashov A.S., Mukhamedov N.M., Abakumov Ya.M., Amirov A.A., Presnyakov M.Yu.<br/><i>National Research Centre "Kurchatov Institute", Moscow, Russia</i></p>                                                      |
| 12.00-12.15 | <p><b>OP-4-03</b><br/>Reporter: <u>Denis Gurov</u><br/><b>Measurements and adjustment of the UE212M Elliptical Electromagnetic Undulator for the "Electronic Structure" Station at the SKIF Synchrotron Radiation Source</b><br/>Gurov D.S., Zolotarev K.V., Zuev V.V., <u>Utkin A.V.</u>, Cheskidov V.G.<br/><i>Budker Institute of Nuclear Physics of Siberian Branch Russian Academy of Sciences (BINP SB RAS) Novosibirsk, Russian Federation</i></p> |
| 12.15-12.30 | <p><b>OP-4-04</b><br/>Reporter: <u>Dmitriy Erofeev</u><br/><b>Development of data clustering algorithm on the L2 concentrator for the SPD experiment at the NICA accelerator complex</b><br/><u>Erofeev D.V.</u><sup>1</sup>, Bernhardt A.E.<sup>1</sup>, Boikov A.V.<sup>2</sup><br/><i>1 – National Research Tomsk State University, Tomsk, Russia</i><br/><i>2 – Joint Institute for Nuclear Research, Dubna, Russia</i></p>                           |
| 12.30-12.45 | <p><b>OPInv-4-05</b><br/>Reporter: <u>Professor Yingbing Yan</u><br/><b>Key technologies of beam instrumentation, control and timing systems at SARI</b><br/><u>Yan Yingbing</u>, Yuan Renxian, Miao Haifeng, Lai Longwei, Chen Guanghua, Yu Pengxiang<br/><i>Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai, China</i></p>                                                                                                  |
| 12.45-13.00 | <p><b>OPInv-4-06</b><br/>Reporter: <u>Professor Wei Zhang</u><br/><b>Undulators development for synchrotron light sources and free electron lasers</b><br/><u>Wei Zhang</u>, Cheng Yu, Ya Zhu, Shengwang Xiang, Yangyang Lei, Yongzhou He, Hongcui Wang, Jie yang, Jun Wang, Jin Tong<br/><i>Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai, China</i></p>                                                                   |
| 13.00-14.30 | <p><b>Break</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                       |

October 20, Tuesday

Conference hall, Budker Institute of Nuclear Physics of SB RAS, 3<sup>rd</sup> floor  
(Prospekt Akademika Lavrentieva, 11)

**Section 4\_ SR sources and IDs**

**Chair:**

**Dr. Vitaliy Shkaruba**, Budker Institute of Nuclear Physics, Novosibirsk, Russia

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| 14.30-14.45 | <p><b>OP-4-07</b><br/>Reporter: <u>Stanislav Rozhkov</u><br/><b>Multialkali photocathodes with subthermal intrinsic emittance</b><br/><u>Rozhkov S.A.</u><sup>1,2</sup>, Bakin V.V.<sup>1</sup>, Scheibler H.E.<sup>1,2,3</sup>, Rusetsky V.S.<sup>1,4</sup>, Gorshkov D.V.<sup>1,2</sup>, Kustov D.A.<sup>1</sup>, Golyashov V.A.<sup>1,2,5</sup>, Alperovich V.L.<sup>1,2</sup>, Tereshchenko O.E.<sup>1,2,5</sup><br/>1 – Rzhanov Institute of Semiconductor Physics, Novosibirsk, Russia<br/>2 – Novosibirsk State University, Novosibirsk, Russia<br/>3 – Novosibirsk State Technical University, Novosibirsk, Russia<br/>4 – JSC “EKRAAN FEP”, Novosibirsk, Russia<br/>5 – Synchrotron Radiation Facility SKIF, Boreskov Institute of Catalysis, Novosibirsk, Russia</p> |
| 14.45-15.00 | <p><b>OP-4-08</b><br/>Reporter: <u>Dr. Valentin Ivanov</u><br/><b>Numerical design of C-band power klystron</b><br/>Ivanov V.Ya.<br/>Budker Institute of Nuclear Physics, Novosibirsk, Russia</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 15.00-15.15 | <p><b>OP-4-09</b><br/>Reporter: <u>Dr. Mariya Arsenyeva</u><br/><b>A linear accelerator injector based on RF gun and independent-cell buncher for high quality electron beams</b><br/>Arsentyeva M.V.<br/>1 – SKIF Synchrotron Radiation Facility, Koltsovo, Russia<br/>2 – Budker Institute of Nuclear Physics of the Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia</p>                                                                                                                                                                                                                                                                                                                                                                             |
| 15.15-15.30 | <p><b>OP-4-10</b><br/>Reporter: <u>Dr. Alexey Semenov</u><br/><b>Similarities and differences in the vacuum systems of the SKIF and KISI-2 injectors</b><br/>Semenov A.M.<sup>1,2</sup><br/>1 – Budker Institute of Nuclear Physics, Novosibirsk, Russia<br/>2 – Novosibirsk State Technical University, Novosibirsk, Russia</p>                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 15.30-16.30 | <p><b>Coffee</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

October 20, Tuesday

Conference hall, Budker Institute of Nuclear Physics of SB RAS, 3<sup>rd</sup> floor  
(Prospekt Akademika Lavrentieva, 11)

**Section 3.2\_ Instrumentation\_beamlines components**

**Chair:**

**Dr. Mariya Arsentyeva, SRF "SKIF", Koltsovo, Russia**

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| 16.30-16.45           | <p><b>OP-3.2-01</b><br/>Reporter: <u>Dr. Dmitrii Zverev</u><br/><b>X-ray beam-shaping refractive optics and its applications</b><br/><u>Zverev D.<sup>1</sup>, Barannikov A.<sup>1</sup>, Kohn V.<sup>2</sup>, Yunkin V.<sup>3</sup>, Kuznetsov S.<sup>3</sup>, Snigireva I.<sup>4</sup>, Snigirev A.<sup>1</sup></u><br/>1 – Immanuel Kant Baltic Federal University, Kaliningrad, Russia<br/>2 – National Research Center "Kurchatov Institute", Moscow, Russia<br/>3 – Institute of Microelectronics Technology RAS, Chernogolovka, Russia<br/>4 – European Synchrotron Radiation Facility, Grenoble, France</p> |
| 16.45-17.00           | <p><b>OP-3.2-02</b><br/>Reporter: <u>Alexey Studennikov</u><br/><b>Pulsed X-ray shutter for investigation of shock-wave processes at station 1-3 for SRF SKIF</b><br/><u>Studennikov A.A., Palchikov E.I., Prueel E.R., Pluman A.A., Stankevich S.V., Samoylenko M.S.</u><br/>Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia</p>                                                                                                                                                                                                                                                                 |
| 17.00-17.15<br>online | <p><b>OP-3.2-03</b><br/>Reporter: <u>Dr. Liya Minasbekyan</u><br/><b>Dose-dependent response of wheat to gamma-irradiation: formation of hormezis</b><br/><u>Avagyan I.A.<sup>1</sup>, Minasbekyan L.A.<sup>2</sup></u><br/>1 – Independent researcher, <a href="https://orcid.org/0009-0004-2867-168X">https://orcid.org/0009-0004-2867-168X</a><br/>2 – Yerevan State University, Research Institute of Biology, Yerevan, Armenia</p>                                                                                                                                                                             |
| 17.15-17.30           | <p><b>OP-3.2-04</b><br/>Reporter: <u>Dr. Sergey Kuznetsov</u><br/><b>Fabrication technique of diamond-based X-ray and photoluminescent composites</b><br/><u>Kuznetsov S.V., Sedov V.S., Martyanov A.K., Tiazhelov I.A., Romashchenko R.V., Alexandrov A.A., Yasyrkina D.S., Proydakova V.Yu., Voronov V.V.</u><br/>Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia</p>                                                                                                                                                                                                      |
| 17.30-17.45           | <p><b>OP-3.2-05</b><br/>Reporter: <u>Dr. Petr Karpyuk</u><br/><b>Scintillator ceramics of complex composition with garnet structure activated by different rare-earth elements</b><br/><u>Karpyuk P.V., Li Y.R., Tonova L.D., Smyslova V.G., Sokolov P.S.</u><br/>National Research Centre "Kurchatov Institute", Moscow, Russia</p>                                                                                                                                                                                                                                                                                |
| 17.45-18.00           | <p><b>OP-3.2-06</b><br/>Reporter: <u>Valery Dubov</u><br/><b>Synthesis and study of powders and ceramic scintillation materials based on multicomponent compounds of the garnet structural type</b><br/><u>Dubov V.V.<sup>1</sup>, Koval O.Yu.<sup>1</sup>, Belousova V.D.<sup>1,2</sup>, Saifutyarov R.R.<sup>1</sup>, Korzhik M.V.<sup>1,3</sup></u><br/>1 – National Research Center "Kurchatov Institute", Moscow, Russia<br/>2 – Faculty of Chemistry, Lomonosov Moscow State University, Moscow, Russia<br/>3 – Institute of Nuclear Problems of the Belarusian State University, Minsk, Belarus</p>          |

**Big Hall of the House of Scientists**

(Morskoy Prospekt, 23)

**Plenary Session**

**Chairs:**

**Professor Grigory Baranov**, SRF "SKIF", Koltsovo, Russia

**Professor Na Li**, National Facility for Protein Science Shanghai, Shanghai Advanced Research Institute, Shanghai, People's Republic of China

**09.00-09.45 PL-08**

Reporter: Professor Yuhui Dong

**HEPS status and research program**

*Institute of High Energy Physics (IHEP), Chinese Academy of Sciences (CAS), High Energy Photon Source (HEPS), China*

**09.45-10.15 KL-04**

Reporter: Professor Bongjin Simon Mun

**Revisiting surface science with ambient pressure XPS**

*Gwangju Institute of Science and Technology, Gwangju, Republic of Korea*

**10.15-10.45 KL-05**

Reporter: Mikhail Mishchenko

**Beyond the fourth generation: new approaches to synchrotron and FEL facilities**

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

**10.45-11.15 Coffee**

**11.15-11.30 Bus to BIC, Bus to BINP**

Big Hall of the House of Scientists

(Morskoy Prospekt, 23)

Section 1.2\_ Structural biology and pharma

Chair:

Dr. Mikhail Avdeev, Joint Institute for Nuclear Research, Dubna, Russia

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| 11.30-11.45 | <p><b>OPIInv-1.2-17</b><br/>Reporter: Professor Norbert Kučerka<br/><b>Scattering methods applied to lifesciences</b><br/><i>Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, Dubna, Slovakia</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 11.45-12.00 | <p><b>OPIInv-1.2-18</b><br/>Reporter: Dr. Sergei Bukhdruker<br/><b>From static structures to protein dynamics: time-resolved crystallography at synchrotrons</b><br/><i>Bukhdruker S.<sup>1</sup>, Melnikov I., Popov A.<sup>1</sup>, Gordeliy V.<sup>2</sup><br/>1 – Moscow Institute of Physics and Technology, Dolgoprudny, Russia<br/>2 – Univ. Grenoble Alpes, CEA, CNRS, Institut de Biologie Structurale (IBS), Grenoble, France</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 12.00-12.15 | <p><b>OP-1.2-19</b><br/>Reporter: Dr. Petr Konarev<br/><b>Synchrotron SAXS studies of biological macromolecules in solution: advances and recent applications</b><br/><i>Konarev P.V., Peters G.S., Volkov V.V.<br/>NRC “Kurchatov Institute”, Moscow, Russia</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 12.15-12.30 | <p><b>OP-1.2-20</b><br/>Reporter: Dr. Margarita Marchenkova<br/><b>A 3D-printed microfluidic sample environment for concentration-resolved <i>in situ</i> SAXS of protein solutions</b><br/><i>Svechnikova V.Yu.<sup>1,2</sup>, Konarev P.V.<sup>1,2</sup>, Peters G.S.<sup>1</sup>, Molodtsov D.Yu.<sup>2</sup>, Shishkov V.A.<sup>1</sup>, Marchenkova M.A.<sup>1,2</sup><br/>1 – National Research Centre “Kurchatov Institute”, Moscow, Russia<br/>2 – Southern Federal University, Rostov-on-Don, Russia</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 12.30-12.45 | <p><b>OPIInv-1.2-21</b><br/>Reporter: Professor Natallia Strushkevich<br/><b>Structural insights into the interaction of antitubercular drug rifampicin and its derivatives with orphan CYP143 of <i>M.tuberculosis</i></b><br/><i>Gilep A.<sup>1,2</sup>, MacCarthy C.<sup>3</sup>, Karpova M.<sup>4</sup>, Varaksa T.<sup>1</sup>, Grabovec I.<sup>1</sup>, Karpushenkova V.<sup>4</sup>, Kaluzhskiy L.<sup>2</sup>, Yablokov E.<sup>2</sup>, Kapranov I.<sup>3</sup>, Bukhdruker S.<sup>3</sup>, Dronova E.<sup>3</sup>, Yuqi Yang<sup>8</sup>, Sushko T.<sup>5</sup>, Karputs A.<sup>1</sup>, Kouhei Tsumoto<sup>5,6</sup>, Borshchevskiy V.<sup>3,7</sup>, Strushkevich N.<sup>4</sup><br/>1 – Institute of Bioorganic Chemistry, National Academy of Sciences of Belarus, Minsk, Belarus<br/>2 – Laboratory of Intermolecular Interactions, Institute of Biomedical Chemistry, Moscow, Russia<br/>3 – Moscow Center for Advanced Studies, Moscow, Russia<br/>4 – The Center for Bio- and Medical Technologies, Moscow, Russia<br/>5 – Department of Bioengineering, School of Engineering, The University of Tokyo, Japan<br/>6 – Institute of Medical Science, The University of Tokyo, Japan<br/>7 – Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, Dubna, Russia<br/>8 – iHuman Institute, ShanghaiTech University, Shanghai, China</i></p> |

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| 12.45-13.00 | <p><b>OP-1.2-22</b><br/> Reporter: <u>Mikhail Lifar</u><br/> <b>autoSAXS: SAXS processing automation through AI-friendly skills</b><br/> <u>Lifar M.S.</u><sup>1</sup>, Guda A.A.<sup>1</sup>, Konarev P.V.<sup>2</sup>, Guda S.A.<sup>1</sup>, Soldatov A.V.<sup>1</sup><br/> 1 – <i>International Research Institute of Intelligent Materials of the Southern Federal University, Rostov-on-Don, Russia</i><br/> 2 – <i>FSRC "Crystallography and photonics" RAS, Moscow, Russia</i></p> |
| 13.00-13.15 | <p><b>OP-S</b><br/> <b>Sponsor presentation report – OPTIKON LLC</b><br/> <i>Optikon LLC, Novosibirsk, Russia</i></p>                                                                                                                                                                                                                                                                                                                                                                      |
| 13.00-14.30 | <b>Break</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

### Big Hall of the House of Scientists

(Morskoy Prospekt, 23)

#### Section 1.2\_ Structural biology and pharma

##### Chair:

**Professor Norbert Kučerka**, *Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, Dubna, Slovakia*

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| 14.30-14.45 | <p><b>OP-1.2-23</b><br/> Reporter: <u>Dr. Mikhail Avdeev</u><br/> <b>Phospholipid transport nanosystem for drug delivery: structure analysis by SR and neutron scattering in bulk and interface</b><br/> <u>Avdeev M.V.</u><sup>1,2</sup>, Chausova V.A.<sup>1</sup>, Shulenina A.V.<sup>2,3</sup>, Peters G.S.<sup>3,2</sup>, Kiselev M.A.<sup>1,2</sup><br/> 1 – <i>Joint Institute for Nuclear Research, Dubna, Russia</i><br/> 2 – <i>Physics Department, Lomonosov Moscow State University, Moscow, Russia</i><br/> 3 – <i>National Research Centre 'Kurchatov Institute', Moscow, Russia</i></p>                                                       |
| 14.45-15.00 | <p><b>OP-1.2-24</b><br/> Reporter: <u>Dr. Yulia Gorshkova</u><br/> <b>Thermodynamic and structural insights into the interaction of sulforaphane with DMPC model membranes</b><br/> <u>Naumenko M.V.</u><sup>1,2</sup>, <u>Dushanov E.B.</u><sup>1,3</sup>, <u>Drozhzhin N.A.</u><sup>1,3</sup>, <u>Gorshkova Yu.E.</u><sup>1,2</sup><br/> 1 – <i>Joint Institute of Nuclear Research, Dubna, Russia</i><br/> 2 – <i>Institute of Physics, Kazan Federal University, Kazan, Russia</i><br/> 3 – <i>Dubna State University, Dubna, Russia</i></p>                                                                                                             |
| 15.00-15.15 | <p><b>OP-1.2-25</b><br/> Reporter: <u>Daniil Krylov</u><br/> <b>Unravelling cholesterol-induced adaptability in model membranes using synchrotron X-ray methods</b><br/> <u>Krylov D.I.</u>, <u>Arslanov V.V.</u><br/> <i>Department of Physical Chemistry of Supramolecular Systems, Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences, Moscow, Russia</i></p>                                                                                                                                                                                                                                                      |
| 15.15-15.30 | <p><b>OP-1.2-26</b><br/> Reporter: <u>Alina Maryasevskaya</u><br/> <b>Architecturally controlled degradation of polycaprolactone bottlebrush elastomers with tissue-mimetic mechanical properties</b><br/> <u>Maryasevskaya A.V.</u><sup>1</sup>, Garcia J.<sup>2</sup>, Anikin M.M.<sup>2</sup>, Piryazev A.A.<sup>1</sup>, Umarov A.Z.<sup>1</sup>, Wang Z.<sup>2</sup>, Dobrynin A.V.<sup>2</sup>, Ivanov D.A.<sup>1</sup>, Sheiko S.S.<sup>2</sup><br/> 1 – <i>Lomonosov Moscow State University, Department of Chemistry, Moscow, Russia</i><br/> 2 – <i>Department of Chemistry, University of North Carolina at Chapel Hill, Chapel Hill, USA</i></p> |

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| 15.30-15.45 | <p><b>OP-1.2-27</b><br/> Reporter: Akmal Umarov<br/> <b>Mesoscale ordering in amphiphilic bottlebrush elastomers: In Situ synchrotron X-ray scattering</b><br/> Umarov A.Z., Samodelkin R.A., Ivanov D.A.<br/> Department of Chemistry, Lomonosov Moscow State University, Moscow, Russia</p> |
| 15.45-16.00 | <p><b>OP-1.2-28</b><br/> Reporter: Roman Samodelkin<br/> <b>Structural organization and properties of polynorbornene-based bottlebrush copolymers</b><br/> Samodelkin R.A., Umarov A.Z., Ivanov D.A.<br/> Department of Chemistry, Lomonosov Moscow State University, Moscow, Russia</p>      |
| 16.00-16.30 | Coffee                                                                                                                                                                                                                                                                                        |

### Big Hall of the House of Scientists

(Morskoy Prospekt, 23)

#### Section 3.1\_ Instrumentation\_beamlines

Chair:

Professor Andrey Bukhtiyarov, SRF "SKIF", Koltsovo, Russia

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| 16.30-16.45 | <p><b>OP-3.1-13</b><br/> Reporter: Dr. Grigorii Baranov<br/> <b>Status Of The Novosibirsk Fourth-Generation Light Source SKIF</b><br/> Baranov G.N.<sup>1,2</sup>, Levichev E.B.<sup>1,2</sup>, Piminov P.A.<sup>1,2</sup>, Serdakov L.E.<sup>1,2</sup>, Siniatkin S.V.<sup>1,2</sup>, Mamutov R.Z.<sup>1,2</sup>, Okunev I.N.<sup>1,2</sup>, Kashkin V.D.<sup>1,2</sup><br/> 1 – Budker Institute of Nuclear Physics, Novosibirsk, Russia<br/> 2 – SRF "SKIF", Koltsovo, Russia</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 16.45-17.00 | <p><b>OP-3.1-14</b><br/> Reporter: Dr. Marat Sharafutdinov<br/> <b>Status of 1-1 «Microfocus» beamline at SRF SKIF</b><br/> Chkhalo N.I.<sup>4</sup>, Darin F.A.<sup>2,7</sup>, Glushkov E.I.<sup>4</sup>, Gogolev A.S.<sup>5</sup>, Kishchin I.A.<sup>8</sup>, Khomyakov Yu.V.<sup>2,7</sup>, Lyatun I.I.<sup>3</sup>, Rakshun Ya.V.<sup>1,2</sup>, Reunov D.G.<sup>4</sup>, Sharafutdinov M.R.<sup>2,7</sup>, Sklyarov A.N.<sup>1</sup>, Smirnov A.I.<sup>6</sup>, Smolyansky E.A.<sup>5</sup>, Zarnitsyn A.Yu.<sup>5</sup>, Zverev D.A.<sup>3</sup><br/> 1 – Sobolev Institute of Geology and Mineralogy, SB RAS, Novosibirsk, Russia<br/> 2 – Budker Institute of Nuclear Physics, SBRAS, Novosibirsk, Russia<br/> 3 – Immanuel Kant Baltic Federal University, Kaliningrad, Russia<br/> 4 – Institute for Physics of Microstructures, RAS, Nizhniy Novgorod, Russia<br/> 5 – National Research Tomsk Polytechnic University, Tomsk, Russia<br/> 6 – Novosibirsk State Technical University, Novosibirsk, Russia<br/> 7 – SRF "SKIF" Boreskov Institute of Catalysis, SB RAS, r.p. Koltsovo, Russia<br/> 8 – «RND Vacuum» Ltd., Belgorod, Russia</p> |
| 17.00-17.15 | <p><b>OP-3.1-15</b><br/> Reporter: Zakhar Vinokurov<br/> <b>SRF SKIF Beamline 1-2 "Structural Diagnostics". Current status</b><br/> 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><br/> 1 – SRF "SKIF" BIC SB RAS, Novosibirsk, Russia<br/> 2 – Tomsk Polytechnic University, Tomsk Russia<br/> 3 – Institute of High Current Electronics, Tomsk, Russia</p>                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| 17.15-17.30 | <p><b>OP-3.1-16</b><br/> Reporter: <u>Dr. Ivan Rubtsov</u><br/> <b>SRF SKIF Beamline 1-3 "Fast Processes". Scientific program</b><br/> <u>Rubtsov I.A.</u><sup>1</sup>, Bukhtiyarov A.V.<sup>1</sup>, Zubavichus Ya.V.<sup>1</sup>, Shmakov A.N.<sup>1</sup>, Kazantsev S.R.<sup>1</sup>, Kuper K.E.<sup>1</sup>, Prueel E.R.<sup>2</sup>, Ten K.A.<sup>2</sup>, Studennikov A.A.<sup>2</sup>, Tolochko B.P.<sup>3</sup>, Shekhtman L.I.<sup>4</sup><br/> 1 – SRF "SKIF", Boreskov Institute of Catalysis, Koltsovo, Russia<br/> 2 – Lavrentyev Institute of Hydrodynamics, Novosibirsk, Russia<br/> 3 – Institute of Solid State Chemistry and Mechanochemistry, Novosibirsk, Russia<br/> 4 – Budker Institute of Nuclear Physics, Novosibirsk, Russia</p> |
| 17.30-17.45 | <p><b>OP-3.1-17</b><br/> Reporter: <u>Dr. Andrey Saraev</u><br/> <b>Beamline 1-4 "XAFS and Magnetic Dichroism" and Beamline 1-7 "Basic synchrotron radiation techniques for students educational research and innovations"</b><br/> <u>Saraev A.A.</u><sup>1,2</sup>, Zubavichus Ya.V.<sup>1</sup>, Vinokurov Z.S.<sup>1</sup>, Mishchenko D.D.<sup>1</sup>, Selyutin A.G.<sup>1</sup>, Bulavchenko O.A.<sup>1,2</sup>, Tsybulya S.V.<sup>2,3</sup>, Bukhtiyarov V.I.<sup>2</sup><br/> 1 – SRF SKIF, Boreskov Institute of Catalysis, Kol'tsovo, Russia<br/> 2 – Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia<br/> 3 – Novosibirsk State University, Novosibirsk, Russia</p>                                                                 |
| 17.45-18.00 | <p><b>OP-3.1-18</b><br/> Reporter: <u>Dr. Konstantin Kuper</u><br/> <b>Current Status of Beamline 1-5 "High-Energy X-ray Diagnostics" at the SRF «SKIF»</b><br/> <u>Kuper K.E.</u><sup>1,2</sup>, Legkodymov A.A.<sup>1,2</sup>, Zavjalov P.S.<sup>3</sup>, Makarov S.N.<sup>3</sup>, Skokov D.V.<sup>3</sup><br/> 1 – SRF "SKIF", Boreskov Institute of Catalysis, Koltsovo, Russia<br/> 2 – Budker Institute of Nuclear Physics, Novosibirsk, Russia<br/> 3 – Design and Technological Institute of Scientific Instrument Engineering, Novosibirsk, Russia</p>                                                                                                                                                                                            |
| 18.00-18.15 | <p><b>OP-3.1-19</b><br/> Reporter: <u>Dr. Vladimir Golyashov</u><br/> <b>Present status of 1-6 "Electronic Structure" beamline at the SRF SKIF</b><br/> <u>Golyashov V.A.</u><sup>1</sup>, Panafidin M.A.<sup>1</sup>, Chetyrin I.A.<sup>1</sup>, Nikolenko A.D.<sup>1</sup>, Prosvirin I.P.<sup>2</sup>, Kvon R.I.<sup>2</sup>, Tereshchenko O.E.<sup>1</sup>, Zubavichus Y.V.<sup>1</sup>, Bukhtiyarov A.V.<sup>1</sup>, Bukhtiyarov V.I.<sup>2</sup><br/> 1 – SRF «SKIF» Boreskov Institute of Catalysis, Kol'tsovo, Russia<br/> 2 – Boreskov Institute of Catalysis, Novosibirsk, Russia</p>                                                                                                                                                            |
| 18.15-18.30 | <p><b>OP-3.1-20</b><br/> Reporter: <u>Dr. Sergey Arkhipov</u><br/> <b>SRF "SKIF" for macromolecular crystallography</b><br/> <u>Arkhipov S.G.</u><sup>1</sup>, Vinokurov Z.S.<sup>1</sup>, Goldenberg B.G.<sup>1</sup>, Borshchevskiy V.I.<sup>2</sup>, Zubavichus Ya.V.<sup>1</sup><br/> 1 – SRF "SKIF", Kol'tsovo, Russia<br/> 2 – Moscow Institute of Physics and Technology, Dolgoprudny, Russia</p>                                                                                                                                                                                                                                                                                                                                                    |

**Small Hall of the House of Scientists**  
(Morskoy Prospekt, 23)

**Section 1.5\_ Frontier techniques**

**Chair:**

**Professor Sergei Ovchinnikov**, A.E. Arbutov Institute of Organic and Physical Chemistry subdivision of the Federal Research Center "Kazan Scientific Center" of the Russian Academy of Sciences, Kazan, Russia

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| 11.30-11.45 | <b>OPInv-1.5-01</b><br>Reporter: Professor Yaobo Huang<br><b>Status and research applications of SSRF beamlines</b><br><i>Shanghai Advanced Research Institute CAS, Shanghai, China</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 11.45-12.00 | <b>OP-1.5-02</b><br>Reporter: Dr. Roman Shendrik<br><b>Time-resolved synchrotron excitation of ultrafast luminescence: new insights for scintillator applications</b><br><i>Shendrik R.<sup>1</sup>, Radzhabov E.<sup>1</sup>, Myasnikova A.<sup>1</sup>, Pankratov V.<sup>2</sup>, Nepomnyashchikh A.<sup>1</sup></i><br><i>1 – Vinogradov Institute of Geochemistry SB RAS, Irkutsk, Russia</i><br><i>2 – Institute of Solid State Physics, University of Latvia, Riga, Latvia</i>                                                                                                                                                        |
| 12.00-12.15 | <b>OP-1.5-03</b><br>Reporter: Dr. Sergey Turishchev<br><b>Spectroscopy and microscopy techniques extensions in the ultra-soft X-ray region of synchrotron radiation for functional materials diagnostics</b><br><i>Turishchev S.Yu., Parinova E.V., Chuvenkova O.A.</i><br><i>Voronezh State University, Voronezh, Russia</i>                                                                                                                                                                                                                                                                                                               |
| 12.15-12.30 | <b>OP-1.5-04</b><br>Reporter: Dr. Aleksandr Barannikov<br><b>X-ray Microscopy for high pressure research</b><br><i>Barannikov A.<sup>1</sup>, Snigireva I.<sup>2</sup>, Troyan I.<sup>3</sup>, Snigirev A.<sup>1</sup></i><br><i>1 – Immanuel Kant Baltic Federal University, Kaliningrad, Russia</i><br><i>2 – European Synchrotron Radiation Facility, Grenoble, France</i><br><i>3 – A.V. Shubnikov Institute of Crystallography of the Kurchatov Complex of Crystallography and Photonics, Moscow, Russia</i>                                                                                                                           |
| 12.30-12.45 | <b>OP-1.5-05</b><br>Reporter: Garg Siddhi<br><b>Structural evolution of wolframites under high pressure: insights from Synchrotron X-ray diffraction</b><br><i>Siddhi G.<sup>1,2</sup>, Pandey K.K.<sup>1,2</sup>, Poswal H.K.<sup>1,2</sup>, Errandonea D.<sup>3</sup>, Garg N.<sup>1,2</sup></i><br><i>1 – High-Pressure and Synchrotron Radiation Physics Division, Bhabha Atomic Research Centre, Trombay, Mumbai, India</i><br><i>2 – Homi Bhabha National Institute, Anushaktinagar, Mumbai, India</i><br><i>3 – Departamento de Física Aplicada-ICMUV-MALTA Consolider Team, Universidad de Valencia, Burjassot, Valencia, Spain</i> |

**12.45-13.00** **OP-1.5-06**  
Reporter: Professor Boris Kodess  
**Reference materials of diffraction properties and metrological assurance at various structural scales**  
*Research Center for Applied Metrology – Rostest (Rosstandard), Moscow, Russian Federation*

**13.00-14.30** **Break**

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(Morskoy Prospekt, 23)

**Section 1.5\_ Frontier techniques**

**Chair:**

*Dr. Sergey Turishchev, Voronezh State University, Voronezh, Russia*

**14.30-14.45** **OP-1.5-07**  
Reporter: Dr. Ahmed Elmekawy  
**Determining nuclear and magnetic form factors contributions into yttrium oxide/magnetite nanocomposite by combined data of Small-Angle X-ray Scattering (SAXS) and Small-Angle Neutron Scattering (SANS)**  
Elmekawy A.H.A.<sup>1,2,3</sup>, Ivankov O.<sup>1</sup>, Hamed A.S.<sup>2,3</sup>, Ali I.A.<sup>2,3</sup>, Hassan H.E.<sup>2,3</sup>, Kuklin A.I.<sup>1</sup>, Islamov A.Kh.<sup>1</sup>  
*1 – Joint Institute for Nuclear Research, Dubna, Russia*  
*2 – Experimental Nuclear Physics Department, Nuclear Research Center, Egyptian Atomic Energy Authority, Cairo, Egypt*  
*3 – Cyclotron Facility, Nuclear Research Center, Egyptian Atomic Energy Authority, Cairo, Egypt*  
*4 – Dubna University, Dubna, Russia*

**14.45-15.00** **OP-1.5-08**  
Reporter: Dr. Leandro Socolovsky  
**The use of structural techniques to study magnetic and magnetotransport properties of nanostructured systems**  
Socolovsky L.M.<sup>1,2</sup>  
*1 – Instituto de Ciencias de la Tierra y Ambientales de La Pampa (CONICET - UNLPam), Santa Rosa, La Pampa, Argentina*  
*2 – Universidad Tecnológica Nacional - Facultad Regional Santa Cruz, Río Gallegos, Santa Cruz, Argentina*

**15.00-15.15** **OP-1.5-09**  
Reporter: Professor Sergei Ovchinnikov  
**ARPES and pseudogap mystery in high temperature superconductors-cuprates**  
Ovchinnikov S.G., Kuzmin V.I.  
*Kirensky Institute of Physics, FRC “Krasnoyarsk scientific center”, SB RAS, Krasnoyarsk, Russia*

**15.15-15.30** **OP-1.5-10**  
Reporter: Professor Vyacheslav Storchak  
**2D rare-earth magnets for spintronics**  
Averyanov D.V.<sup>1</sup>, Sokolov I.S.<sup>1</sup>, Parfenov O.E.<sup>1</sup>, Mihalyuk A.N.<sup>2</sup>, Kondratev O.A.<sup>1</sup>, Taldenkov A.N.<sup>1</sup>, Tokmachev A.M.<sup>1</sup>, Storchak V.G.<sup>1</sup>  
*1 – National Research Center “Kurchatov Institute”, Moscow, Russia*  
*2 – Far Eastern Federal University, Vladivostok, Russia*

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| 15.30-15.45 | <p><b>OP-1.5-11</b><br/> Reporter: Dr. Vladimir Zhaketov<br/> <b>Ferromagnetic-superconducting layered heterostructures: multiscale study using synchrotron GISAXS and polarized neutron reflectometry</b><br/> <u>Zhaketov V.D.</u><sup>1,2,3</sup>, Zaky A. Zaky<sup>2,4</sup>, Kolupaev E.D.<sup>2</sup>, Norov D.A.<sup>2,5</sup>, Boguslavsky S.E.<sup>5</sup>, Sadradze R.N.<sup>6</sup>, Tatarsky D.A.<sup>7</sup>, Kamashev A.A.<sup>8</sup>, Arbuzov D.A.<sup>8</sup><br/> 1 – Moscow Institute of Physics and Technology, Dolgoprudny, Russia<br/> 2 – Joint Institute for Nuclear Research, Dubna, Russia<br/> 3 – National Research University Higher School of Economics, Moscow, Russia<br/> 4 – Beni-Suef University, Beni-Suef, Egypt<br/> 5 – Lomonosov Moscow State University, Moscow, Russia<br/> 6 – Dubna State University, Dubna, Russia<br/> 7 – Lobachevsky State University of Nizhny Novgorod, Nizhny Novgorod, Russia<br/> 8 – Kazan Physical-Technical Institute, Kazan, Russia</p> |
| 15.45-16.00 | <p><b>OP-1.5-12</b><br/> Reporter: Dr. Mikhail Platunov<br/> <b>Polarization-dependent X-ray absorption spectroscopy for fundamental studies of modern magnetic materials</b><br/> Synchrotron radiation facility SKIF, Boreskov Institute of Catalysis SB RAS, Kol'tsovo, Russia</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 16.00-16.30 | Coffee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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**Section 1.5\_ Frontier techniques**

**Chair:**

**Dr. Mikhail Platunov**, SRF "SKIF", Kol'tsovo, Russia

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| 16.30-16.45 | <p><b>OP-1.5-13</b><br/> Reporter: Larisa Gulina<br/> <b>Reactions at the solution-gas interface: investigation using synchrotron surface-sensitive methods and the development of new inorganic materials</b><br/> <u>Gulina L.B.</u><sup>1</sup>, Rogachev A.V.<sup>2</sup>, Kuklo L.I.<sup>1</sup>, Yakunin S.N.<sup>2</sup><br/> 1 – St. Petersburg State University, Saint-Petersburg, Russia<br/> 2 – National Research Centre Kurchatov Institute, Moscow, Russia</p>                                                                         |
| 16.45-17.00 | <p><b>OP-1.5-14</b><br/> Reporter: Dr. Alexey Boubnov<br/> <b>Operando synchrotron X-ray studies of catalysts under real reaction conditions: from active sites to catalyst evolution</b><br/> <u>Boubnov A.A.</u><sup>1</sup>, Mashkovsky I.S.<sup>2</sup>, Stakheev A.Yu.<sup>2</sup><br/> 1 – Karlsruhe Institute of Technology, Karlsruhe, Germany<br/> 2 – N. D. Zelinsky Institute of Organic Chemistry, Moscow, Russia</p>                                                                                                                    |
| 17.00-17.15 | <p><b>OP-1.5-15</b><br/> Reporter: Dr. Alexander Ovsyannikov<br/> <b>Usage of synchrotron radiation source for analyzing of porous metal-organic supramolecular cages and materials based on them</b><br/> <u>Ovsyannikov A.S.</u><sup>1</sup>, Solovieva S.E.<sup>2</sup>, Antipin I.S.<sup>1,2</sup><br/> 1 – A.E. Arbuzov Institute of Organic and Physical Chemistry subdivision of the Federal Research Center "Kazan Scientific Center" of the Russian Academy of Sciences, Kazan, Russia<br/> 2 – Kazan Federal University, Kazan, Russia</p> |

## October 21, Wednesday

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| 17.15-17.30 | <p><b>OP-1.5-16</b><br/><u>Reporter: Dr. Denis Anokhin</u><br/><b>In situ structural investigations of “smart” functional materials using synchrotron radiation</b><br/><u>Anokhin D.V.<sup>1,2</sup>, Ivanov D.A.<sup>1,2</sup></u><br/><i>1 – Lomonosov Moscow State University, Moscow, Russia</i><br/><i>2 – Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry RAS, Chernogolovka, Russia</i></p> |
| 17.30-17.45 | <p><b>OP-1.5-17</b><br/><u>Reporter: Alexander Moskovsky</u><br/><b>High performance compute Deployment by RSC for SKIF Synchrotron Radiation Facility to support Mega Science Research</b><br/><i>RSC Group, Moscow, Russia</i></p>                                                                                                                                                                                                |
| 17.45-18.00 | <p><b>OP-1.5-18</b><br/><u>Reporter: Dr. Vladimir Kriventsov</u><br/><b>Diagnostics of complex composition systems by XAFS spectroscopy</b><br/><i>Kriventsov V.V.</i><br/><i>SRF «SKIF», Boreskov Institute of Catalysis, Kol'tsovo, Russia</i></p>                                                                                                                                                                                |
| 18.00-18.15 | <p><b>OP-1.5-19</b><br/><u>Reporter: Dr. Anna Kichkailo</u><br/><b>X-ray megascience for the pharmaceutical industry: from molecular design to clinical implementation</b><br/><i>Kichkailo A.</i><br/><i>Federal Research Center "Krasnoyarsk Science Center of the Siberian Branch of the Russian Academy of Sciences", Krasnoyarsk, Russia</i></p>                                                                               |

**Conference hall, Boreskov Institute of Catalysis, 3<sup>rd</sup> floor**  
(Prospekt Akademika Lavrentieva, 5)

**Section 1.1\_ Chemistry and catalysis**

**Chair:**

**Dr. Anna Nartova**, Boreskov Institute of Catalysis, Novosibirsk, Russia

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| <b>11.30-11.45</b> | <b>OPInv-1.1-19</b><br><u>Reporter: Dr. Dmitry Karpinsky</u><br><b>Crystal structure and dielectric properties of the (1-x)BiFeO<sub>3</sub>-(x)PbTiO<sub>3</sub> solid solutions near the morphotropic phase boundary</b><br><u>Karpinsky D.V.<sup>1,2</sup>, Latushko S.I.<sup>1,2</sup>, Silibin M.V.<sup>2</sup></u><br><i>1 – Scientific and Practical Center for Materials Science of the National Academy of Sciences of Belarus, Minsk, Belarus</i><br><i>2 – National Research University "Moscow Institute of Electronic Technology" (MIET), Zelenograd, Russia</i>                                                                                                                                |
| <b>11.45-12.00</b> | <b>OP-1.1-20</b><br><u>Reporter: Polina Kalinina</u><br><b>Photocrystallographic studies of [Co(NH<sub>3</sub>)<sub>5</sub>NO<sub>2</sub>]<sub>XY</sub> coordination compounds</b><br><u>Kalinina P.P.<sup>1,2</sup>, Zakharov B.A.<sup>1,2</sup>, Boldyreva E.V.<sup>2</sup></u><br><i>1 – SRF SKIF, Koltsovo, Russia</i><br><i>2 – Novosibirsk State University, Novosibirsk, Russia</i>                                                                                                                                                                                                                                                                                                                   |
| <b>12.00-12.15</b> | <b>OP-1.1-21</b><br><u>Reporter: Nikita Bogdanov</u><br><b>Catching new modulated high-pressure phases of <math>\delta</math>-chlorpropamide: when synchrotron radiation reveals a hidden story</b><br><u>Bogdanov N.E.<sup>1,2</sup>, Rashchenko S.V.<sup>1</sup>, Zakharov B.A.<sup>2,3</sup>, Seretkin Yu.V.<sup>1,2</sup>, Boldyreva E.V.<sup>2</sup></u><br><i>1 – Sobolev institute of Geology and Mineralogy, Novosibirsk, Russia</i><br><i>2 – Novosibirsk State University, Novosibirsk, Russia</i><br><i>3 – SRF «SKIF», Koltsovo, Russia</i>                                                                                                                                                      |
| <b>12.15-12.30</b> | <b>OP-1.1-22</b><br><u>Reporter: Svetlana Sharaya</u><br><b>Structures of molecular ferro- and piezoelectrics under variable temperatures and pressures</b><br><u>Sharaya S.S.<sup>1,2</sup>, Zakharov B.A.<sup>1,2</sup>, Boldyreva E.V.<sup>2</sup></u><br><i>1 – Synchrotron Radiation Facility – Siberian Circular Photon Source (SRF "SKIF"), Koltsovo, Novosibirsk area, Russian Federation</i><br><i>2 – Novosibirsk State University, Novosibirsk, Russia</i>                                                                                                                                                                                                                                        |
| <b>12.30-12.45</b> | <b>OP-1.1-23</b><br><u>Reporter: Dr. Alexander Zuraev</u><br><b>Composition and microstructure of N-doped heckelite-type silver catalyst prepared via silver(I) poly-5-vinyltetrazolate thermolysis</b><br><u>Zuraev A.V.<sup>1</sup>, Verbilo K.M.<sup>1</sup>, Boboriko N.E.<sup>1</sup>, Stolbunova Yu.A.<sup>1</sup>, Komova O.V.<sup>2</sup>, Trukhanov A.V.<sup>3</sup></u><br><i>1 – Institute of Chemistry of New Materials of the National Academy of Sciences of Belarus, Minsk, Belarus</i><br><i>2 – Boreskov Institute of Catalysis, Novosibirsk, Russia</i><br><i>3 – Scientific and Practical Center for Materials Science of the National Academy of Sciences of Belarus, Minsk, Belarus</i> |

**12.45-13.00 OP-1.1-24**  
Reporter: Dr. Evgeniy Suslov  
**Study of structural ordering in the Na-Fe<sub>x</sub>TiSe<sub>2</sub> system by X-ray and EMF technique**  
Suslov E.A.<sup>1</sup>, Postnikov M.S.<sup>2</sup>, Sumnikov S.V.<sup>3</sup>, Samoylova N.Yu.<sup>3</sup>  
1 – Ural State Agrarian University, Ekaterinburg, Russia  
2 – M.N. Mikheev Institute of Metal Physics of UB RAS, Ekaterinburg, Russia  
3 – Joint Institute for Nuclear Research, Dubna, Russia

**13.00-14.30 Break**

**Conference hall, Boreskov Institute of Catalysis, 3<sup>rd</sup> floor**  
(Prospekt Akademika Lavrentieva, 5)

**Section 1.1\_ Chemistry and catalysis**

**Chair:**

**Dr. Vera Pakharukova, Boreskov Institute of Catalysis, Novosibirsk, Russia**

**14.30-14.45 OPInv-1.1-25**  
Reporter: Professor Xiongwu Kang  
**Rational design of single atom catalysts towards electrochemical CO<sub>2</sub> reduction**  
Miao K.<sup>1</sup>, Qin J.<sup>1</sup>, Yakhvarov D.<sup>2</sup>, Kuchkaev A.<sup>2</sup>, Kang X.<sup>1</sup>  
1 – Department of Energy, South China University of Technology, Guangzhou, China  
2 – Arbuzov Institute of Organic and Physical Chemistry, FRC Kazan Scientific Center of RAS, Arbuzov Street 8, Kazan, Russian Federation

**14.45-15.00 OP-1.1-26**  
Reporter: Dr. Vasily Kaichev  
**Effect of dissolved carbon on activation of methane on palladium: Experimental and theoretical study**  
Kaichev V.V.<sup>1</sup>, Laletina S.S.<sup>1,2</sup>, Vinokurov Z.S.<sup>3</sup>, Konovalova V.P.<sup>1</sup>, Shor E.A.<sup>2</sup>, Yudanov I.V.<sup>1</sup>  
1 – Boreskov Institute of Catalysis, Novosibirsk, Russia  
2 – Institute of Chemistry and Chemical Technology, Federal Research Center "Krasnoyarsk Science Center SB RAS", Krasnoyarsk, Russia  
3 – Synchrotron Radiation Facility SKIF, Boreskov Institute of Catalysis, Koltsovo, Russia

**15.00-15.15 OP-1.1-27**  
Reporter: Professor Renat Beissenov  
**Engineering oxide-based photocatalysts for clean energy conversion**  
Beissenov R.E.<sup>1,2</sup>, Kudaibergen A.D.<sup>1</sup>, Yermakhan A.Y.<sup>1</sup>, Mansurov Z.A.<sup>3</sup>  
1 – Kazakh-British Technical University, Almaty, Kazakhstan  
2 – Institute of chemical sciences named after A. Bekturov, Almaty, Kazakhstan  
3 – Institute of combustion problems, Almaty, Kazakhstan

**15.15-15.30 OP-1.1-28**  
Reporter: Kristina Novoselova  
**Borylated silica aerogels: synthesis, structure and properties**  
Novoselova K.N.<sup>1,2</sup>, Popkov M.A.<sup>1</sup>, Baranchikov A.E.<sup>1,2</sup>  
1 – Kurnakov Institute of General and Inorganic Chemistry RAS, Moscow, Russia  
2 – National Research University Higher School of Economics, Moscow, Russia

**15.30-15.45 OP-1.1-29**  
Reporter: Dr. Rishat Valeev  
**The XPS, Auger and EXEFS investigations of chemical composition and local atomic structure of thin nonstoichiometric Titanium Oxide films**  
Valeev R.G., Bakieva O.R., Guseinov T.Z.  
Udmurt Federal Research Centre of UB RAS, Izhevsk, Russia

**15.45-16.00** **OP-1.1-30**  
Reporter: Dr. Anna Nartova  
**XPS-AI software for automating XPS data analysis using deep machine learning**  
Nartova A.V.<sup>1,2</sup>, Vakhrushev A.A.<sup>2</sup>, Kholmanskii A.A.<sup>1,2</sup>, Matveev A.V.<sup>2</sup>  
*1 – Boreskov Institute of Catalysis, Novosibirsk, Russia*  
*2 – Novosibirsk State University, Novosibirsk, Russia*

**16.00-16.30** **Coffee**

**Conference hall, Boreskov Institute of Catalysis, 3<sup>rd</sup> floor**  
(Prospekt Akademika Lavrentieva, 5)

### **Section 1.1\_ Chemistry and catalysis**

**Chair:**

**Dr. Rishat Valeev**, *Udmurt Federal Research Centre of UB RAS, Izhevsk, Russia*

**16.30-16.45** **OPInv-1.1-31**  
Reporter: Professor Dmitry Yakhvarov  
**2D-C,N,P-hybrid materials for synthesis and design of new photocatalytic systems for hydrogen evolution reaction and carbon dioxide reduction**  
Yakhvarov D.G.<sup>1</sup>, Kozlova E.A.<sup>2</sup>, Sinyashin O.G.<sup>1</sup>  
*1 – Arbuzov Institute of Organic and Physical Chemistry, Kazan, Russia*  
*2 – Boreskov Institute of Catalysis, Novosibirsk, Russia*

**16.45-17.00** **OP-1.1-32**  
Reporter: Alexey Romanov  
**Non-stoichiometric lanthanum aluminates: synthesis, structure, and catalytic performance in high-temperature oxidation of methane**  
Lyubimov E.Yu., Romanov A.N., Vasyutin P.R., Gordienko Yu.A., Sinev M.Yu.  
*N.N. Semenov Federal Research Center of Chemical Physics, R.A.S., Moscow, Russia*

**17.00-17.15** **OP-1.1-33**  
Reporter: Ivan Petrov  
**Structural models of low-temperature alumina phases based on planar defects**  
Petrov I.Yu.<sup>1,2</sup>, Pakharukova V.P.<sup>1,2</sup>  
*1 – Novosibirsk State University, Novosibirsk, Russia*  
*2 – Boreskov Institute of Catalysis, Novosibirsk, Russia*

**17.15-17.30** **OP-1.1-34**  
Reporter: Dr. Vera Pakharukova  
**Application of high-energy X-rays and atomic pair distribution function analysis for structural diagnostics of bimetallic Ni-M/Ce<sub>0.75</sub>Zr<sub>0.25</sub>O<sub>2</sub> (M=Fe, Co) catalysts for methanation of carbon oxides**  
Pakharukova V.P., Stonkus O.A., Saraev A.A., Gorlova A.M., Rogozhnikov V.N., Potemkin D.I.  
*Boreskov Institute of Catalysis, Novosibirsk, Russia*

**17.30-17.45** **OP-1.1-35**  
Reporter: Dr. Dmitry Svintsitskiy  
**Delafossite-based catalysts as suitable objects for research using synchrotron radiation**  
Svintsitskiy D.A., Metalnikova V.M., Kardash T.Yu., Cherepanova S.V., Boronin A.I.  
*Boreskov Institute of Catalysis, Novosibirsk, Russia*

17.45-18.00

OP-1.1-36

Reporter: Dr. Yuliya Titova

**Synchrotron-based techniques in the study of heterogeneous Ziegler catalytic systems**

Titova Yu.Yu.

*A. E. Favorsky Irkutsk Institute of Chemistry, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia*

18.00-18.15

OP-1.1-37

Reporter: Dr. Natalia Boboriko

**Synthesis of photocatalytically active titanium dioxide with controlled phase composition and particle morphology**

Boboriko N.E.<sup>1</sup>, Kopachev D.G.<sup>2</sup>, Zuraev A.V.<sup>1</sup>

*1 – Institute of Chemistry of New Materials of the National Academy of Sciences of Belarus, Minsk, Belarus*

*2 – Belarusian State University, Chemistry Faculty, Minsk, Belarus*

Conference hall, Budker Institute of Nuclear Physics of SB RAS, 3<sup>rd</sup> floor  
(Prospekt Akademika Lavrentieva, 11)

**Section 3.2\_ Instrumentation\_beamlines components**

**Chair:**

**Dr. Boris Zakharov**, SRF "SKIF", Koltsovo, Russia

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| 11.30-11.45 | <p><b>OPInv-3.2-07</b><br/>Reporter: Professor Lev Shekhtman<br/><b>Development of high rate coordinate detectors for studies of FAST Dynamic processes at a synchrotron radiation beam</b><br/><i>Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russia</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 11.45-12.00 | <p><b>OP-3.2-08</b><br/>Reporter: Vsevolod Burdin<br/><b>Development of the SciCODE energy-resolved direct photon-counting detector</b><br/>Aulchenko V.M.<sup>1</sup>, Burdin V.E.<sup>1,2</sup>, Zhulanov V.V.<sup>1</sup>, Ivanenko S.V.<sup>1</sup>, Kudryavtsev V.N.<sup>1</sup>, Titov V.M.<sup>1</sup>, Shechtman L.I.<sup>1,3,4</sup>, Yurovskaya A.A.<sup>1</sup>, Yartseva M.A.<sup>1,3</sup><br/><i>1 – Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russia</i><br/><i>2 – SRF "SKIF", Koltsovo, Novosibirsk region, Russia</i><br/><i>3 – Novosibirsk State University, Novosibirsk, Russia</i><br/><i>4 – Institute of Solid State Chemistry and Mechanochemistry, Novosibirsk, Russia</i></p>                                                                                                                                                                            |
| 12.00-12.15 | <p><b>OP-3.2-09</b><br/>Reporter: Ekaterina Kovalenko<br/><b>Development and testing of a large-field detector for synchrotron imaging</b><br/>Kovalenko E.S.<sup>1</sup>, Kaloyan A.A.<sup>1</sup>, Podurets K.M.<sup>1</sup>, Serov V.V.<sup>2</sup><br/><i>1 – NRC "Kurchatov Institute", Moscow, Russia</i><br/><i>2 – LLC "Optoinstrument", Moscow, Russia</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 12.15-12.30 | <p><b>OP-3.2-10</b><br/>Reporter: Dr. Nikita Snegirev<br/><b>Development of a resonant monochromator prototype for Mössbauer studies at the planned SILA synchrotron (Protvino, Moscow Region)</b><br/>Snegirev N.I.<sup>1</sup>, Kulikov A.G.<sup>1</sup>, Targonsky A.V.<sup>1</sup>, Sarychev D.A.<sup>2</sup>, Zekhtser M.Yu.<sup>2</sup>, Khristich S.V.<sup>2</sup>, Nesterov E.V.<sup>3</sup>, Fedina O.S.<sup>3</sup>, Lyubutin I.S.<sup>1</sup>, Yagupov S.V.<sup>4</sup>, Strugatsky M.B.<sup>4</sup><br/><i>1 – National Research Centre "Kurchatov Institute", Moscow, Russia</i><br/><i>2 – Research Institute of Physics, Southern Federal University, Rostov-on-Don, Russia</i><br/><i>3 – Scientific and Technical Center Techmashinter LLC, Moscow, Russia</i><br/><i>4 – Physics and Technology Institute, V.I. Vernadsky Crimean Federal University, Simferopol, Russia</i></p> |
| 12.30-12.45 | <p><b>OP-3.2-11</b><br/>Reporter: Professor Sergey Guda<br/><b>The development of the control system for the small- and wide-angle X-ray scattering (SAXS, WAXS) station at the "NRCKI-Kurchatov" synchrotron</b><br/>Bagliy A.P., Guda S.A., Lifar M.S., Mannaa A., Guda A.A., Soldatov A.V.<br/><i>Southern Federal University (SFedU), The Smart Materials Research Institute, Rostov-on-Don, Russia</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

12.45-13.00

OP-3.2-12

Reporter: Evgeniy Pal'chikov

**Three-dimensional raster**

Gentshev A.N.<sup>1</sup>, Baev S.G.<sup>2</sup>, Pal'chikov E.I.<sup>3</sup>, Dolgikh A.V.<sup>3</sup>

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

2 – Institute of Automation and Electrometry SB RAS, Novosibirsk, Russia

3 – Institute of Hydrodynamics SB RAS, Novosibirsk, Russia

13.00-14.30

Break

## Conference hall, Budker Institute of Nuclear Physics of SB RAS, 3<sup>rd</sup> floor

(Prospekt Akademika Lavrentieva, 11)

### Section 3.1\_ Instrumentation\_beamlines

Chair:

*Ekaterina Kovalenko, NRC "Kurchatov Institute", Moscow, Russia*

14.30-14.45

OP-3.1-07

Reporter: Dmitriy Reunov

**Nanoscopy beamline at SRF SKIF**

Reunov D.G.<sup>1</sup>, Malyshev I.V.<sup>1</sup>, Rakshun Ya.V.<sup>2,3</sup>, Khomyakov Yu.V.<sup>2,4</sup>, Kutkin O.M.<sup>2,4</sup>,

Chernov V.A.<sup>2</sup>, Chkhalo N.I.<sup>1</sup>, Golyshev S.A.<sup>5</sup>, Shirokova O.M.<sup>6</sup>

1 – Institute for Physics of Microstructures, Nizhny Novgorod, Russia

2 – Budker Institute of Nuclear Physics, Novosibirsk, Russia

3 – Sobolev Institute of Geology and Mineralogy, Novosibirsk, Russia

4 – SRF «SKIF», Koltsovo, Russia

5 – Belozersky Institute of Physico-Chemical Biology, Lomonosov Moscow State University, Moscow, Russian Federation

6 – Federal State Budgetary Educational Institution of Higher Education "PIMU" of the Ministry of Health of Russia, Nizhny Novgorod, Russia

14.45-15.00

OP-3.1-08

Reporter: Dr. Boris Zakharov

**The project of the crystallography dedicated beamline at SRF "SKIF"**

Zakharov B.A.<sup>1,2</sup>, Zhdankin G.I.<sup>1,2</sup>

1 – SRF "SKIF", Koltsovo, Novosibirsk region, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

15.00-15.15

OP-3.1-09

Reporter: Anastasiya Fedorenko

**HAXPES beamline at SRF SKIF**

Fedorenko A.D.<sup>1</sup>, Asanov I.P.<sup>1</sup>, Zenkevich A.V.<sup>2</sup>, Mezentshev N.A.<sup>3</sup>, Polkovnikov V.N.<sup>4</sup>,

Rakshun Ya.V.<sup>3,5</sup>, Khomyakov Yu.V.<sup>3,6</sup>, Chernov V.A.<sup>3</sup>

1 – Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia

2 – Moscow Institute of Physics and Technology, Moscow, Russia

3 – Budker Institute of Nuclear Physics, Novosibirsk, Russia

4 – Institute for Physics of Microstructures, Nizhny Novgorod, Russia

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

6 – SRF "SKIF", Koltsovo, Russia

15.15-15.30

OP-3.1-10

Reporter: Dr. Elena Reznikova

**Transmission Hard X-ray Interference Microscope (15-35 keV)**

Reznikova E.F.<sup>1</sup>, Neustroeva A.A.<sup>1</sup>, Nazmov V.P.<sup>1,2</sup>

1 – Budker Institute of Nuclear Physics of SB RAS, Novosibirsk, Russia

2 – Synchrotron Radiation Facility – Siberian Circular Photon Source "SKIF" Boreskov Institute of Catalysis of SB RAS, Novosibirsk, Russia

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| 15.30-15.45 | <p><b>OP-3.1-11</b><br/> Reporter: Professor Alexander Guda<br/> <b>High throughput in situ screening of reaction conditions on the synchrotron radiation facilities</b><br/> <u>Guda A.A.<sup>1</sup></u>, Protsenko B.O.<sup>1</sup>, Pankin I.A.<sup>1</sup>, Gorbunov D.N.<sup>2</sup>, Burueva D.B.<sup>3</sup>, Lifar M.S.<sup>1</sup>, Guda S.A.<sup>1</sup>, Soldatov A.V.<sup>1</sup><br/> 1 – <i>The Smart Materials Research Institute, Rostov-on-Don, Russia</i><br/> 2 – <i>Moscow State University, Moscow, Russia</i><br/> 3 – <i>International Tomography Center SB RAS, Novosibirsk, Russia</i></p> |
| 15.45-16.00 | <p><b>OP-3.1-12</b><br/> Reporter: Dr. Abdulkarim Amirov<br/> <b>An instrument for simultaneous in situ structural and macroscopic characterization of magnetic materials using synchrotron radiation</b><br/> Mukhamedov N.M., Koliushenkov M.A., Samsonov D.O., Komlev A.S., <u>Amirov A.A.</u><br/> <i>National research center “Kurchatov Institute”, Moscow, Russia</i></p>                                                                                                                                                                                                                                     |
| 16.00-16.30 | Coffee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

Conference hall, Budker Institute of Nuclear Physics of SB RAS, 3<sup>rd</sup> floor  
(Prospekt Akademika Lavrentieva, 11)

#### Section 1.4\_ Archaeology/geology and cultural heritage

Chair:

**Professor Alexander Guda**, *The Smart Materials Research Institute, Rostov-on-Don, Russia*

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| 16.30-16.45 | <p><b>OP-1.4-01</b><br/> Reporter: Professor Feiwu Zhang<br/> <b>Ca-rich bridgmanite controls deep-mantle phase transitions and defines synchrotron targets at the core-mantle boundary</b><br/> Zhang Feiwu<br/> <i>Institute of Geochemistry, Chinese Academy of Sciences, Guiyang, China</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 16.45-17.00 | <p><b>OP-1.4-02</b><br/> Reporter: Professor Guoqiang Chu<br/> <b>Drought cycles over the last 8,200 years recorded by using SRXRF and biomarkers in Maar lake Twintaung, Myanmar</b><br/> <u>Guoqiang Chu</u><sup>1,2,3</sup>, Qing Sun<sup>4</sup>, Youliang Su<sup>5</sup>, Manman Xie<sup>1,5</sup>, Qingzeng Zhu<sup>1</sup>, Than Zaw<sup>6</sup>, Kyaing Sein<sup>6</sup><br/> 1 – <i>Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing, China</i><br/> 2 – <i>CAS Center for Excellence in Life and Paleoenvironment, Beijing, China</i><br/> 3 – <i>Innovation Academy for Earth Science, Chinese Academy of Sciences, Beijing, China</i><br/> 4 – <i>National Research Center of Geoanalysis, Beijing, China</i><br/> 5 – <i>Institute of Geophysics, China Earthquake Administration, Beijing, China</i><br/> 6 – <i>Myanmar Geosciences Society, Yangon, Myanmar</i></p> |
| 17.00-17.15 | <p><b>OP-1.4-03</b><br/> Reporter: Professor Nikolay Kruk<br/> <b>Geological tasks for the SRF SKIF</b><br/> <u>Kruk N.</u><sup>1</sup>, Dar'in A.<sup>1</sup>, Rakshun Ya.<sup>1</sup>, Rashchenko S.<sup>1</sup>, Dar'in F.<sup>2</sup>, Zubavichus Ya.<sup>2</sup>, Khomyakov Yu.<sup>2</sup><br/> 1 – <i>Sobolev Institute of Geology and Mineralogy, Novosibirsk, Russia</i><br/> 2 – <i>SRF SKIF Boreskov Institute of Catalysis, Novosibirsk, Russia</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| 17.15-17.30 | <p><b>OP-1.4-04</b><br/><u>Reporter: Dr. Ilya Prokopyev</u><br/><b>Synchrotron X-ray fluorescence microscopy of rare earth elements in carbonatites</b><br/><u>Prokopyev I.R.<sup>1</sup>, Darin A.V.<sup>1</sup>, Darin F.A.<sup>2,3</sup>, Prutskov G.V.<sup>4</sup>, Rakshun Y.V.<sup>1,2</sup>, Sklyarov A.N.<sup>1</sup>, Sorokoletov D.I.<sup>2,3</sup>, Khomyakov Yu.V.<sup>2,3</sup></u><br/><i>1 – V.S. Sobolev Institute of Geology and Mineralogy SB RAS, Novosibirsk, Russia</i><br/><i>2 – Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russia</i><br/><i>3 – SRF «SKIF», Koltsovo, Russia</i><br/><i>4 – NRC «Kurchatov Institute», Moscow, Russia</i></p> |
| 17.30-17.45 | <p><b>OP-1.4-05</b><br/><u>Reporter: Dr. Konstantin Podurets</u><br/><b>Experience in synchrotron, neutron and X-ray tomography of objects of the historical heritage: why we demand for the modern SR source</b><br/><u>Podurets K.M., Kovalenko E.S., Murashev M.M., Guryeva P.V., Tereschenko E.Yu., Yatsishina E.B.</u><br/><i>NRC “Kurchatov Institute”, Moscow, Russia</i></p>                                                                                                                                                                                                                                                                                                 |
| 17.45-18.00 | <p><b>OP-1.4-06</b><br/><u>Reporter: Dr. Tuyen Luu</u><br/><b>From synchrotron X-ray absorption spectroscopy to positron annihilation: A multiscale approach to defect and local structure engineering in nanomaterials</b><br/><u>Luu Anh Tuyen</u><br/><i>Center for Nuclear Technologies – Vietnam Atomic Energy Institute, Hochiminh, Vietnam</i></p>                                                                                                                                                                                                                                                                                                                            |
| 18.00-18.15 | <p><b>OP-1.4-07</b><br/><u>Reporter: Maxim Nevmerzhitsky</u><br/><b>Influence of the choice of the <math>NN</math> potential model on the total cross section of incoherent <math>\pi^-</math> photoproduction on the deuteron in the threshold energy region</b><br/><u>Kokoulina E.S.<sup>1</sup>, Levchuk M.I.<sup>2</sup>, Nevmerzhitsky M.N.<sup>2</sup>, Shulyakovsky R.G.<sup>2,3</sup></u><br/><i>1 – Jointed Institute for Nuclear Research, Dubna, Russia</i><br/><i>2 – Institute of Applied Physics of National Academy of Sciences of Belarus, Minsk, Belarus</i><br/><i>3 – Institute for Nuclear Research of Belarusian State University, Minsk, Belarus</i></p>      |

**Big Hall of the House of Scientists**

(Morskoy Prospekt, 23)

**Plenary Session**

**Chairs:**

**Professor Oleg Martyanov**, Boreskov Institute of Catalysis, Novosibirsk, Russia

**Professor Konstantin Zolotarev**, SRF "SKIF", Koltsovo, Russia

- 09.00-09.45 PL-09**  
Reporter: Professor Vladimir Pankratov  
**Synchrotron-radiation luminescence spectroscopy: experience from SUPERLUMI and FINESTLUMI and perspectives for SKIF**  
*Institute of Solid State Physics, University of Latvia, Riga, Latvia*
- 09.45-10.30 PL-10**  
Reporter: Professor Yi Jiao  
**Progress of the HEPS construction and commissioning**  
*Institute of High Energy Physics (IHEP), Chinese Academy of Sciences, Beijing, China*
- 10.30-11.00 KL-06**  
online  
Reporter: Professor Faris Gel'mukhanov  
**Fundamental and applied aspects of resonant inelastic X-ray scattering**  
Gel'mukhanov F.Kh.<sup>1,2</sup>, Kimberg V.V.<sup>1,2</sup>, Ignatova N.Yu.<sup>1</sup>, Krasnov P.O.<sup>1,3</sup>, Polyutov S.P.<sup>1,3</sup>  
*1 – International Research Center of Spectroscopy and Quantum Chemistry – IRC SQC, Siberian Federal University, Krasnoyarsk, Russia*  
*2 – Theoretical Chemistry & Biology, KTH Royal Institute of Technology, Stockholm, Sweden*  
*3 – Federal Siberian Research Clinical Centre under the Federal Medical Biological Agency, Krasnoyarsk, Russia*

**11.00-11.30 Coffee**

October 22, Thursday

**Big Hall of the House of Scientists**

(Morskoy Prospekt, 23)

**Chair:**

**Professor Andrey Bukhtiyarov**, SRF "SKIF", Koltsovo, Russia

**11.30-13.30 Round Table**

**"SKIF User Policy" (ENG)**

11:30-11:45

Andrey V. Bukhtiyarov (SRF SKIF) — **Introduction**

11:45-12:00

Polina O. Arnst (SRF SKIF)

**Categories of SKIF beamtime proposals**

12:00-12:30

Andrey A. Saraev (SRF SKIF)

**Regular research proposals & Proposals from foreign users**

12:30-12:45

Yan V. Zubavichus (SRF SKIF)

**Commercial proposals**

12:45-13:00

Sergey Yu. Turishchev (Voronezh State University)

**Formation of expert panels**

13:00-13:15

Norbert Kučerka (Joint Institute for Nuclear Research)

**User program at IBR-2**

13:15-13:30 General discussion

**13.30-14.15 CLOSING**

**14.15-14.30**

Bus to ATRUIM

**14.30-16.30**

**Gala dinner (closing reception)**

Akadempark Atrium, Inzhenernaya St. 20, 1 floor

**16.30-17.00**

Bus to NOVAT

**19.00-21.00**

**NOVAT (Krasny Prospect, 36)**  
**BALLET "NOTRE DAME DE PARIS"**  
(for participants with reports)

## Poster presentations

### Section 1.1\_ Chemistry and catalysis

#### PP-1.1-01

Abmiotka M.V., Trukhanov A.V.

#### **Effect of synthesis conditions and oxidation states of transition metals on the structure and magnetic properties of cobalt ferrite spinel**

*Scientific and Practical Center for Materials Science of the National Academy of Sciences of Belarus, Minsk, Belarus*

#### PP-1.1-02

Akimov A.I.<sup>1</sup>, Larichev Yu.V.<sup>2</sup>, Akimov A.S.<sup>1,3</sup>

#### **Study of polyoxomolybdates by the SAXS method**

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

2 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – National Research Tomsk State University, Tomsk, Russia

#### PP-1.1-03

Sidorov V.V., Armeev G.A., Shaytan A.K., Shaitan K.V.

#### **Deep learning-based approach for reconstruction of the DNA sugar-phosphate backbone**

*Faculty of Biology, Lomonosov Moscow State University, Moscow, Russia*

#### PP-1.1-04

Averkina A.S., Valtsifer I.V., Valtsifer V.A.

#### **Iodine donor concentration as a key factor in controlling the thermal stability of silver iodide within the AgI-ZnI<sub>2</sub>-SiO<sub>2</sub> hybrid**

*Institute of Technical Chemistry of Ural Branch of RAS - Branch of Perm Federal Research Centre of Ural Branch of RAS, Perm, Russia*

#### PP-1.1-05

Aidakov E.E.<sup>1</sup>, Kremneva A.M.<sup>1,2</sup>, Protsenko B.O.<sup>3</sup>, Guda A.A.<sup>3</sup>, Saraev A.A.<sup>1</sup>, Kaichev V.V.<sup>2</sup>

#### **Operando XAS study of active site transformation in 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 for selective ethanol oxidation**

1 – SKIF Central Research Facility, Boreskov Institute of Catalysis SB RAS, Koltsovo, Russia

2 – Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

3 – International Research Institute for Advanced Materials, Southern Federal University, Rostov-on-Don, Russia

#### PP-1.1-06

Balyan L.<sup>1</sup>, Bazanova E.<sup>2</sup>, Grigorieva V.<sup>2</sup>

#### **Search for the most promising compositions in the lithium-sodium polymolybdate series (Na, Li)<sub>6</sub>Mo<sub>9</sub>O<sub>30</sub>**

1 – Novosibirsk State University, Novosibirsk, Russia

2 – A.V. Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia

#### PP-1.1-07

Bazanova E.D.<sup>1,2</sup>, Grigorieva V.D.<sup>2</sup>

#### **Growth conditions and the effect of partial substitution of tungsten with molybdenum on the luminescent properties of a single crystal Li<sub>2</sub>WO<sub>4</sub>**

1 – Novosibirsk State Technical University, Novosibirsk, Russia

2 – A.V. Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia

## Poster presentations

### PP-1.1-08

Shivtsov D.M.<sup>1</sup>, Ilyina E.V.<sup>1</sup>, Razuvaev E.V.<sup>2</sup>, Bedilo A.F.

**Synthesis and investigation of highly dispersed nickel-containing magnesium aluminates for catalytic dehydrogenation of methylcyclohexane**

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State Technical University, Novosibirsk, Russia

### PP-1.1-09

Bondareva A.F.<sup>1,2</sup>, Grigorieva V.D.<sup>2</sup>

**Phase formation of solid solutions  $\text{Na}_2\text{Mo}_2\text{O}_7 - \text{Na}_2\text{W}_2\text{O}_7$**

1 – Novosibirsk State University, Novosibirsk, Russia

2 – Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia

### PP-1.1-10

Bulushev D.A.<sup>1</sup>, Zvereva V.V.<sup>2</sup>, Trubina S.V.<sup>2</sup>, Golub F.S.<sup>1</sup>, Xiang Q.<sup>3</sup>, Bulusheva L.G.<sup>2</sup>

**The state of supported Pd on g- $\text{C}_3\text{N}_4$ -doped carbon**

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia

3 – University of Electronic Science and Technology of China, Chengdu, China

### PP-1.1-11

Cherepanov D.A., Saraev A.A.

**Application of Multivariate Curve Resolution for the analysis of in situ XANES data of a composite Cu-Fe-Al-O catalyst**

SRF SKIF, Boreskov Institute of Catalysis, Kol'tsovo, Russia

### PP-1.1-12

Chetyrin I.A., Panafidin M.A., Martyanov A.O., Sedelnikov N.S., Bychkov V.A., Bukhtiyarov A.V.

**The formation patterns of alloyed bimetallic Cu-Co nanoparticles deposited on HOPG: STM and XPS study**

SRF "SKIF" Boreskov Institute of Catalysis, Koltsovo, Russia

### PP-1.1-13

Balaev D.A.<sup>1</sup>, Dubrovskiy A.A.<sup>1</sup>, Knyazev Yu.V.<sup>1</sup>, Semenov S.V.<sup>1</sup>, Lasukov A.I.<sup>1</sup>, Kirillov V.L.<sup>2</sup>, Martyanov O.N.<sup>2</sup>

**Size effects on the magnetic properties of a system of  $\epsilon\text{-Fe}_2\text{O}_3$  nanoparticles**

1 – Kirensky Institute of Physics, Federal Research Center "Krasnoyarsk Scientific Center", Siberian Branch, Russian Academy of Sciences, Krasnoyarsk, Russia

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

### PP-1.1-14

Fateev K.A.<sup>1</sup>, Chuvenkova O.A.<sup>1</sup>, Titova S.S.<sup>1</sup>, Shaposhnik A.V.<sup>2</sup>, Vasiliev A.A.<sup>3</sup>, Zhifu Liu<sup>4</sup>, Nan Ma<sup>4</sup>, Zviagin A.A.<sup>2</sup>, Oreshkin K.V.<sup>2</sup>, Chumakov R.G.<sup>5</sup>, Turishchev S.Yu.<sup>1</sup>

**XPS studies of  $\text{In}_2\text{O}_3$  nanoparticles for sensing applications modified by Ru**

1 – Voronezh State University, Voronezh, Russia

2 – Voronezh State Agrarian University, Voronezh, Russia

3 – Dubna State University, Dubna, Russia

4 – Shanghai institute of ceramics of Chinese academy of science, Shanghai, People's Republic of China

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

### PP-1.1-15

Fedorenko A.D., Asanov I.P., Berdyugin S.N., Ivankevich D.A.

**Magnetic and electronic properties of cation-substituted Re(IV) octahedral hexahalide complexes**

Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia

## Poster presentations

### PP-1.1-16

Fedoseeva Y.V., Lisitsa E.V., Bulusheva L.G., Okotrub A.V.

**XPS and NEXAFS investigation of interaction of fluorine- and sulfur-modified porous carbon materials with lithium**

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

### PP-1.1-17

Filatova E.O., Konashuk A.C., Sakhonenkov S.S., Gaisin A.U.

**Physics and chemistry of interlayer regions formation in dielectric/metal and metal/metal multilayer nanosystems**

*St-Petersburg State University, St. Petersburg, Russia*

### PP-1.1-18

Blinov A.V., Pirogov M.A., Lapin V.A., Sypko K.S.

**Structural study of polymer-stabilized oxide nanoparticles**

*Federal State Autonomous Educational Institution of Higher Education «North-Caucasus Federal University», Stavropol, Russia*

### PP-1.1-19

Gerasimov E.Yu.<sup>1</sup>, Kapishnikov A.V.<sup>1,2</sup>, Isupova L.A.<sup>1</sup>, Tsybulya S.V.<sup>1,2</sup>

**Effect of various heat treatments on the microstructure of LaMnO<sub>3</sub>-based solid solutions**

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

*2 – Novosibirsk State University, Novosibirsk, Russia*

### PP-1.1-20

Gladarenko V.A.<sup>1</sup>, Musina E.I.<sup>1</sup>, Nasibullin I.O.<sup>1</sup>, Litvinov I.A.<sup>1</sup>, Shmelev A.G.<sup>2</sup>, Karasik A.A.<sup>1</sup>

**X-ray luminescence of manganese(II) complexes based on macrocyclic tetraphosphoryl compounds**

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

*2 – Zavoisky Physical-Technical Institute, FRC Kazan Scientific Center of Russian Academy of Sciences, Kazan, Russia*

### PP-1.1-21

Gorbov L.E.<sup>1</sup>, Postnikov M.S.<sup>1</sup>, Suslov E.A.<sup>2</sup>, Sumnikov S.V.<sup>3</sup>

**Study of the homogeneity and disorder region in Cu<sub>4</sub>TiSe<sub>4</sub> by neutron diffraction**

*1 – Institute of Metal Physics, Ural Branch of Russian Academy of Sciences, Ekaterinburg, Russia*

*2 – Ural Agrarian State University, Ekaterinburg, Russia*

*3 – Joint Institute for Nuclear Research, Dubna, Russia*

### PP-1.1-22

Gorlova A.M.<sup>1</sup>, Saraev A.A.<sup>2</sup>, Stonkus O.A.<sup>1</sup>, Rogozhnikov V.N.<sup>1</sup>, Pakharukova V.P.<sup>1</sup>, Potemkin D.I.<sup>1</sup>

**Composition – structure – activity relationships in Pt-containing catalysts for the water gas shift reaction**

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

*2 – Synchrotron Radiation Facility SKIF, Boreskov Institute of Catalysis SB RAS, Kol'tsovo, Russia*

### PP-1.1-23

Iakhieia V.A., Musina E.I., Karasik A.A.

**Effect of substituents in diphosphine and diimine ligands on luminescence of copper(I) complexes**

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

## Poster presentations

### PP-1.1-24

Ivanov V.G.

#### **Deep learning-assisted 3D microstructure segmentation for quantitative analysis of porous materials using FIB-SEM**

*A.V. Shubnikov Institute of Crystallography of the Kurchatov Complex of Crystallography and Photonics of the National Research Centre "Kurchatov Institute", Moscow, Russia*

### PP-1.1-25

Kakhanova V.D.<sup>1,2</sup>, Moryachkov R.V.<sup>1</sup>, Zabluda V.N.<sup>1,3</sup>, Peters G.S.<sup>4</sup>, Zamay T.N., Zamay G.S.<sup>1,2</sup>, Kichkailo A.S.<sup>1,2</sup>

#### **Small-Angle X-ray Scattering of magnetic nanodisks with varying thickness in acetone and PBS**

*1 – Federal Research Center "Krasnoyarsk Science Center of the Siberian Branch of the Russian Academy of Sciences", Krasnoyarsk, Russia*

*2 – Krasnoyarsk State Medical University named after Professor V. F. Voyno-Yasenetsky, Krasnoyarsk, Russia*

*3 – Kirensky Institute of Physics, Krasnoyarsk, Russia*

*4 – NRC "Kurchatov Institute", Moscow, Russia*

### PP-1.1-26

Kazak A.V.<sup>1,2,3</sup>, Marchenkova M.A.<sup>1,4</sup>, Mishukova O.V.<sup>1</sup>, Rogachev A.V.<sup>1</sup>

#### **Supramolecular organization and optical properties of floating layers and thin films of 2,3,9,10,16,17,23,24-octabutoxyphthalocyanine**

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

*2 – Ivanovo State University, Ivanovo, Russia*

*3 – Institute of Physiologically Active Substances of the Federal Research Center for Problems of Chemical Physics and Medical Chemistry of the Russian Academy of Sciences, Chernogolovka, Russia*

*4 – Peoples' Friendship University of Russia, Moscow, Russia*

### PP-1.1-27

Kharina S.N.<sup>1</sup>, Mishchenko D.D.<sup>2</sup>, Aydakov E.E.<sup>2</sup>, Kurenkova A.Yu.<sup>2</sup>, Saraev A.A.<sup>2</sup>

#### **Revealing the effect of g-C<sub>3</sub>N<sub>4</sub> surface modification on cocatalyst and CO<sub>2</sub> reduction selectivity**

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

*2 – Synchrotron Radiation Facility "Siberian Circular Photon Source "SKIF"", Boreskov Institute of Catalysis, Koltsovo, Russia*

### PP-1.1-28

Khrykina O.N.<sup>1,2</sup>, Bolotina N.B.<sup>1,2</sup>, Gridchina V.M.<sup>1,2</sup>, Sluchanko N.E.<sup>2</sup>

#### **On the influence of structural features on superconductivity in YB<sub>6</sub> crystals**

*1 – National Research Center "Kurchatov Institute", Moscow, Russia*

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

### PP-1.1-29

Knyazev Yu.V.<sup>1,2</sup>, Fomenko E.V.<sup>1</sup>, Akimochkina G.V.<sup>1</sup>, Solovyov L.A.<sup>1</sup>, Anshits N.N.<sup>1</sup>, Borisov R.V.<sup>1</sup>, Smorodina E.D.<sup>1,2</sup>, Bayukov O.A.<sup>2</sup>

#### **Fly ash microspheres for catalytic applications**

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

*2 – Kirensky Institute of Physics, FRC KSC SB RAS, Krasnoyarsk, Russia*

### PP-1.1-30

Konovalova V.P., Bulavchenko O.A., Besspalko Y.N., Hanna S.A., Gerasimov E.Y.

#### **Ceria-based catalysts for CO oxidation: the effect of dopants**

*Boreskov Institute of Catalysis, Novosibirsk, Russia*

## Poster presentations

### PP-1.1-31

Kremneva A.M.<sup>1,2</sup>, Yashnik S.A.<sup>1</sup>, Gerasimov E.Yu.<sup>1</sup>, Saraev A.A.<sup>1,2</sup>, Kaichev V.V.<sup>1</sup>

**Promoting effect of tungsten oxide in the reaction of selective catalytic reduction of NO with ammonia on supported vanadia-titania catalysts**

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Synchrotron Radiation Facility SKIF, Koltsovo, Russia

### PP-1.1-32

Kostyukov A.I.<sup>1</sup>, Kriventsov V.V.<sup>2</sup>, Snytnikov V.N.<sup>1</sup>

**XAFS study of Cr<sup>6+</sup> free laser-synthesized Cr<sub>2</sub>O<sub>3</sub>-Al<sub>2</sub>O<sub>3</sub> nanocomposite catalysts**

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – SRF «SKIF» Boreskov Institute of Catalysis, Kol'tsovo, Russia

### PP-1.1-33

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

**XAFS study of iron oxides formed during the oxidation of magnetron-deposited metal films**

1 – Udmurt Federal Research Center of the Ural Branch of the Russian Academy of Sciences, Izhevsk, Russia

2 – SRF «SKIF» Boreskov Institute of Catalysis, Kol'tsovo, Russia

### PP-1.1-34

Kulaev K.D., Protsenko B.O., Guda S.A., Lifar M.S., Chubkov N.S., Kuprianenko D.I., Cochiev G.G., Soldatov M.A., Guda A.A., Soldatov A.V.

**DeepFit: chemically informed XAS-structure fitting made simple with graph neural networks**

The Smart Materials Research Institute, Southern Federal University, Rostov-on-Don, Russian Federation

### PP-1.1-35

Kupriianenko D., Protsenko B., Lifar M., Asaturov G., Chubkov N., Kulaev K., Kochiev G., Guda A., Pankin I., Guda S., Alpatov A., Soldatov A.

**Full periodic table experimental XAS spectra database for machine learning: validation, structural annotation and featurization**

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

### PP-1.1-36

Kurenkova A.Yu., Saraev A.A.

**Structural evolution of cocatalysts in Cu/TiO<sub>2</sub> photocatalysts for CO<sub>2</sub> reduction**

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

### PP-1.1-37

Laletina S.S.<sup>1,2</sup>, Yudanov I.V.<sup>2</sup>, Shor A.M.<sup>1</sup>, Nasluzov V.A.<sup>1</sup>, Ivanova-Shor E.A.<sup>1</sup>

**Theoretical insights into the Ni-Ru bimetallic nanoparticle structure**

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

2 – Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

### PP-1.1-38

Sysoev V.I., Lavrukhina S.A., Fedoseeva U.V., Semushkina G.I., Lisitsa E.V., Maksimovskiy E.A., Gurova O.A., Bulusheva L.G., Okotrub A.V.

**Relationship between tetracyanoquinodimethane different states and sensor properties of TCNQ-modified single-walled carbon nanotube**

Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia

## Poster presentations

### PP-1.1-39

Maksimova A.D.<sup>1</sup>, Savarets A.R.<sup>2</sup>, Yakushev I.A.<sup>1</sup>

**Size-dependent encapsulation selectivity of alkaline earth metal ions in distorted octahedral and dicapped Ni(II) metallacryptate with L-isoleucine**

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

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

### PP-1.1-40

Mamedova M.T.<sup>1</sup>, Abasov S.I.<sup>1</sup>, Isayeva Y.S.<sup>1</sup>, Iskenderova A.A.<sup>1</sup>, Imanova A.A.<sup>1</sup>, Suleymanova T.I.<sup>1</sup>, Aliyeva A.A.<sup>2</sup>

**Low-temperature isomerization of n-hexane over phosphate -modified zirconium dioxide catalysts**

1 – Institute of Petrochemical Processes named after acad. Y.H. Mammadaliyev, the Ministry of Science and Education of the Republic of Azerbaijan, Baku, Azerbaijan

2 – Azerbaijan State Oil and Industry University, the Ministry of Science and Education of the Republic of Azerbaijan, Baku, Azerbaijan

### PP-1.1-41

Martyanov A.O.<sup>1</sup>, Panafidin M.A.<sup>1</sup>, Bukhtiyarov A.V.<sup>1</sup>, Prosvirin I.P.<sup>2</sup>, Mishchenko D.D.<sup>1</sup>, Aydakov E.E.<sup>2</sup>, Burueva D.B.<sup>3</sup>, Smirnova N.S.<sup>4</sup>, Mashkovsky I.S.<sup>4</sup>, Stakheev A.Yu.<sup>4</sup>, Bukhtiyarov V.I.<sup>2</sup>

**Bimetallic Rh-In nanoparticles: preparation and study of adsorption-induced segregation under the influence of gas environments**

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

2 – Boreskov Institute of Catalysis, Novosibirsk, Russia

3 – International Tomography Center, Novosibirsk, Russia

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

### PP-1.1-42

Mikhnenko M.D.<sup>1,2</sup>, Cherepanova S.V.<sup>2</sup>, Pakharukova V.P.<sup>2</sup>, Bulavchenko O.A.<sup>1,2</sup>

**Crystal structure peculiarities of nanosized NiO-SiO<sub>2</sub> catalyst**

1 – SRF «SKIF», Koltsovo, Russia

2 – BIC SB RAS, Novosibirsk, Russia

### PP-1.1-43

Mishukova O.V.<sup>1</sup>, Rogachev A.V.<sup>1</sup>, Kazak A.V.<sup>1,2,3</sup>, Marchenkova M.A.<sup>1,4</sup>

**In situ grazing-incidence X-ray diffraction study of short-range ordering in Langmuir monolayers of copper 2,3,9,10,16,17,23,24-octabutoxyphthalocyanine**

1 – National Research Centre “Kurchatov Institute”, Moscow, Russia

2 – Ivanovo State University, Ivanovo, Russia

3 – Institute of Physiologically Active Substances of the Federal Research Center for Problems of Chemical Physics and Medical Chemistry of the Russian Academy of Sciences, Chernogolovka, Russia

4 – Patrice Lumumba Peoples' Friendship University of Russia, Moscow, Russia

### PP-1.1-44

Moroshkin V.A.<sup>1</sup>, Lermontov S.A.<sup>2</sup>, Malkova A.N.<sup>2</sup>, Gorshkova Yu.E.<sup>3</sup>, Baranchikov A.E.<sup>4</sup>, Kopitsa G.P.<sup>1</sup>

**Study of the mesostructure of novel resorcinol-formaldehyde aerogels obtained using various solvents**

1 – Petersburg Nuclear Physics Institute of NRC KI, Gatchina, Russia

2 – Institute of Physiologically Active Compounds of the Russian Academy of Sciences, Chernogolovka, Russia

3 – Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, Dubna, Moscow district, Russia

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

## Poster presentations

### PP-1.1-45

Moshkina E.M.<sup>1</sup>, Eremin E.V.<sup>1</sup>, Krylov A.S.<sup>1</sup>, Smolyakov D.A.<sup>1</sup>, Kartashev A.V.<sup>1,2</sup>, Gudim I.A.<sup>1</sup>

#### **Phase transitions in $\text{GdFe}_{3-x}\text{Mn}_x(\text{BO}_3)_4$**

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

2 – Professor V.F. Voyno-Yasenetsky Krasnoyarsk State Medical University, Krasnoyarsk, Russia

### PP-1.1-46

Musin D.D.<sup>1,2</sup>, Konarev P.V.<sup>1,2</sup>, Marchenkova M.A.<sup>1,2</sup>

#### **Auditing synthetic SAXS benchmarks for hybrid neural–physical classification**

1 – National Research Centre "Kurchatov Institute", Moscow, Russia

2 – Southern Federal University, Rostov-on-Don, Russia

### PP-1.1-47

Nazarenko T.V.<sup>1,2</sup>, Shuvarakova E.I.<sup>1</sup>, Bondarchik I.I.<sup>1,3</sup>, Bedilo A.F.<sup>1</sup>

#### **Effect of carbon shell on thermal stability of finely dispersed mayenite**

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

3 – Novosibirsk State Technical University, Novosibirsk, Russia

### PP-1.1-48

Nemtinov V.I.<sup>1</sup>, Shramkov E.A.<sup>2</sup>, Shurygin A.V.<sup>1</sup>, Chumakov R.G.<sup>2</sup>

#### **Computational approach to the analysis of C60F18 molecular orientation on a surface by X-ray photoelectron diffraction**

1 – Far Eastern Federal University, Vladivostok, Russia

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

### PP-1.1-49

Novichkov D.A.<sup>1</sup>, Krot A.D.<sup>1</sup>, Averin A.A.<sup>2</sup>, Fedoseev A.M.<sup>2</sup>, Matveev P.I.<sup>1</sup>, Kalmykov S.N.<sup>1</sup>

#### **Electronic structure and local atomic structure of U and Np compounds obtained by X-ray absorption spectroscopy**

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

2 – A.N. Frumkin Institute of Physical Chemistry and Electrochemistry RAS, Moscow, Russia

### PP-1.1-50

Ogarkova A.D.<sup>1</sup>, Sharaya S.S.<sup>2,1</sup>, Kolybalov D.S.<sup>2,1</sup>, Zakharov B.A.<sup>2,1</sup>

#### **Relationships between molecular packing and hydrogen bond parameters in crystals containing the $\text{NH}_3^+$ group**

1 – Novosibirsk State University, Novosibirsk, Russia

2 – Synchrotron Radiation Facility – Siberian Circular Photon Source (SRF "SKIF"), Koltsovo, Novosibirsk area, Russian Federation

### PP-1.1-51

Panafidin M.A.<sup>1,2</sup>, Martyanov A.O.<sup>1,2</sup>, Bukhtiyarov A.V.<sup>1,2</sup>, Prosvirin I.P.<sup>1</sup>, Chetyrin I.A.<sup>1,2</sup>, Sedelnikov N.S.<sup>2</sup>, Bukhtiyarov V.I.<sup>1</sup>

#### **Model Ag/Ar-HOPG and Ag/N-HOPG catalysts: preparation and XPS/STM study**

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

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

### PP-1.1-52

Panina M.V.<sup>1,2</sup>, Yakushev I.A.<sup>1</sup>

#### **Synthesis, chemical transformations, and structural investigation of carboxylic platinum-based complexes**

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

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

## Poster presentations

### PP-1.1-53

Pankin I.A., Amaechi A., Pnevskaya A.Yu, Eid M.E.A.

#### **Synchrotron based kinetic study of high-entropy metal organic frameworks of CPO-27 topology**

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

### PP-1.1-54

Pastukhova Zh.Y., Khusnutdinova K.R.

#### **Mechanistic investigation of allyl chloride epoxidation with hydrogen peroxide over TS-1**

*MIREA - Russian Technological University, Lomonosov Institute of Fine Chemical Technologies,  
Moscow, Russia*

### PP-1.1-55

Petiakina A.S.<sup>1,2</sup>, Golyashov V.A.<sup>1,2</sup>, Kaveev A.K.<sup>3</sup>, Tereshchenko O.E.<sup>1,2</sup>

#### **ARPES study of (111) PbSnTe band structure**

*1 – Institute of Semiconductor Physics SB RAS, Novosibirsk, Russia*

*2 – Synchrotron Radiation Facility - Siberian Circular Photon Source "SKIF" Boreskov Institute of Catalysis of Siberian Branch of the Russian Academy of Sciences (SRF "SKIF"), Koltsovo, Russia*

*3 – Ioffe Physical-Technical Institute RAS, St. Petersburg, Russia*

### PP-1.1-56

Ivanov Yu.F.<sup>1</sup>, Petrikova E.A.<sup>1</sup>, Prokopenko N.A.<sup>1</sup>, Koval N.N.<sup>1</sup>, Shmakov A.N.<sup>2</sup>

#### **Using synchrotron radiation to study the growth process of Ti-Zr alloy films**

*1 – Institute of High-Current Electronics SB RAS, Tomsk, Russia*

*2 – Boreskov Institute of Catalysis SB RAS, Tomsk, Russia*

### PP-1.1-57

Petrochenko S.A.<sup>1,2</sup>, Sharaya S.S.<sup>2,1</sup>, Zakharov B.A.<sup>2,1</sup>

#### **The effect of temperature and pressure on triglycine sulfate and selenate crystal structures**

*1 – Novosibirsk State University, Novosibirsk, Russia*

*2 – SRF "SKIF", Koltsovo, Novosibirsk region, Russia*

### PP-1.1-58

Nagdalian A.A., Pirogov M.A., Kuzminov I.K., Askerova A.S.

#### **Molybdenum oxide nanoparticles as a biostimulant for wheat tolerance to salinity and temperature stress**

*Federal State Autonomous Educational Institution of Higher Education «North-Caucasus Federal University», Stavropol, Russia*

### PP-1.1-59

Plieva D.S.<sup>1,2,3</sup>, Anokhin D.V.<sup>2,3</sup>

#### **Structural modification and crystallization of irradiated PVDF and its copolymer with HFP films**

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

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

*3 – FRC Problems of Chemical Physics and Medical Chemistry of the Russian Academy of Sciences, Chernogolovka, Russia*

## Poster presentations

### PP-1.1-60

Popov D.V.<sup>1</sup>, Batulin R.G.<sup>2</sup>, Cherosov M.A.<sup>2</sup>, Yatsyk I.V.<sup>1</sup>, Shustov V.A.<sup>1</sup>,  
Moshkina E.M.<sup>3</sup>, Eremina R.M.<sup>1</sup>

#### **Dependence of magnetic and structural properties of Mn-Co ludwigites on the concentration of magnetic ions**

1 – *Zavoisky Physical-Technical Institute, Federal Research Center “Kazan Scientific Center of RAS”, Kazan, Russia*

2 – *Kazan (Volga Region) Federal University, Kazan, Russia*

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

### PP-1.1-61

Prigodorova A.N.<sup>1</sup>, Zakharov N.S.<sup>1</sup>, Kriventsov V.V.<sup>2</sup>, Shmakov A.N.<sup>2</sup>, Pugachev V.M.<sup>1</sup>, Adodin N.S.<sup>1</sup>

#### **Probing the structural dynamics of phase transformations in nanostructured Me-Pt alloys**

1 – *Federal Research Center of Coal and Coal Chemistry, Siberian Branch of the Russian Academy of Sciences (SB RAS), Kemerovo, Russia*

2 – *SRF «SKIF», Boreskov Institute of Catalysis, Kol'tsovo, Russia*

### PP-1.1-62

Protsenko B., Lifar M., Asaturov G., Kupriianenko D., Chubkov N., Kulaev K., Kochiev G., Guda A.,  
Guda S., Alpatov A., Soldatov A.

#### **Application of deep learning in XAS data processing**

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

### PP-1.1-63

Pugachev N., Zubairov R.M., Senyakin V.V., Feygina K.A., Rybyanets E.A.,  
Masloboyschikova O.V., Petrova E.G., Zaglyadova S.V., Fadeev V.V.

#### **Effect of promoters on the activity of the catalyst for the isomerization of light gasoline fractions**

*RN-RD Center LLC, Moscow, Russia*

### PP-1.1-64

Radchenko P.A., Kanutkin A.V., Chantsov V.A., Radchenko A.V.

#### **Application of the EFES finite element system in the design of Whipple shields for spacecraft**

*Institute of Strength Physics and Materials Science of the Siberian Branch of the Russian Academy of Sciences, Tomsk, Russia*

### PP-1.1-65

Rybalka A.V., Dorogov M.V., Morozkina S.N., Snetkov P.P., Romanov A.E.

#### **Electrospun Indium-doped Ga<sub>2</sub>O<sub>3</sub> nanofibers with tunable optical properties**

*ITMO University, Saint Petersburg, Russia*

### PP-1.1-66

Saenko E.V., Valtsifer V.A.

#### **Post-synthetic tuning of the structure, porosity, and redox activity of enzyme-like manganese oxides**

*Institute of Technical Chemistry, Ural Branch of the Russian Academy of Sciences, Branch of the Perm Federal Research Center, Perm, Russian Federation*

## Poster presentations

### PP-1.1-67

Sedelnikov N.S.<sup>1</sup>, Chetyrin I.A.<sup>1,2</sup>, Bukhtiyarov A.V.<sup>1,2</sup>, Kvashnin A.G.<sup>3</sup>, Chepkasov I.V.<sup>3</sup>, Smirnova N.S.<sup>4</sup>, Mashkovsky I.S.<sup>4</sup>, Stakheev A.Y.<sup>4</sup>

**The investigation of CH<sub>4</sub>-induced segregation as a tool for fine tuning of the Pd-Ag/ $\alpha$ -Al<sub>2</sub>O<sub>3</sub> catalysts surface: XPS and theoretical study**

1 –SRF “SKIF” Boreskov Institute of Catalysis, Koltsovo, Russia

2 – Boreskov Institute of Catalysis, Novosibirsk, Russia

3– Skolkovo Institute of Science and Technology, Moscow, Russia

4– Zelinsky Institute of Organic Chemistry, Moscow, Russia

### PP-1.1-68

Semushkina G.I., Sysoev V.I., Fedoseeva Y.V., Pinakov D.V., Bulusheva L.G., Okotrub A.V.

**Radiation-induced kinetics fluorinated graphite with embedded carbon tetrachloride and acetonitrile**

*Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia*

### PP-1.1-69

Shamshina D.I., Iakhieia V.A., Spiridonova Yu.S., Musina E.I., Karasik A.A.

**Phenomenon of negative thermal quenching of luminescence in a series of heteroleptic Cu(I) complexes based on diazadiphosphacyclooctanes and diimines**

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

### PP-1.1-70

Shamsutov I.V.<sup>1</sup>, Kuper K.E.<sup>2</sup>, Merkulov O.V.<sup>1</sup>

**Formation of a core–shell-like architecture in a SrFe<sub>12</sub>O<sub>19</sub> oxygen carrier during CLRWS as revealed by synchrotron X-ray computed tomography**

1 – Institute of Solid State Chemistry, Ekaterinburg, Russia

2 – Boreskov Institute of Catalysis, Novosibirsk, Russia

### PP-1.1-71

Shivtsov D.M.<sup>1</sup>, Ilyina E.V.<sup>1</sup>, Tushakov S.D.<sup>2</sup>, Bedilo A.F.<sup>1</sup>

**One-pot synthesis of carbon-stabilized supported nickel catalysts for methylcyclohexane dehydrogenation**

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Tomsk Polytechnic University, Tomsk, Russia

### PP-1.1-72

Shkurenok V.A., Yablokova S.S., Kovba O.A., Kazantsev K.V.

**Indium oxide modified tungstated zirconia catalysts supported on Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> for octane isomerization**

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

### PP-1.1-73

Shurygin A.V.<sup>1</sup>, Nemtinov V.I.<sup>1</sup>, Zernov Y.G.<sup>1</sup>, Pisarev S.M.<sup>1</sup>, Trigub A.L.<sup>2</sup>

**Structural factors governing the self-assembly and crystallinity of lanthanide carboxylate complexes**

1 – Far Eastern Federal University, Vladivostok, Russia

2 – NRC «Kurchatov Institute», Moscow, Russia

## Poster presentations

### PP-1.1-74

Nazarenko T.V.<sup>1,2</sup>, Shuvarakova E.I.<sup>1</sup>, Ilyina E.V.<sup>1</sup>, Bedilo A.F.<sup>1</sup>

#### **Synthesis and properties of carbon-coated mayenite aerogels**

1 – Boreskov Institute of Catalysis, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

### PP-1.1-75

Sidorova E.V., Smirnova E.S., Timakov I.S., Grebenev V.V., Alekseeva O.A.

#### **Crystal structure of series of solid solutions $(K_xRb_{1-x})_9H_7(SO_4)_8 \cdot H_2O$ ( $x = 0.38-1$ ) in the temperature range 293-460 K**

A.V. Shubnikov Institute of Crystallography of the Kurchatov Complex Crystallography and Photonics of NRC «Kurchatov Institute», Moscow, Russia

### PP-1.1-76

Sineva L.O.<sup>1</sup>, Ivanov D.A.<sup>2,3</sup>

#### **Synthesis and characterization of acrylate-based brush polymers and the prospects of Poly(PEGMA)-based systems**

1 – Lomonosov Moscow State University, Faculty of Physical Chemistry and Chemical Engineering, Moscow, Russia

2 – Lomonosov Moscow State University, Faculty of Chemistry, Moscow, Russia

3 – Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry, Russian Academy of Sciences, Chernogolovka, Russia

### PP-1.1-77

Smirnova E.S.<sup>1</sup>, Frolov K.V.<sup>1</sup>, Sidorova E.V.<sup>1</sup>, Sorokin T.A.<sup>1</sup>, Alekseeva O.A.<sup>1</sup>, Gudim I.A.<sup>2</sup>

#### **Structural and magnetic phase transitions in multiferroic $Dy_{0.96}Bi_{0.04}Fe_3(BO_3)_4$ in the temperature range 25–1250 K**

1 – A.V. Shubnikov Institute of Crystallography of the Kurchatov Complex Crystallography and Photonics of the NRC "Kurchatov Institute", Moscow, Russia

2 – L.V. Kirensky Institute of Physics SB RAS, Krasnoyarsk, Russia

### PP-1.1-78

Soromotin V.N.

#### ***Paracoccus yeei*-supported Pd nanoparticle catalyst platform: toward sustainable heterogeneous catalysis**

Tula State University, Tula, Russia

### PP-1.1-79

Sukharina G.B.<sup>1</sup>, Gladchenko-Dzheveleki Ya.N.<sup>1</sup>, Srabionyan V.V.<sup>1</sup>, Ermakova A.M.<sup>1</sup>, Korsun A.E.<sup>1</sup>, Avakyan L.A.<sup>1</sup>, van Bokhoven J.A.<sup>2,3</sup>, Bugaev L.A.<sup>1</sup>

#### **Structure of copper centers in zeolites-mordenites at stage of oxygen activation in subsequent cycles determined by XAFS and computer modeling**

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

2 – Institute for Chemical and Bioengineering, ETH Zurich, Zurich, Switzerland

3 – Laboratory for Catalysis and Sustainable Chemistry, Paul Scherrer Institute, Villigen, Switzerland

### PP-1.1-80

Titova S.S.<sup>1</sup>, Osminkina L.A.<sup>2,3</sup>, Shatov A.A.<sup>2</sup>, Zhigunov D.M.<sup>4</sup>, Chumakov R.G.<sup>5</sup>, Shramkov E.A.<sup>5</sup>, Fateev K.A.<sup>1</sup>, Kureshi D.Z.<sup>1</sup>, Salkov S.I.<sup>1</sup>, Boikov N.I.<sup>1</sup>, Chuvenkova O.A.<sup>1</sup>, Turishchev S.Yu.<sup>1</sup>

#### **Atomic and electronic structure of biocompatible porous silicon nanoparticles during natural aging**

1 – Voronezh State University, Voronezh, Russia

2 – Moscow State University, Moscow, Russia

3 – Institute for Biological Instrumentation of the Russian Academy of Sciences, Moscow, Russia

4 – Skolkovo Institute of Science and Technology, Moscow, Russia

5 – National Research Centre "Kurchatov institute", Moscow, Russia

## Poster presentations

### PP-1.1-81

Trubina S.V.<sup>1</sup>, Zvereva V.V.<sup>1</sup>, Belskaya O.B.<sup>2,3</sup>, Gerasimov E.Yu.<sup>4</sup>, Kriventsov V.V.<sup>5</sup>

#### **Study of the composition and structure of bimetallic particles in the PtAu/MgAlO<sub>x</sub> catalysts**

1 – Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia

2 – Center of New Chemical Technologies, Boreskov Institute of Catalysis, Omsk, Russia

3 – Omsk State Technical University, Omsk, Russia

4 – Boreskov Institute of Catalysis, Novosibirsk, Russia

5 – Synchrotron Radiation Facility - Siberian Circular Photon Source "SKIF" Boreskov Institute of Catalysis, Novosibirsk, Russia

### PP-1.1-82

Valtsifer V.A., Sannikova A.D.

#### **Theoretical foundations for the creation of filled oligomeric materials**

*Institute of Technical Chemistry, Ural Branch of the Russian Academy of Sciences, Perm, Russia*

### PP-1.1-83

Vlasov M.I., Chernyshev S.V., Zakiryanov D.O.

#### **Structural features of FLiNaK and LiCl-Li<sub>2</sub>O melts with REM additives. Relevance of synchrotron methods for studying their properties**

*Institute of High Temperature Electrochemistry UB RAS, Yekaterinburg, Russia*

### PP-1.1-84

Yurpalov V.L., Yurpalova D.V., Anoshkina E.A.

#### **Active sites of Ag/TiO<sub>2</sub> catalysts for CO oxidation**

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

### PP-1.1-85

Yurpalova D.V., Yurpalov V.L., Anoshkina E.A.

#### **State of the active component in Cu/TiO<sub>2</sub> catalysts for CO oxidation**

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

### PP-1.1-86

Zaguzina A.A., Fedorenko A.D., Okotrub A.V., Bulusheva L.G.

#### **Nanomaterials Ni-MoS<sub>2</sub> for sodium-ion battery anodes**

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

### PP-1.1-87

Zaloga A.N., Dubinin P.S., Khlystov D.V., Yakimov I.S.

#### **Software for automated X-ray diffraction structural and phase analysis**

*Siberian Federal University, Krasnoyarsk, Russia*

### PP-1.1-88

Zernov Y.G.<sup>1</sup>, Pisarev S.M.<sup>1</sup>, Nemtinov V.I.<sup>1</sup>, Tokar E.A.<sup>2</sup>, Trigub A.L.<sup>3</sup>, Shurygin A.V.<sup>1</sup>

#### **Features of the local structure of selenium and uranium in composite sorbents based on amidoxime derivatives: XAFS study**

1 – Far Eastern Federal University, Vladivostok, Russia

2 – Sakhalin State University, Yuzhno-Sakhalinsk, Russia

3 – National Research Centre "Kurchatov Institute", Moscow, Russia

## Poster presentations

### PP-1.1-89

Zvereva V.V.<sup>1</sup>, Lavrenova L.G.<sup>1</sup>, Trubina S.V.<sup>1</sup>, Kriventsov V.V.<sup>2</sup>, Kozlova S.G.<sup>1</sup>, Korotaev E.V.<sup>1</sup>

#### **XAFS study of spin transition in Fe(II) complexes with 2,6-bis(1H-imidazol-2-yl)-4-chloropyridine**

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

2 – Synchrotron Radiation Facility – Siberian Circular Photon Source «SKIF» Boreskov Institute of Catalysis, SB RAS, Novosibirsk, Russia

### PP-1.1-90

Zhurenok A.V., Lomakina V.A., Kozlova E.A.

#### **Effect of g-C<sub>3</sub>N<sub>4</sub> content on photocatalytic hydrogen evolution from aqueous glycerol over g-C<sub>3</sub>N<sub>4</sub>/TiO<sub>2</sub> composites**

Boreskov Institute of Catalysis, Novosibirsk, Russia

### PP-1.1-91

Oreshkevich E.G., Kovaleva Ya.A., Sazankov A.P.

#### **Method of Synchrotron X-ray Microtomography for Qualitative Analysis of Fracture Surfaces of Polymer Composite Materials**

State Scientific Institution “V.A. Belyi Metal-Polymer Research Institute of the National Academy of Sciences of Belarus”, Gomel, Belarus

## Poster presentations

### Section 1.2\_Structural biology and pharma

#### PP-1.2-01

Akhmetova D.R.<sup>1,2</sup>, Rusakova V.A.<sup>1</sup>, Shipilovskikh S.A.<sup>1,2</sup>, Timin A.S.<sup>1,2</sup>

**Development of a multifunctional calcium-based radiopharmaceutical for localized combined cancer therapy**

1 – Peter The Great St. Petersburg Polytechnic University, St. Petersburg, Russia

2 – ITMO University, St. Petersburg, Russia

#### PP-1.2-02

Bulgakov N.A.<sup>1,2</sup>, Borshchevskiy V.I.<sup>3</sup>, Zharkov D.O.<sup>1,2</sup>

**Crystal structure of the DNA–hOGG1:hAPEX1 complex provides structural insights into coordinated base excision repair**

1 – Institute of Chemical Biology and Fundamental Medicine, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

3 – Moscow Institute of Physics and Technology, Dolgoprudnyy, Russia

#### PP-1.2-03

Chernysheva D.A.<sup>1,2</sup>, Yudkina A.V.<sup>1</sup>, Bulgakov N.A.<sup>1,2</sup>, Borshchevskiy V.I.<sup>3</sup>, Zharkov D.O.<sup>1,2</sup>

**Structural and biochemical characterization of the group II intron reverse transcriptase from *Roseburia intestinalis***

1 – Institute of Chemical Biology and Fundamental Medicine, SB RAS, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

3 – Moscow Institute of Physics and Technology (National Research University), Moscow, Russia

#### PP-1.2-04

Chusovitin A.A.<sup>1</sup>, Bulgakov N.A.<sup>1,2</sup>, Borshchevskiy V.I.<sup>3</sup>, Zharkov D.O.<sup>1,2</sup>

**The role of the NUDIX-domain in the substrate specificity of the *E. coli* MutY DNA glycosylase**

1 – Institute of Chemical Biology and Fundamental Medicine, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

3 – Moscow Institute of Physics and Technology, Moscow, Russia

#### PP-1.2-05

Remeeva A.<sup>1</sup>, Anuchina A.<sup>1</sup>, Dashevskii D.<sup>1</sup>, Kurkin T.<sup>1,2</sup>, Semenov O.<sup>1</sup>, Borshchevskiy V.<sup>1,3</sup>, Mishin A.<sup>1</sup>, Osipov S.<sup>1</sup>, Guangyi Li<sup>4</sup>, Shishkin P.<sup>1</sup>, Shuvaev Ya.<sup>1</sup>, Mikhailov A.<sup>1</sup>, Kuznetsova E.<sup>1</sup>, Natarov I.<sup>1</sup>, Nikolaev A.<sup>1</sup>, Sudarev V.<sup>1</sup>, Vlasov A.<sup>1</sup>, Gushchin I.<sup>1</sup>

**A novel architecture of double ferritin from Asgard archaea**

1 – Moscow Center for Advanced Studies, Moscow, Russia

2 – Enikolopov Institute of Synthetic Polymeric Materials Russian Academy of Sciences (ISPM RAS), Moscow, Russia

3 – Joint Institute for Nuclear Research, Joliot-Curie 6, Dubna, Russia

4 – National Facility for Protein Science in Shanghai, Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai, China

#### PP-1.2-06

Dronova E.A.<sup>1</sup>, Kotenko N.A.<sup>1</sup>, Bogorodskiy A.O.<sup>1</sup>, Bukhdruker S.S.<sup>2</sup>, Vasilenko L.M.<sup>1</sup>, Ryzhykau Yu.L.<sup>1,3</sup>

**In crystallo flash-photolysis screening of two LCP-grown crystal forms of a microbial rhodopsin for future time-resolved studies**

1 – Moscow Institute of Physics and Technology, Moscow, Russia

2 – Moscow Center for Advanced Studies, Moscow, Russia

3 – Joint Institute for Nuclear Research, Dubna, Russia

## Poster presentations

### PP-1.2-07

Fedorov N.V.<sup>1</sup>, Lashkov A.A.<sup>3</sup>, Kurochkina L.P.<sup>2</sup>, Samygina V.R.<sup>1</sup>

#### **Molecular dynamics of the apo form of the viral chaperonin AR9**

1 – National Research Center “Kurchatov Institute”, Moscow, Russia

2 – A. N. Belozersky Institute of Physico-Chemical Biology, Lomonosov Moscow State University, Moscow, Russia

3 – Shemyakin–Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences, Moscow, Russia

### PP-1.2-08

Ilyina M.G.<sup>1</sup>, Borisevich S.S.<sup>1</sup>, Khamitov E.M.<sup>2</sup>, Shcherbakov D.N.<sup>3</sup>, Arkhipov S.G.<sup>1</sup>

#### **Molecular mechanisms of allosteric activation and pre-reactive state of bovine chymosin–κ-casein complex**

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, Russia

3 – Research Institute of Biological Medicine, Altai State University, Barnaul, Russia

### PP-1.2-09

Lapshin K.A.<sup>1,2,4</sup>, Drovkov D.V.<sup>3,4</sup>, Tkacheva A.V.<sup>3</sup>, Grazhdantseva A.A.<sup>3</sup>, Legkodymov A.A.<sup>1,2</sup>, Kochneva G.V.<sup>3</sup>

#### **Measurement of iodine accumulation by SR-XRF in human tumor cell samples treated with oncolytic viruses carrying the sodium/iodide symporter transgene in in vitro and in vivo experiments**

1 – Budker Institute of Nuclear Physics of the Siberian Branch of the RAS, Novosibirsk, Russia

2 – Synchrotron Radiation Facility SKIF, Boreskov Institute of Catalysis SB RAS, Koltsovo, Russia

3 – State Research Center of Virology and Biotechnology VECTOR of Rospotrebnadzor, Koltsovo, Russia

4 – Novosibirsk State Technical University, Novosibirsk, Russia

### PP-1.2-10

MacCarthy C.<sup>1</sup>, Koudan E.<sup>2</sup>, Shevtsov M.<sup>1</sup>, Parfenov V.<sup>3</sup>, Petrov S.<sup>2</sup>, Levin A.<sup>2</sup>, Senatov F.<sup>2</sup>, Sykilinda N.<sup>4</sup>, Ostrovskiy S.<sup>2</sup>, Pekov S.<sup>5,6</sup>, Gushchin I.<sup>1</sup>, Popov I.<sup>1,6</sup>, Zinovev E.<sup>1</sup>, Bogorodskiy A.<sup>1</sup>, Mishin A.<sup>1</sup>, Ivanovich V.<sup>1</sup>, Rogachev A.<sup>1,7</sup>, Khesuani Yu.<sup>3</sup>, Borshchevskiy V.<sup>1,7</sup>

#### **Crystals from orbit: atomic-resolution synchrotron crystallography of lysozyme grown aboard the ISS in a magnetic bioassembler**

1 – Moscow Institute of Physics and Technology, Dolgoprudny, Russia

2 – National University of Science and Technology MISIS, Moscow, Russia

3 – Laboratory for Biotechnological Research “3D Bioprinting Solutions”, Moscow, Russia

4 – Shemyakin–Ovchinnikov Institute of Bioorganic Chemistry, Moscow, Russia

5 – Skolkovo Institute of Science and Technology, Moscow, Russia

6 – Siberian State Medical University, Tomsk, Russia

7 – Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, Dubna, Russia

### PP-1.2-11

MacCarthy C.<sup>1</sup>, Belousov A.<sup>1</sup>, Zerni E.<sup>2</sup>, Borshevskiy V.<sup>1,3</sup>

#### **Reading the metal code of human recoverin: synchrotron crystallography distinguishes Ca<sup>2+</sup>, Zn<sup>2+</sup> and Na<sup>+</sup> at the EF-hands**

1 – Moscow Institute of Physics and Technology (MIPT), Dolgoprudny, Russia

2 – Lomonosov Moscow State University, Moscow, Russia

3 – Joint Institute for Nuclear Research, Dubna, Russia

## Poster presentations

### PP-1.2-12

Moskalev I.A., Fedorov A.Yu., Borisevich S.S., Arkhipov S.G.

**X-ray structural analysis of adamantane and imidazole derivatives as a tool for verifying the structure, tautomerism and supramolecular organization of compounds with activity against orthopoxviruses**

*SRF "SKIF", Koltsovo, Russia*

### PP-1.2-13

Mustaev E.A.<sup>1,2</sup>, Borisevich S.S.<sup>2</sup>, Shcherbakov D.N.<sup>3</sup>, Arkhipov S.G.<sup>2</sup>

**Estimation of the energy barrier for the hydrolysis stage of bovine  $\kappa$ -casein by chymosin within a quantum-chemical model of the active centre**

*1 – Novosibirsk State University, Novosibirsk, Russia*

*2 – Synchrotron Radiation Facility - Siberian Circular Photon Source "SKIF" Boreskov Institute of Catalysis of Siberian Branch of the Russian Academy of Sciences, Koltsovo, Russia*

*3 – Research Institute of Biological Medicine, Altai State University, Barnaul, Russia*

### PP-1.2-14

Pavlova V.V., Pavlov D.I., Potapov A.S.

**Assignment of the oxime group configuration in JNK3 Inhibitors using SR-XRD**

*Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia*

### PP-1.2-15

Petoukhov M.V.<sup>1</sup>, Dadinova L.A.<sup>2</sup>, Denieva Z.G.<sup>1</sup>, Shtykova E.V.<sup>1</sup>, Batishchev O.V.<sup>1</sup>

**Structure of the HIV-1 Gag polyprotein in solution: SAXS and MD analysis**

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

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

### PP-1.2-16

Pospelov V.A.<sup>1</sup>, Ukladov E.O.<sup>2</sup>, Arkhipov S.G.<sup>2</sup>, Borshchevskiy V.I.<sup>1</sup>

**A new phase-II protein crystallography beamline at SKIF for structural studies of biomacromolecules**

*1 – Moscow Institute of Physics and Technology, Moscow, Russia*

*2 – Synchrotron Radiation Facility, Siberian Circular Photon Source, Koltsovo, Russia*

### PP-1.2-17

Radchenko N.S., Gladysheva A.V.

**Platform for Tacheng tick virus 1 nucleoprotein structural studies**

*State Research Center of Virology and Biotechnology "Vector" Rospotrebnadzor, Koltsovo, Russia*

### PP-1.2-18

Rogova A.V.<sup>1</sup>, Shchugoreva I.A.<sup>1</sup>, Tomilin F.N.<sup>1,2</sup>, Zabluda V.N.<sup>1,2</sup>, Kolovskaya O.S.<sup>1</sup>

**Combination of molecular modelling and SAXS for aptamer–chelate complexes**

*1 – Krasnoyarsk Science Center SB RAS, Krasnoyarsk, Russia*

*2 – Kirensky Institute of Physics SB RAS, Krasnoyarsk, Russia*

### PP-1.2-19

Senchurova S.I.<sup>1</sup>, Pospelov V.A.<sup>2</sup>, Rizhikov Y.L.<sup>2</sup>, Shevtsov M.B.<sup>2</sup>, Tuygashev T.E.<sup>1</sup>, Kuznetsova A.A.<sup>1</sup>, Borshchevskiy V.M.<sup>2</sup>, Kuznetsov N.A.<sup>1,3</sup>

**Structural and functional analysis of human TdT**

*1 – Institute of Chemical Biology and Fundamental Medicine, Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia*

*2 – Moscow Institute of Physics and Technology, Dolgoprudnyy, Russia*

*3 – Department of Natural Sciences, Novosibirsk State University, Novosibirsk, Russia*

## Poster presentations

### PP-1.2-20

Svechnikova V.Yu.<sup>1,2</sup>, Rakitina T.V.<sup>1,3</sup>, Konarev P.V.<sup>1,2</sup>, Peters G.S.<sup>1</sup>, Ivanovsky A.S.<sup>1</sup>, Pisarevsky Yu.V.<sup>1</sup>, Marchenkova M.A.<sup>1,2</sup>

**Synchrotron SAXS analysis of recombinant *Borrelia* surface antigens OspA AND OspC in individual and mixed solutions**

1 – National Research Centre “Kurchatov Institute”, Moscow, Russia

2 – Southern Federal University, Rostov-on-Don, Russia

3 – Shemyakin–Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences, Moscow, Russia

### PP-1.2-21

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

**Synergy of small-angle X-ray scattering and theoretical methods in the determination of three-dimensional structures of proteins and aptamers**

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

2 – Federal Research Center KSC SB RAS, Krasnoyarsk, Russia

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

### PP-1.2-22

Ukladov E.O.<sup>1,2</sup>, Belenkaya S.V.<sup>3,4</sup>, Shcherbakov D.N.<sup>3,4</sup>, Shevtsov M.B.<sup>5</sup>, Borshchevsky V.I.<sup>5</sup>, Arhipov S.G.<sup>1</sup>

**Assessment of the impact of Tyr77 conformational mobility on substrate binding by chymosins from the polar bear *Ursus maritimus* and flying fox *Pteropus alecto***

1 – SRF “SKIF”, Kol’tsovo, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

3 – State Research Center of Virology and Biotechnology “Vector”, Kol’tsovo, Russia

4 – Altai State University, Barnaul, Russia

5 – Center for Molecular Mechanisms of Aging and Age-Related Diseases, Moscow Institute of Physics and Technology, Moscow, Russia

### PP-1.2-23

Yavnov R.D.<sup>1,2</sup>, Fedorov A.Y.<sup>2</sup>, Kolybalov D.S.<sup>1,2</sup>, Ukladov E.O.<sup>1,2</sup>, Zubkov F.I.<sup>3</sup>, Yarovaya O.I.<sup>4</sup>, Arhipov S.G.<sup>2</sup>

**Structure modeling and crystallization of protein-ligand complexes of SARS CoV-2 3CL protease with tetrahydroquinoline-based inhibitors**

1 – Novosibirsk State University, Novosibirsk, Russia

2 – SRF «SKIF», Koltsovo, Russia

3 – Patrice Lumumba Peoples' Friendship University of Russia, Moscow, Russia

4 – Novosibirsk Institute of Organic Chemistry, Novosibirsk, Russia

### PP-1.2-24

Zaikina D.V.<sup>1,2</sup>, Bulgakov N.A.<sup>1,2</sup>, Eroshenko D.A.<sup>1,2</sup>, Zateeva M.V.<sup>1,2</sup>, Borshchevskiy V.I.<sup>3</sup>, Zharkov D.O.<sup>1,2</sup>

**Analysis of the interaction of amino acid residues in the active site of human endonuclease III with DNA**

1 – Institute of Chemical Biology and Fundamental Medicine, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

3 – Moscow Institute of Physics and Technology, Moscow, Russia

### PP-1.2-25

Zateeva M.V.<sup>1</sup>, Bulgakov N.A.<sup>1,2</sup>, Borshchevskiy V.I.<sup>3</sup>, Zharkov D.O.<sup>1,2</sup>

**Characteristics of several variants of the uracil-DNA glycosylase enzyme from human malignant tumors**

1 – Institute of Chemical Biology and Fundamental Medicine SB RAS, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

3 – Moscow Institute of Physics and Technology, Moscow, Russia

## Poster presentations

### Section 1.3\_ Engineering materials science

#### PP-1.3-01

Aleksandrova N.S.<sup>1,2</sup>

**The alloying element type as a factor in fracture toughness of cubic L1<sub>2</sub> Ti(Al<sub>1-x</sub>Me<sub>x</sub>)<sub>3</sub> alloys (Me = Cr, Mn, Fe, Co, Ni, Cu)**

1 – Novosibirsk State Technical University, Novosibirsk, Russia

2 – Synchrotron Radiation Facility SKIF, Kol'tsovo, Russia

#### PP-1.3-02

Bolshevich E.A., Anikeev S.G., Loban V.V.

**Corrosion and wettability control of Ti<sub>2</sub>Ni-based hydrogen storage alloys by Cr alloying**

National Research Tomsk State University, Tomsk, Russia

#### PP-1.3-03

Bolshevich E.A., Anikeev S.G.

**Air oxidation-induced surface evolution of cast TiNi alloy and its effect on corrosion resistance in physiological saline**

National Research Tomsk State University, Tomsk, Russia

#### PP-1.3-04

Dudareva A.A.<sup>1</sup>, Emurlaev K.I.<sup>2</sup>

**Enhancement of wear resistance of AISI 321 austenitic steel by non-vacuum electron beam cladding of Cr-Ni-B powder mixtures**

1 – Novosibirsk State Technical University, Novosibirsk, Russia

2 – Synchrotron Radiation Facility – Siberian Circular Photon Source «SKIF», Boreskov Institute of Catalysis SB RAS, Kol'tsovo, Russia

#### PP-1.3-05

Elman R.R., Kenzhyev A., Baranova P.A., Kazakova P.

**Influence of mechanochemical synthesis and compaction on the structural-phase state and hydrogen sorption properties of MgH<sub>2</sub>-nNi-CNT composites**

National Research Tomsk Polytechnic University, Tomsk, Russia

#### PP-1.3-06

Kamelina K.D.

**In situ X-ray diffraction investigations of additively manufactured Ti-3Al-5Mo-5V samples during hydrogenation**

Tomsk Polytechnic University, Tomsk, Russia

#### PP-1.3-07

Khalemenchuk V.P.<sup>1</sup>, Ten K.A.<sup>1</sup>, Prueel E.R.<sup>1</sup>, Kashkarov A.O.<sup>1</sup>, Tumanik A.S.<sup>1,2</sup>, Asylkaev A.M.<sup>1,2</sup>, Rubtsov I.A.<sup>1,2</sup>

**Study of the dynamics of microparticle flows formed when a strong shock wave impacts metal plates that form straight joints**

1 – Lavrentiev Institute of Hydrodynamics of the Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia

2 – The Center for Collective use "Siberian ring photon source" of the Federal State Budgetary Institution of Science "Federal Research Center "G.K. Boreskov Institute of Catalysis of the Siberian Branch of the Russian Academy of Sciences", Novosibirsk, Russia

#### PP-1.3-08

Dudarev N.V., Dudarev S.V., Klygach D.S.

**Permittivity measurements constant of a powder material with a given accuracy**

South Ural State University (national research university), Chelabinsk, Russia

## Poster presentations

### PP-1.3-09

Kruglyakov M.A., Kudiiarov V.N., Laptev R.S., Syrtanov M.S.

**Determination of the effect of high-temperature gas-phase flooding on the structure and defective state of zirconium alloy E110 using in situ methods of positron spectroscopy and X-ray diffraction on synchrotron radiation**

*National Research Tomsk Polytechnic University, Tomsk, Russia*

### PP-1.3-10

Kurdyumov N.E.

**Enhancement of hydrogen sorption properties of the TiFe metal hydride alloy via partial substitution of Fe with Cr**

*National Research Tomsk Polytechnic University, Tomsk, Russia*

### PP-1.3-11

Lazurenko D.V.<sup>1,2</sup>, Aleksandrova N.S.<sup>1,2</sup>

**Structure and properties of diffusion layers forming via the interaction of TiAl<sub>3</sub> with transition metals**

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

*2 – Synchrotron Radiation Facility SKIF, Kol'tsovo, Russia*

### PP-1.3-12

Martynenko N.S.

**Increasing strength and ductility of bioresorbable Zn-1Mg-0.1Ca alloy by various deformation processing methods**

*A.A. Baikov Institute of Metallurgy and Materials Science of the Russian Academy of Science, Moscow, Russia*

### PP-1.3-13

Yurgin A.B.<sup>1</sup>, Ruktuev A.A.<sup>2</sup>

**Structure and properties of AlCoCrFeNi–Cr<sub>3</sub>C<sub>2</sub> composite coatings produced by non-vacuum electron beam cladding**

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

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

### PP-1.3-14

Nemtinov V.I., Pisarev S.M., Shurygin A.V., Lembikov A.O., Buravlev I.Y.

**Synchrotron X-ray photoelectron spectroscopy of Ta-Nb-Zr-Ti-V-C high-entropy carbide ceramics**

*Far Eastern Federal University, Vladivostok, Russia*

### PP-1.3-15

Sablina T.Yu., Kandaurova M.Yu., Zyatikov I.A., Panchenko Yu.N.

**In situ XRD synchrotron investigation of phase and structure formation in the surface layers of TiNi alloy during UV laser radiation exposure**

*Institute of High Current Electronics, Siberian Branch, Russian Academy of Sciences, Tomsk, Russia*

### PP-1.3-16

Satonkina N.P.<sup>1</sup>, Anisichkin V.F.<sup>1</sup>, Ershov A.P.<sup>1</sup>, Kuper K.E.<sup>2</sup>, Rubtsov I.A.<sup>2</sup>, Khlebanovskii N.A.<sup>1</sup>

**The relationship between the kinetics of the chemical reaction zone and the structure of the charge during the detonation of an explosive**

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

*2 – Synchrotron Radiation Facility - Siberian Circular Photon Source "SKIF" Boreskov Institute of Catalysis SB RAS, Koltsovo, Russia*

## Poster presentations

### PP-1.3-17

Sidorov E.A.<sup>1,2</sup>, Chumaevskii A.V.<sup>1</sup>, Filippov A.V.<sup>1,2</sup>, Kolubaev E.A.<sup>1,3</sup>

**Patterns of structure formation during WEBAM and tribological behavior of composite materials based on aluminum-manganese bronze**

1 – Institute of Strength Physics and Materials Science SB RAS, Tomsk, Russia

2 – Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia

3 – Novosibirsk State Technical University, Novosibirsk, Russia

### PP-1.3-18

Smyslova V.G., Lee Y.R., Tonova L.D., Karpyuk P.V., Sokolov P.S.

**Obtaining of optically transparent multifunctional ceramics based on complex compounds with garnet structure**

National Research Centre "Kurchatov Institute", Moscow, Russia

### PP-1.3-19

Sobachkin A.V.<sup>1</sup>, Loginova M.V.<sup>1</sup>, Sitnikov A.A.<sup>1</sup>, Yakovlev V.I.<sup>1</sup>, Filimonov V.Yu.<sup>1,2</sup>, Myasnikov A.Yu.<sup>1,3</sup>, Sharafutdinov M.R.<sup>3,4</sup>, Tolochko B.P.<sup>3,5</sup>, Roznyj A.A.<sup>1</sup>, Lakman E.V.<sup>1</sup>, Sobachkin A.V.<sup>1</sup>

**Using synchrotron radiation to study the stability of the structural-phase state of Ti-Al, Ti-Al-B, Ti-Al-C coatings during thermal cycling**

1 – Polzunov Altai State Technical University, Barnaul, Russia

2 – Institute for Water and Environment Problems SB RAS, Barnaul, Russia

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

4 – SRF "SKIF" Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

5 – Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russia

### PP-1.3-20

Sundeev R.V.<sup>1,2</sup>, Shalimova A.V.<sup>1</sup>, Veligzhanin A.A.<sup>3</sup>

**Application of synchrotron radiation for studying the local atomic structure of Ti<sub>2</sub>NiCu amorphous alloy**

1 – I.P. Bardin Science Institute for Ferrous Metallurgy, Moscow, Russia

2 – "MIREA - Russian Technological University", Moscow, Russia

3 – National Research Centre "Kurchatov Institute", Moscow, Russia

### PP-1.3-21

Tagiltsev A.I., Panchenko E.Yu., Tokhmetova A.B., Yanushonite E.I., Steshenko I.D., Timofeeva E.E., Surikov N.Yu., Chumlyakov Yu.I.

**Stress-induced martensite stabilization as a strategy for optimizing the functional properties of shape memory alloys**

National Research Tomsk State University, Tomsk, Russia

### PP-1.3-22

Valeev R.G., Beltiukov A.N., Chukavin A.I., Bakieva O.R., Kartapova T.S., Rybin D.S.

**Structure and chemical composition of thin Titanium OxyNitride (TiN<sub>x</sub>O<sub>y</sub>) films deposited by magnetron sputtering**

Udmurt Federal Research Centre of UB RAS, Izhevsk, Russia

## Poster presentations

### Section 1.4\_ Archaeology/geology and cultural heritage

#### PP-1.4-01

Kaneva E.V.<sup>1</sup>, Gavrilenko V.V.<sup>1</sup>, Radomsкая T.A.<sup>1</sup>, Shendrik R.Yu.<sup>1</sup>

#### **Incommensurate modulation in fresnoite from Inagli massif: XRD evidence**

*Vinogradov Institute of Geochemistry SB RAS, Irkutsk, Russia*

#### PP-1.4-02

Novikov V.S.<sup>1,2</sup>, Darin A.V.<sup>3</sup>, Rudaya N.A.<sup>2,4</sup>, Babich V.V.<sup>3</sup>, Zhilich S.V.<sup>4</sup>, Ch.-B. An<sup>5</sup>

#### **A sub-decadal geochemical paleothermometer (Br/Rb) for Holocene temperature reconstructions from continental Asia: SR-XRF study of lake sediments**

*1 – Institute of Geology and Geophysics, Beijing, China*

*2 – Institute of Geography, Moscow, Russia*

*3 – V. S. Sobolev Institute of Geology and Mineralogy, Novosibirsk, Russia*

*4 – Institute of Archaeology and Ethnography, Novosibirsk, Russia*

*5 – Fudan University, Shanghai, China*

#### PP-1.4-03

Saprykina I.<sup>1</sup>, Kichanov S.<sup>2</sup>, Smirnova V.<sup>1,2</sup>, Bakirov B.<sup>1,2</sup>

#### **Neutron and X-ray tomography and radiography methods in complex studies of the collection from excavations of the archaic burial ground Volna 1**

*1 – Institute of archaeology RAS, Moscow, Russia*

*2 – Joint institute of nuclear research, Dubna, Russia*

#### PP-1.4-04

Simonova E.A.<sup>1</sup>, Khramtsova D.M.<sup>1,2</sup>, Goreyavcheva A.A.<sup>1</sup>, Nigmatulina E.N.<sup>1</sup>, Kokh A.E.<sup>1</sup>

#### **Structure and luminescence of Li–Ba fluorides, borates, and fluoroborates doped with REE (REE = Sm, Eu, Tb)**

*1 – Sobolev Institute of Geology and Mineralogy, Siberian Branch, Russian Academy of Sciences, Novosibirsk, Russia*

*2 – Novosibirsk State University, Novosibirsk, Russia*

#### PP-1.4-05

Trigub A.L.<sup>1</sup>, Chareeva P.V.<sup>2</sup>, Chareev D.A.<sup>2,3</sup>, Tagirov B.R.<sup>2</sup>

#### **Probing the atomic and electronic structure of Pt–Ga–Ge compounds by XAS spectroscopy**

*1 – NRC “Kurchatov Institute”, Moscow, Russia*

*2 – Institute of Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry, Moscow, Russia*

*3 – D.S. Korzhinsky Institute of Experimental Mineralogy RAS, Chernogolovka, Russia*

## Poster presentations

### Section 1.5\_ Frontier techniques

#### PP-1.5-01

Akimova K.A., Ovchinnikova E.N., Oreshko A.P.

#### **Optical activity of CeCoGe<sub>3</sub> crystal in the X-ray frequency range**

*Lomonosov Moscow State University, Moscow, Russia*

#### PP-1.5-02

Balasoïu M.A., Kuklin A.I., Ivankov O.I.

#### **SANS and SAXS investigation of ferrofluids with anisotropic nanoparticles**

*Joint Institute of Nuclear Research, Dubna, Moscow Region, Russia*

#### PP-1.5-03

Borovkov V.I.

#### **On the possibility of using short pulses of synchrotron radiation to study ionized organic molecules**

*Voevodsky Institute of Chemical Kinetics and Combustion, Novosibirsk, Russia*

#### PP-1.5-04

Cherkasov A.M.

#### **Constraint-based reconstruction of random heterogeneous structures**

*Center for Computational Physics, Landau School of Physics and Research, Moscow Institute of Physics and Technology, Dolgoprudny, Russia*

#### PP-1.5-05

Efremenko V.F.<sup>1</sup>, Mareev E.I.<sup>1</sup>, Kohn V.G.<sup>1</sup>, Kulikov A.G.<sup>1</sup>, Obydenov N.N.<sup>1,2</sup>, Pyliak F.S.<sup>1</sup>, Pisarevsky Yu.V.<sup>1</sup>, Potemkin F.V.<sup>2</sup>, Blagov A.E.<sup>1</sup>

#### **Laser-induced lattice dynamics in silicon via time-resolved synchrotron diffractometry**

1 – NRC "Kurchatov Institute", Moscow, Russia

2 – Lomonosov Moscow State University, Moscow, Russia

#### PP-1.5-06

Trunova V.A.<sup>1</sup>, Shabanova E.V.<sup>2</sup>, Gavrilova K.S.<sup>1</sup>, Krupovich E.S.<sup>1,3</sup>

#### **Methodological aspects of Synchrotron radiation X-ray fluorescence analysis of silver in geological samples**

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

2 – Vinogradov Institute of Geochemistry SB RAS, Irkutsk, Russia

3 – Synchrotron Radiation Facility "SKIF", Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

#### PP-1.5-07

Gorkusha A.S.<sup>1,2</sup>, Cherepanova S.V.<sup>2</sup>, Yatsenko D.A.<sup>2</sup>, Gerasimov E.Yu.<sup>2</sup>, Tsybulya S.V.<sup>2</sup>

#### **Methodology for quantitative assessment of the content of Sr<sub>3</sub>Ti<sub>2</sub>O<sub>7</sub> intergrowth structures in the matrix of the first member of the Ruddlesden-Popper series Sr<sub>2</sub>TiO<sub>4</sub>**

1 – SRF "SKIF", Koltvoso, Russia

2 – Boreskov Institute of Catalysis, Novosibirsk, Russia

#### PP-1.5-08

Gridchina V.M.<sup>1,2</sup>, Khrykina O.N.<sup>1,2</sup>, Bolotina N.B.<sup>1,2</sup>, Sluchanko N.E.<sup>2</sup>

#### **Approaches to the analysis of the structure-properties relationship of RB<sub>6</sub> (R=La, Ce, Pr, Nd) in the 30-1200 K temperature range based on X-ray diffraction data**

1 – Shubnikov Institute of Crystallography, Kurchatov Complex of Crystallography and Photonics, National Research Centre "Kurchatov Institute", Moscow, Russia

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

## Poster presentations

### PP-1.5-09

Ivankov A.I., Murugova T.N.

#### **SAXS and SANS: A correlative approach**

*Joint Institute for Nuclear Research, Dubna, Russia*

### PP-1.5-10

Khalaniya R.A.<sup>1</sup>, Stepanova A.V.<sup>1</sup>, Mironov A.V.<sup>1</sup>, Samarin A.N.<sup>2</sup>, Bogach A.V.<sup>1,2</sup>, Kulchu A.N.<sup>1</sup>, Shevelkov A.V.<sup>1</sup>

#### **Nontrivial magnetism and electronic transport in intermetallic Mn<sub>4</sub>Al<sub>11</sub> with low-dimensional Mn substructure**

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

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

### PP-1.5-11

Khomyakov Yu.V.<sup>1,2</sup>, Reunov D.G.<sup>3</sup>, Rakshun Ya.V.<sup>1,4</sup>

#### **Multimodal speckle-based X-ray imaging**

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

*2 – SRF «SKIF», Koltsovo, Russia*

*3 – Institute for Physics of Microstructures, Nizhny Novgorod, Russia*

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

### PP-1.5-12

Kocheneva A.G.<sup>1,2</sup>, Sharafutdinov M.R.<sup>2,3</sup>, Lemzyakov A.G.<sup>1,2</sup>

#### **Application of the X-ray reflectometry method for characterization of thin gold films deposited under different vacuum deposition modes**

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

*2 – SRF “SKIF”, Koltsovo, Russia*

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

### PP-1.5-13

Babailov S.P., Korotaev E.V.

#### **NMR study of the kinetics of photo-induced exchange chemical reactions initiated by the synchrotron radiation facility “SKIF” radiation**

*Nikolaev institute of inorganic chemistry SB RAS, Novosibirsk, Russia*

### PP-1.5-14

Legkodymov A.A.<sup>1,2</sup>

#### **Multiple Compton scattering of linearly polarized X-ray photons in the high-energy range of fluorescence**

*1 – Budker Institute of Nuclear Physics of the Siberian Branch of the RAS, Novosibirsk, Russia*

*2 – Synchrotron Radiation Facility SKIF, Boreskov Institute of Catalysis SB RAS, Koltsovo, Russia*

### PP-1.5-15

Manukovskaya D.V.<sup>1</sup>, Palatnikov M.N.<sup>1</sup>, Lembikov A.O.<sup>2</sup>, Dran'kov A.N.<sup>2</sup>, Kaloyan A.A.<sup>3</sup>, Gogin A.A.<sup>3</sup>, Kleshev I.M.<sup>3</sup>, Podurets K.M.<sup>3</sup>

#### **A topograph of LiNbO<sub>3</sub>:Mg,Y single crystal obtained on a synchrotrone**

*1 – Tananaev Institute of Chemistry–Subdivision of the Federal Research Centre “Kola Science Centre of the Russian Academy of Sciences” (ICT KSC RAS), Apatity, Russia*

*2 – Far Eastern Federal University (FEFU), Vladovistok, Russia*

*3 – National Research Centre «Kurchatov Institute», Moscow, Russia*

## Poster presentations

### PP-1.5-16

Ponomareva E.A.<sup>1</sup>, Chumakov R.G.<sup>2</sup>, Maslova S.A.<sup>1</sup>, Inishev A.A.<sup>1</sup>, Gerasimov E.G.<sup>1,3</sup>, Mushnikov N.V.<sup>1,3</sup>, Kuznetsova T.V.<sup>1,3</sup>

**A resonant photoemission study of the LuNi<sub>2</sub>Mn intermetallic compound using synchrotron radiation**

1 – M.N. Mikheev Institute of Metal Physics UB RAS, Ekaterinburg, Russia

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

3 – Ural Federal University, Ekaterinburg, Russia

### PP-1.5-17

Terenteva A.I.<sup>1,2</sup>, Petrov I.I.<sup>1,2</sup>, Elievich I.A.<sup>1</sup>, Balyakin V.A.<sup>1</sup>, Baranova V.N.<sup>1,2</sup>

**Change in the diffraction pattern of a quartz single crystal under uniaxial compression studied using an adaptive X-ray optics element**

1 – National Research Center «Kurchatov Institute», Moscow, Russia

2 – Lomonosov Moscow State University, Moscow, Russia

### PP-1.5-18

Trubachev S.A.<sup>1,2</sup>, Shaklein A.A.<sup>3</sup>, Karpov A.I.<sup>3</sup>, Shmakov A.G.<sup>1</sup>, Morar G.<sup>3</sup>, Kulikov I.V.<sup>1</sup>

**Experimental and numerical study of methyl methacrylate liquid pool flame structures**

1 – Voevodsky Institute of Chemical Kinetics and Combustion SB RAS, Novosibirsk, Siberia, Russia

2 – Novosibirsk State University, Novosibirsk, Siberia, Russia

3 – Udmurt Federal Research Center UB RAS, Izhevsk, Udmurt Republic, Russia

## Poster presentations

### Section 1\_ Fundamental and Applied researches

#### PP-1-01

Trofimov A.B.<sup>1,2</sup>, Skitnevskaya A.D.<sup>1,2</sup>, Artola A.M.<sup>1,2</sup>

**Algebraic diagrammatic construction propagator methods as a useful tool for synchrotron radiation research**

1 – Federal Research Center A.E. Favorsky Irkutsk Institute of Chemistry SB RAS, Irkutsk, Russia

2 – Irkutsk State University, Irkutsk, Russia

#### PP-1-02

Babitova E.S.<sup>1,2</sup>, Brechalov A.A.<sup>1,2</sup>, Krot A.D.<sup>3</sup>, Trigub A.L.<sup>4</sup>, Sakhonenkova A.P.<sup>2</sup>, Miroslavov A.E.<sup>1,2</sup>

**Synthesis and characterization of  $\text{Na}[^{99}\text{Tc}(\text{CO})_5]$  and  $\text{Na}_3[^{99}\text{Tc}(\text{CO})_4]$**

1 – St. Petersburg State University, Saint-Petersburg, Russia

2 – Ozyorsk Technological Institute of the National Research Nuclear University, Ozyorsk, Russia

3 – Lomonosov Moscow State University, Moscow, Russia

4 – NRC “Kurchatov Institute”, Moscow, Russia

#### PP-1-03

Barkhudarov K.V.<sup>1,3</sup>, Ivanov N.P.<sup>1</sup>, Alekseeva A.M.<sup>2</sup>, Razov V.I.<sup>1</sup>, Trigub A.L.<sup>4</sup>, Yun Shi<sup>5</sup>

**EXAFS, XRD and positron annihilation spectroscopy study of defect structure in  $\text{Zn}_2\text{V}_2\text{O}_7$  electrode materials for supercapacitors and Li-ion batteries**

1 – Far Eastern Federal University, Vladivostok, Russia

2 – Lomonosov Moscow State University, Moscow, Russia

3 – Far East Geological Institute, Far Eastern Branch of Russian Academy of Sciences, Vladivostok, Russia

1644 – National Research Centre “Kurchatov Institute”, Moscow, Russia

5 – Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, China

#### PP-1-04

Ivanov N.P.<sup>1</sup>, Shichalin O.O.<sup>1</sup>, Shyurygin A.V.<sup>1</sup>, Nemtinov V.I.<sup>1</sup>, Barkhudarov K.V.<sup>1</sup>, Belov A.A.<sup>1</sup>, Chumakov R.G.<sup>2</sup>, Yun Shi<sup>3</sup>, Avakyan A.K.<sup>4</sup>, Papynov E.K.<sup>1</sup>

**4D  $\text{SrTiO}_3/\text{Ti-Al-V}$  reinforced ionizing radiation open type sources fabricated by SLM and SPS:  $\mu\text{CT}$ , SEM-EDS and SR-XPS multi-scale characterization**

1 – Far Eastern Federal University, Vladivostok, Russia

2 – National Research Centre «Kurchatov Institute», Moscow, Russia

3 – Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, China

4 – PRODIS.NDT, Moscow, Russia

#### PP-1-05

Kushnerou A.

**Structural and phase transformations during friction of nitrogen-ion-treated austenitic chromium steel**

The Joint Institute of Mechanical Engineering of the National Academy of Sciences of Belarus, Minsk, Belarus

#### PP-1-06

Lembikov A.O., Ponomareva E.A., Pisarev S.M., Ogorodnikov N.S., Drankov A.N.

**The role of textural analysis in the study of magnetically anisotropic multiphase nanomaterials**

Far Eastern Federal University, Institute of High Technologies and Advanced Materials, Vladivostok, Russia

## Poster presentations

### PP-1-07

Provatorova V.V.<sup>1</sup>, Ivanov N.P.<sup>1</sup>, Trigub A.L.<sup>2</sup>, Barkhudarov K.V.<sup>1</sup>, Borisov A.S.<sup>3</sup>, Rastorguev V.L.<sup>1</sup>, Shurygin A.V.<sup>1</sup>, Papynov E.K.<sup>1</sup>

**Cs<sup>+</sup> adsorption on pharmacosiderite titanosilicates: spectroscopic and structural study by EXAFS, XPS and SR-XRD**

1 – Far Eastern Federal University, Vladivostok, Russia

2 – National Research Centre «Kurchatov Institute», Moscow, Russia

3 – Institute für Geowissenschaften der Universität Kiel, Kiel, Germany

### PP-1-08

Rastorguev V.L.<sup>1</sup>, Ivanov N.P.<sup>1</sup>, Trigub A.L.<sup>2</sup>, Tsygankov D.K.<sup>1</sup>, Ivanets A.I.<sup>3</sup>, Papynov E.K.<sup>1</sup>

**Microstructure and Pb(II) sorption mechanisms on Zn-Al layered double hydroxide: influence of drying and anion composition**

1 – Far Eastern Federal University, Vladivostok, Russia

2 – National Research Centre «Kurchatov Institute», Moscow, Russia

3 – Institute of General and Inorganic Chemistry of the National Academy of Sciences of Belarus, Minsk, Belarus

### PP-1-09

Drozhzhin O.A.<sup>1</sup>, Trigub A.L.<sup>2</sup>, Savin S.S.<sup>2</sup>, Ivanov N.P.<sup>3,4</sup>

**X-ray absorption spectroscopic investigation of PNB<sub>9</sub>O<sub>25</sub> as an anode material**

1 – Lomonosov Moscow State University, Moscow, Russia

2 – National Research Centre “Kurchatov Institute”, Moscow, Russia

3 – Far Eastern Federal University, Vladivostok, Russia

4 – Sakhalin State University, Yuzhno-Sakhalinsk, Russia

### PP-1-10

Skitnevskaya A.D.<sup>1,2</sup>, Trofimov A.B.<sup>1,2</sup>

**Synchrotron radiation based experimental and theoretical studies of intermolecular Coulombic decay in biologically relevant systems**

1 – Federal Research Center A.E. Favorsky Irkutsk Institute of Chemistry SB RAS, Irkutsk, Russia

2 – Irkutsk State University, Irkutsk, Russia

### PP-1-11

Ivanov N.P.<sup>1</sup>, Tsygankov D.K.<sup>1</sup>, Trigub A.L.<sup>2</sup>, Barkhudarov K.V.<sup>1</sup>, Ivanets A.I.<sup>3</sup>, Papynov E.K.<sup>1</sup>, Rastorguev V.L.<sup>1</sup>

**U(VI) adsorption on Zn-Al-LDH surface: EXAFS mechanistic study and cation ratio optimization**

1 – Far Eastern Federal University, Vladivostok, Russia

2 – National Research Centre «Kurchatov Institute», Moscow, Russia

3 – Institute of General and Inorganic Chemistry of the National Academy of Sciences of Belarus, Minsk, Belarus

### PP-1-12

Zuraev A.V.<sup>1</sup>, Verbilo K.M.<sup>1</sup>, Boboriko N.E.<sup>1</sup>, Stolbunova Yu.A.<sup>1</sup>, Komova O.V.<sup>2</sup>, Trukhanov A.V.<sup>3</sup>

**Poly-5-vinyltetrazolate salts as precursors for pynthesis of new nanostructured catalysts**

1 – Institute of Chemistry of New Materials of the National Academy of Sciences of Belarus, Minsk, Belarus

2 – Boreskov Institute of Catalysis, Novosibirsk, Russia

3 – Scientific and Practical Center for Materials Science of the National Academy of Sciences of Belarus, Minsk, Belarus

### PP-1-13

Liu Y.<sup>1,2</sup>, Song Z.<sup>1</sup>, Tan Y.<sup>1</sup>, Guo Z.<sup>1</sup>, Bian S.<sup>1</sup>

**From Off-Target Binding to Pathway Imbalance: Drug Interference in Retinoic Acid Receptor Metabolism**

1 – Tongji University, Shanghai, China

2 – Moscow Institute of Physics and Technology, Dolgoprudny, Russia

## Poster presentations

### Section 2\_ Industrial applications

#### PP-2-01

Ageev Ya.I., Skripnikov A.M., Baryshnikov S.V., Kuznetsov B.N.

**Solid acid catalysts and sorbents based on hydrochars from aspen wood, modified with iron and vanadium**

*Institute of Chemistry and Chemical Technology SB RAS, FRC KSC SB RAS Krasnoyarsk, Russia*

#### PP-2-02

Alekseev A.I.<sup>1,2</sup>, Mendagaliev R.V.<sup>1,2</sup>, Evstifeev A.D.<sup>1,2</sup>, Mamalat A.I.<sup>1</sup>, Klimova-Korsmik O.G.<sup>1</sup>

**Improving mechanical properties of bimetallic structures fabricated by direct laser deposition**

*1 – Saint Petersburg State Marine Technical University, Saint Petersburg, Russia*

*2 – Saint Petersburg State University, Saint Petersburg, Russia*

#### PP-2-03

Bragina O.A.<sup>1</sup>, Khokhlova M.O.<sup>1</sup>, Shubnikova E.V.<sup>1</sup>, Kriventsov V.V.<sup>1,2</sup>, Nemudry A.P.<sup>1</sup>

**Nickel-doped  $\text{La}_{0.65}\text{Ca}_{0.35}\text{Fe}_{0.8}\text{Co}_{0.2}\text{O}_{3-\delta}$ : promising cathode materials for solid oxide fuel cells**

*1 – Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia*

*2 – Synchrotron Radiation Facility—Siberian Circular Photon Source “SKIF,” Boreskov Institute of Catalysis SB RAS, Kol'tsovo, Russia*

#### PP-2-04

Dzharkinov R.B.<sup>1,2</sup>, Duchkov A.A.<sup>1,2</sup>

**Estimation of relative permeability in heterogeneous rock samples using dynamic synchrotron microtomography**

*1 – Novosibirsk State University, Novosibirsk, Russia*

*2 – Trofimuk Institute of Petroleum Geology and Geophysics SB RAS, Novosibirsk, Russia*

#### PP-2-05

Fokin M.I.<sup>1,2</sup>, Duchkov A.A.<sup>1,2</sup>

**Synchrotron phase-contrast micro-CT for enhancing imaging of multi-phase fluid systems in porous rock samples**

*1 – Novosibirsk State University, Novosibirsk, Russia*

*2 – Trofimuk Institute of Petroleum Geology and Geophysics SB RAS, Novosibirsk, Russia*

#### PP-2-06

Kharkova A.V.<sup>1</sup>, Kochuev D.A.<sup>1</sup>, Chernikov A.S.<sup>1</sup>

**Increasing the sedimentation stability of slip with a fragmented fraction by introducing spherical ZnS nanoparticles for centrifugal casting of ceramics**

*Vladimir State University named after A. G. and N. G. Stoletov, Vladimir, Russia*

#### PP-2-07

Khokhlova M.O.<sup>1</sup>, Shubnikova E.V.<sup>1</sup>, Kriventsov V.V.<sup>2</sup>, Bragina O.A.<sup>1</sup>, Nemudry A.P.<sup>1</sup>

**Structural and electrochemical properties of Cu-doped  $\text{La}_{0.65}\text{Ca}_{0.35}\text{Co}_{0.2}\text{Fe}_{0.8-x}\text{Cu}_x\text{O}_{3-\delta}$  cathode for solid oxide fuel cells**

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

*2 – SRF SKIF, Koltsovo, Russia*

#### PP-2-08

Kriventsov V.V.<sup>1</sup>, Kondrat'ev S.A.<sup>2</sup>, Konovalov I.A.<sup>2</sup>

**EXAFS and XANES study of physically sorbed zinc xanthate/sulfate collectors in flotation enrichment**

*1 – SRF «SKIF», Boreskov Institute of Catalysis, Kol'tsovo, Russia*

*2 – N.A. Chinakal Institute of Mining, Novosibirsk, Russia*

## Poster presentations

### PP-2-09

Ponkratov Yu.V., Baklanov V.V., Gordienko Yu.N., Samarkhanov K.K., Tulubayev Ye.Yu.

#### **Advanced materials for nuclear and fusion energy systems: Integrated experimental approaches and prospects for synchrotron-based research**

*Institute of Atomic Energy Branch, National Nuclear Center of the Republic of Kazakhstan, Kurchatov, Kazakhstan*

### PP-2-10

Prigodgorova A.N.<sup>1</sup>, Sozinov S.A.<sup>1</sup>, Zakharov N.S.<sup>1</sup>, Shmakov A.N.<sup>2</sup>

#### **Unveiling the nanoscale state of spent carbon additives in Veba Combi Cracking: A synchrotron XRD study**

*1 – Federal Research Center of Coal and Coal Chemistry, Siberian Branch of the Russian Academy of Sciences (SB RAS), Kemerovo, Russia*

*2 – SRF «SKIF», Boreskov Institute of Catalysis, Kol'tsovo, Russia*

### PP-2-11

Valeev R.G., Petkov A.A., Baryshev A.O., Kartapova T.S., Rybin D.S.

#### **Modifying the functional coating of RuO<sub>2</sub> with titanium oxide to improve the characteristics of the cathodes of tantalum electrolytic capacitors**

*Udmurt Federal Research Centre of UB RAS, Izhevsk, Russia*

### PP-2-12

Valtsifer I.V., Shamsutdinov A.Sh., Saburova A.I., Sannikova A.D., Valtsifer V.A.

#### **Scientific and technological principles for the development of fire-extinguishing powder compositions with combined gas-generating action**

*Institute of Technical Chemistry, Ural Branch of the Russian Academy of Sciences, Perm, Russia*

## Poster presentations

### Section 3.1\_ Instrumentation\_beamlines

#### PP-3.1-01

Kodess B.N.

**Surface layers. Evolution and stimulated phase transformations. Improving the accuracy and credibility of measurement results on base standard reference materials**

*Research Center for Applied Metrology – Rostest (RCAM – Rostest), Moscow, Russian Federation*

#### PP-3.1-02

Dorokhov V.L.<sup>1,3,4</sup>, Maier V.E.<sup>1,3</sup>, Meshkov O.I.<sup>1,2</sup>

**Pinhole-camera-based X-ray diagnostics for transverse electron beam profile measurements at the SKIF synchrotron radiation facility**

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

*2 – Novosibirsk State University, Novosibirsk, Russia*

*3 – SRF "SKIF", Boreskov Institute of Catalysis, Koltsovo, Russia*

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

#### PP-3.1-03

Nazmov V.P.<sup>1,2,3</sup>, Gentshev A.N.<sup>1</sup>

**UV-VUV Module of the X-Techno Station**

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

*2 – Siberian Circular Source of Photons (SRF «SKIF») of SB RAS, Novosibirsk Russia*

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

#### PP-3.1-04

Ovsyannik V.V.<sup>1,2</sup>, Zolotarev K.V.<sup>1,2</sup>

**Development of methods for conducting energy dispersion studies on the SKIF superconducting undulator**

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

*2 – SRF SKIF, branch of the Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

#### PP-3.1-05

Pukhovoy M.V., Zolotarev K.V.

**Thermal loads of first mirror of synchrotron infrared station. Design and cooling system overview**

*Synchrotron Radiation Facility - Siberian Circular Photon Source "SKIF" Boreskov Institute of Catalysis of Siberian Branch of the Russian Academy of Sciences (SRF "SKIF"), Koltsovo, Russia*

#### PP-3.1-06

Rakshun Ya.V.<sup>1,2</sup>, Khomyakov Yu.V.<sup>2,3</sup>, Gogolev A.S.<sup>4</sup>, Darin A.V.<sup>1</sup>, Darin F.A.<sup>3</sup>, Dymshits A.M.<sup>5</sup>, Kiseleva O.N.<sup>1</sup>, Korsakov A.V.<sup>1</sup>, Logvinov A.M.<sup>1</sup>, Mikhailenko D.S.<sup>6</sup>, Prokopyev I.R.<sup>1</sup>, Rashchenko S.V.<sup>1</sup>, Chernov V.A.<sup>2</sup>, Shatskiy A.F.<sup>7</sup>

**XRF-Geology beamline at SRF SKIF**

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

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

*3 – SRF «SKIF», Koltsovo, Russia*

*4 – Tomsk Polytechnic University, Tomsk, Russia*

*5 – Institute of the Earth's Crust, Irkutsk, Russia*

*6 – Zavaritsky Institute of Geology and Geochemistry, Ekaterinburg, Russia*

*7 – Vernadsky Institute of Geochemistry and Analytical Chemistry, Moscow, Russia*

#### PP-3.1-07

Samsonov A.N.

**Software for processing frames obtained from video recording of galloping processes**

*Lavrentyev Institute of Hydrodynamics, Novosibirsk, Russia*

## Poster presentations

### PP-3.1-08

Sklyarov A.N.<sup>1</sup>, Verigin S.A.<sup>1</sup>, Rakshun Y.V.<sup>1,2</sup>

**Software for automated collaborative real time processing of micro XRF and micro tomography experimental data**

1 – Sobolev Institute of Geology and Mineralogy Siberian Branch Russian Academy of Sciences, Novosibirsk, Russia

2 – Budker Institute of Nuclear Physics Siberian Branch Russian Academy of Sciences, Novosibirsk, Russia

### PP-3.1-09

Solovev A.N.<sup>1,2</sup>, Kizilova Ya.V.<sup>1,2</sup>, Shkrabo M.S.<sup>1,3</sup>, Koryakin S.N.<sup>1</sup>, Brovin A.I.<sup>1</sup>, Shegay P.V.<sup>4</sup>

**Ionization chambers modelling framework with metrological-driven traceability for healthcare applications**

1 – A. Tsyb MRRC, Obninsk, Russia

2 – IATE NRNU MEPhI, Obninsk, Russia

3 – NRNU MEPhI, Moscow, Russia

4 – FSBI “NMMRC” of the Ministry of Health of the Russian Federation, Moscow, Russia

### PP-3.1-10

Sorokoletov D.S.<sup>1,2</sup>, Rakshun Ya.V.<sup>1,3</sup>, Daryin F.A.<sup>1,2</sup>

**Series of algorithmic approaches for optimization of regularizing computing procedures oriented to solving several types of deconvolution problems**

1 – Budker Institute of Nuclear Physics, Novosibirsk, Russia

2 – SRF «SKIF», Koltsovo, Russia

3 – Sobolev Institute of Geology and Mineralogy, Novosibirsk, Russia

### PP-3.1-11

Sorokoletov D.S.<sup>1,2</sup>, Rakshun Ya.V.<sup>1,3</sup>, Daryin F.A.<sup>1,2</sup>

**Approbation of the special procedure of the means of fundamental parameters applicable for the specific class of samples**

1 – Budker Institute of Nuclear Physics, Novosibirsk, Russia

2 – SRF «SKIF», Koltsovo, Russia

3 – Sobolev Institute of Geology and Mineralogy, Novosibirsk, Russia

### PP-3.1-12

Statnik E.S.<sup>1</sup>, Salimon A.I.<sup>1</sup>, Zavorotnaya U.M.<sup>2</sup>, Sadykova Iu.A.<sup>1</sup>, Dong A.<sup>1</sup>, Korsunsky A.M.<sup>1</sup>

**Physics-informed machine learning for predictive analysis of small-angle X-Ray scattering data**

1 – Skoltech, Moscow, Russia

2 – NUST MISIS, Moscow, Russia

### PP-3.1-13

Vasilev V.A., Armeev G.A., Shaytan A.K., Shaitan K.V.

**Analysis of SAXS data using Monte Carlo simulations**

Moscow State University, Moscow, Russia

### PP-3.1-14

Nikolenko A.D.<sup>1,2</sup>, Shmakov A.G.<sup>3</sup>

**The second-stage SR station "Spectroscopy and metrology in soft X-ray radiation": the "Flame" section**

1 – Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russia

2 – Shared Research Center “SKIF”, Koltsovo, Russia

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

### Section 3.2\_ Instrumentation\_beamlines components

#### PP-3.2-01

Bulavskaya A.<sup>1</sup>, Kishin I.<sup>2,3</sup>, Alexeev S.<sup>4</sup>, Baldin A.<sup>4</sup>, Bleko V.<sup>4</sup>, Bushmina E.<sup>1,4</sup>, Karataev P.<sup>5</sup>, Kidanova E.<sup>3,4</sup>, Klenin A.<sup>2</sup>, Kocharyan V.<sup>6</sup>, Kubankin A.<sup>2,3</sup>, Margaryan V.<sup>6</sup>, Miloichikova I.<sup>1,7</sup>, Mitrofanov S.<sup>4</sup>, Potylitsyn A.<sup>1,6</sup>, Semin V.<sup>4</sup>, Stuchebrov S.<sup>1</sup>

**Cherenkov and Smith-Purcell radiation generated by high-energy electrons from 3D-printed targets**

1 – Tomsk Polytechnic University, Tomsk, Russia

2 – Belgorod National Research University, Belgorod, Russia

3 – P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russia

4 – Joint Institute for Nuclear Research, Dubna, Russia

5 – John Adams Institute at Royal Holloway, University of London, Egham, UK

6 – Institute of Applied Problems of Physics NAS RA, Yerevan, Armenia

7 – Cancer Research Institute, Tomsk National Research Medical Center, Russian Academy of Sciences, Tomsk, Russia

#### PP-3.2-02

Dorokhov V.L.<sup>1,3,4</sup>, Meshkov O.I.<sup>1,2</sup>, Vizitiu I.V.<sup>1,3,4</sup>

**Soft X-ray interferometer for measuring transverse beam sizes of the ultra-low emittance beam at the SKIF storage ring**

1 – Budker Institute of Nuclear Physics, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

3 – SRF "SKIF", Boreskov Institute of Catalysis, Koltsovo, Russia

4 – Novosibirsk State Technical University, Novosibirsk, Russia

#### PP-3.2-03

Eid M.E.A., Bogdan P., Nenasheva M.V., Soldatov A.B., Gorbunov D.N., Guda A.A.

**High pressure microfluidic systems for hydroformylation process intensification and operando XAS diagnostics**

Southern Federal University, Rostov-on-Don, Russia

#### PP-3.2-04

Gaydamaka A.A.<sup>1,2,3</sup>, Naumov A.A.<sup>3</sup>

**Crystallization in gels as a technique for obtaining metal complexes crystals**

1 – Voevodsky Institute of Chemical Kinetics and Combustion, Novosibirsk, Russia

2 – Synchrotron Radiation Facility — Siberian Circular Photon Source "SKIF", Koltsovo, Russia

3 – Novosibirsk State University, Novosibirsk, Russia

#### PP-3.2-05

Gentselev A.N.<sup>1</sup>, Baev S.G.<sup>2</sup>, Kuznetsov S.A.<sup>1,3,4</sup>, Varand A.V.<sup>1</sup>

**Development of technology for manufacturing pseudo-metallic microstructures used to control terahertz radiation**

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

2 – Institute of Automation and Electrometry, SB RAS, Novosibirsk, Russia

3 – Novosibirsk State University (NSU), Novosibirsk, Russia

4 – Rzhannov Institute of Semiconductor Physics, Novosibirsk, Russia

#### PP-3.2-06

Golyashov V.A.<sup>1,2,3</sup>, Mikaeva A.S.<sup>1,2</sup>, Bakin V.V.<sup>1</sup>, Stepanov S.A.<sup>3</sup>, Kustov D.A.<sup>1</sup>, Rusetsky V.S.<sup>1,4</sup>, Rozhkov S.A.<sup>1,3</sup>, Scheibler H.E.<sup>1,3</sup>, Demin A.Yu.<sup>4</sup>, Tereshchenko O.E.<sup>1,2,3</sup>

**Ferromagnetic nanomembrane based 2D spin-detector for SARPES**

1 – Rzhannov Institute of Semiconductor Physics, Novosibirsk, Russia

2 – SRF "SKIF", Boreskov Institute of Catalysis, Koltsovo, Russia

3 – Novosibirsk State University, Novosibirsk, Russia

4 – CJSC "EKRAAN FEP", Novosibirsk, Russia

## Poster presentations

### PP-3.2-07

Lyatun I., Barannikov A., Korotkov A., Zverev D., Panormov I., Snigirev A.

#### **Beryllium refractive optics for the first-stage beamlines of the SKIF synchrotron source**

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

### PP-3.2-08

Lyatun I., Korotkov A., Lyatun S., Barannikov A., Zverev D., Snigirev A.

#### **High-resolution refractive micro-optics based on diamond and silica for coherent X-ray imaging**

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

### PP-3.2-09

Matyash A.R.<sup>1,2,3</sup>, Tashkeev N.A.<sup>1,2,3</sup>, Melnikov A.R.<sup>1,3</sup>, Veber S.L.<sup>1,3</sup>

#### **Benchmarking SKIF's bending magnet radiation against conventional sources in Mid-IR: brilliance and integral power**

1 – ITC SB RAS, Novosibirsk, Russia

2 – SRF SKIF, Koltsovo, Russia

3 – NSU, Novosibirsk, Russia

### PP-3.2-10

Neustroeva A.A.<sup>1</sup>, Reznikova E.F.<sup>1</sup>, Nazmov V.P.<sup>1,2,3</sup>

#### **Modelling the interaction of radiation with matter for optimizing X-ray refractive lenses**

1 – Budker Institute of Nuclear Physics of SB RAS, Novosibirsk, Russia

2 – Synchrotron Radiation Facility – Siberian Circular Photon Source "SKIF" Boreskov Institute of Catalysis of SB RAS, Novosibirsk, Russia

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

### PP-3.2-11

Pavlov G.A.<sup>1</sup>, Malkov G.V.<sup>1</sup>, Treushnikov V.M.<sup>2</sup>, Treushnikov V.V.<sup>2</sup>, Kuper K.E.<sup>3</sup>

#### **The polymer X-ray lenses for fixing X-ray images of laser plasma and other objects**

1 – Federal Research Center for Problems of Chemical Physics and Medicinal Chemistry of the Russian Academy of Sciences, Chernogolovka, Moscow Region, Russia

2 – PC "Reper-NN", Nizhny Novgorod, Russia

3 – Budker Institute of Nuclear Physics of the Siberian Branch of the Russian Academy of Sciences (INP SB RAS), Novosibirsk, Russia

### PP-3.2-12

Polomoshnova D.A.<sup>1</sup>, Timoshenko K.D.<sup>1,2</sup>, Alekseev S.I.<sup>2</sup>, Bulavskaya A.A.<sup>1</sup>, Bushmina E.A.<sup>1,2</sup>, Miloichikova I.A.<sup>1,3</sup>, Mitrofanov S.V.<sup>2</sup>, Teterev Yu.G.<sup>2</sup>, Stuchebrov S.G.<sup>1</sup>

#### **Transverse beam profile reconstruction using a 16-channel cylindrical ionization chamber system**

1 – Joint Institute for Nuclear Research, Dubna, Russia

2 – National Research Tomsk Polytechnic University, Tomsk, Russia

3 – Cancer Research Institute, Tomsk National Research Medical Center, Russian Academy of Sciences, Tomsk, Russia

### PP-3.2-13

Protasov D.Yu.<sup>1,2</sup>, Bakarov A.K.<sup>1</sup>, Aksenov M.S.<sup>1</sup>, Gulayev D.V.<sup>1</sup>

#### **Hall sensors based on InSb/InAlSb/GaAs heterostructures grown by molecular-beam epitaxy**

1 – Rzhannov Institute of Semiconductor Physics, Novosibirsk, Russia

2 – Novosibirsk State Technical University, Novosibirsk, Russia

## Poster presentations

### PP-3.2-14

Shabelnikova Ya.L., Zaitsev S.I.

#### **Polycapillary lenses and collimating multi-channel arrays as confocal collimators for X-ray Fluorescence micro-Analysis**

*Institute of Microelectronic Technology Problem and high purity materials, Chernogolovka, Moscow district, Russia*

### PP-3.2-15

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

#### **Electronic structure of epitaxially grown Na<sub>2</sub>KSb(Cs) photocathode**

1 – Rzhannov Institute of Semiconductor Physics SB RAS, Novosibirsk, Russia

2 – SRF "SKIF", Kol'tsovo, Russia

3 – Institute of Strength Physics and Materials Science, Tomsk, Russia

### PP-3.2-16

Stuchebrov S.<sup>1</sup>, Kishin I.<sup>2,3</sup>, Alexeev S.<sup>4</sup>, Baldin A.<sup>4</sup>, Bleko V.<sup>4</sup>, Bulavskaya A.<sup>1</sup>, Bushmina E.<sup>1,4</sup>, Karataev P.<sup>5</sup>, Kidanova E.<sup>3,4</sup>, Klenin A.<sup>2</sup>, Kocharyan V.<sup>6</sup>, Kubankin A.<sup>2,3</sup>, Margaryan V.<sup>6</sup>, Miloichikova I.<sup>1,7</sup>, Mitrofanov S.<sup>4</sup>, Potylitsyn A.<sup>1,6</sup>, Semin V.<sup>4</sup>

#### **Super-radiant coherent Cherenkov diffraction radiation from an extended electron bunch train: experimental study**

1 – Tomsk Polytechnic University, Tomsk, Russia

2 – Belgorod National Research University, Belgorod, Russia

3 – P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russia

4 – Joint Institute for Nuclear Research, Dubna, Russia

5 – John Adams Institute at Royal Holloway, University of London, Egham, UK

6 – Institute of Applied Problems of Physics NAS RA, Yerevan, Armenia

7 – Cancer Research Institute, Tomsk National Research Medical Center, Russian Academy of Sciences, Tomsk, Russia

### PP-3.2-17

Tereshchenko O.E.<sup>1,2</sup>, Merkulin K.V.<sup>1</sup>, Schaibler H.E.<sup>1</sup>, Bakin V.V.<sup>1</sup>, Marakhovka I.I.<sup>3</sup>, Kislykh N.V.<sup>3</sup>, Kopotilov A.V.<sup>3</sup>, Demin A.Yu.<sup>3</sup>, Kulikov D.M.<sup>3</sup>, Yarmoshenko Yu.M.<sup>4</sup>, Kantur I.E.<sup>4</sup>, Kuznetsova T.V.<sup>4</sup>

#### **X-ray detector based on an image intensifier**

1 – Institute of Semiconductor Physics A.V. Rzhannov SB RAS, Novosibirsk, Russia

2 – Synchrotron Radiation Facility SKIF, Koltsovo, Russia

3 – JSC "EKRAAN FEP," Novosibirsk, Russia

4 – M.N. Mikheev Institute of Metal Physics of Ural Branch of RAS, Ekaterinburg, Russia

### PP-3.2-18

Yartseva M.A.<sup>1,2</sup>, Shekhtman L.I.<sup>1,2,4</sup>, Kudryavtsev V.N.<sup>1</sup>, Aulchenko V.M.<sup>1</sup>, Burdin V.E.<sup>1,3</sup>, Zhulanov V.V.<sup>1</sup>, Yurovskaya A.A.<sup>1</sup>, Titov V.M.<sup>1</sup>, Ivanenko S.V.<sup>1</sup>

#### **Software for synchronization unit and one-coordinate X-ray detector operating in photon counting mode**

1 – Budker Institute of Nuclear Physics of SB RAS, Novosibirsk, Russia

2 – Novosibirsk State University, Novosibirsk, Russia

3 – SRF SKIF, Boreskov Institute of Catalysis SB RAS, Koltsovo, Russia

4 – Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia

### PP-3.2-19

Zharikov A.

#### **Development of a control system for detectors and associated equipment used in recording fast processes**

*Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russia*

## Poster presentations

### Section 4\_ SR sources and IDs

#### PP-4-01

Brodnikov A.F.

#### **Determination of the critical current in Nb-Ti superconductors at "helium" temperatures**

*Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russia*

#### PP-4-02

Dorokhova D.V.<sup>1,2</sup>, Dorokhov V.L.<sup>1,2</sup>, Nikitin S.A.

#### **Application of MIA for studying nonlinear coupling: model experiments at VEPP-4M**

*1 – Budker Institute of Nuclear Physics, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia*

*2 – Synchrotron Radiation Facility - Siberian Circular Photon Source "SKIF" Boreskov Institute of Catalysis of Siberian Branch of the Russian Academy of Sciences (SRF "SKIF"), Koltsovo, Russia*

#### PP-4-03

Kashkin V.D.<sup>1,2</sup>, Okunev I.N.<sup>1,2</sup>, Piminov P.A.<sup>1,2</sup>

#### **An alternative scheme for injecting particles into the SRF "SKIF" synchrotron radiation source based on a nonlinear pulsed magnet**

*1 – SRF "SKIF", Koltsovo, Russian Federation*

*2 – BINP SB RAS, Novosibirsk, Russian Federation*

#### PP-4-04

Kazantsev F.P.<sup>1</sup>, Mezentsev N.A.<sup>1,2</sup>, Shkaruba V.A.<sup>1,2</sup>

#### **Pulsed wire measurements of the 15.6 mm SCU for the st.1-1 of SRF "SKIF"**

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

*2 – Synchrotron Radiation Facility "SKIF", Koltsovo, Russia*

#### PP-4-05

Mamutov R.Z., Baranov G.N.

#### **Ring symmetry for efficient optics measurement and correction in synchrotron storage rings**

*Budker Institute of Nuclear Physics, Novosibirsk, Russia*

*Synchrotron radiation facility - Siberian Circular Photon Source "SKIF" Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia*

#### PP-4-06

Pronikov A.I.<sup>1</sup>, Dyubkov V.S.<sup>1,2</sup>, Surikova E.E.<sup>1</sup>

#### **350 MHz coaxial RF coupler**

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

*2 – National Research Nuclear University MEPhI, Moscow, Russia*

#### PP-4-07

Romashov A.S., Kolushenkov M.A., Amirov A.A.

#### **Laboratory device for 3D Hall mapping of permanent magnets under various types of mechanical stress**

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

## Poster presentations

### PP-4-08

Marchenko M.A.<sup>1</sup>, Mishchenko D.D.<sup>2</sup>, Shakirov D.S.<sup>3</sup>, Shakirov S.R.<sup>1</sup>

#### **Development of a neural network model of the white beam slit unit of User Beamline of the SRF SKIF**

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

*2 – Boreskov Institute of Catalysis SB RAS, Synchrotron Radiation Facility SKIF, Novosibirsk, Russia*

*3 – Novosibirsk State University, Novosibirsk, Russia*

### PP-4-09

Baranov G.N.<sup>1,2</sup>, Dyubkov V.S.<sup>3,4</sup>, Pronikov A.I.<sup>3</sup>

#### **SYLA Lattice and RF System Status**

*1 – Budker Institute of Nuclear Physics of Siberian Branch Russian Academy of Sciences, Novosibirsk, Russia*

*2 – SRF "SKIF", Novosibirsk, Russia*

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

*4 – National Research Nuclear University MEPhI, Moscow, Russia*

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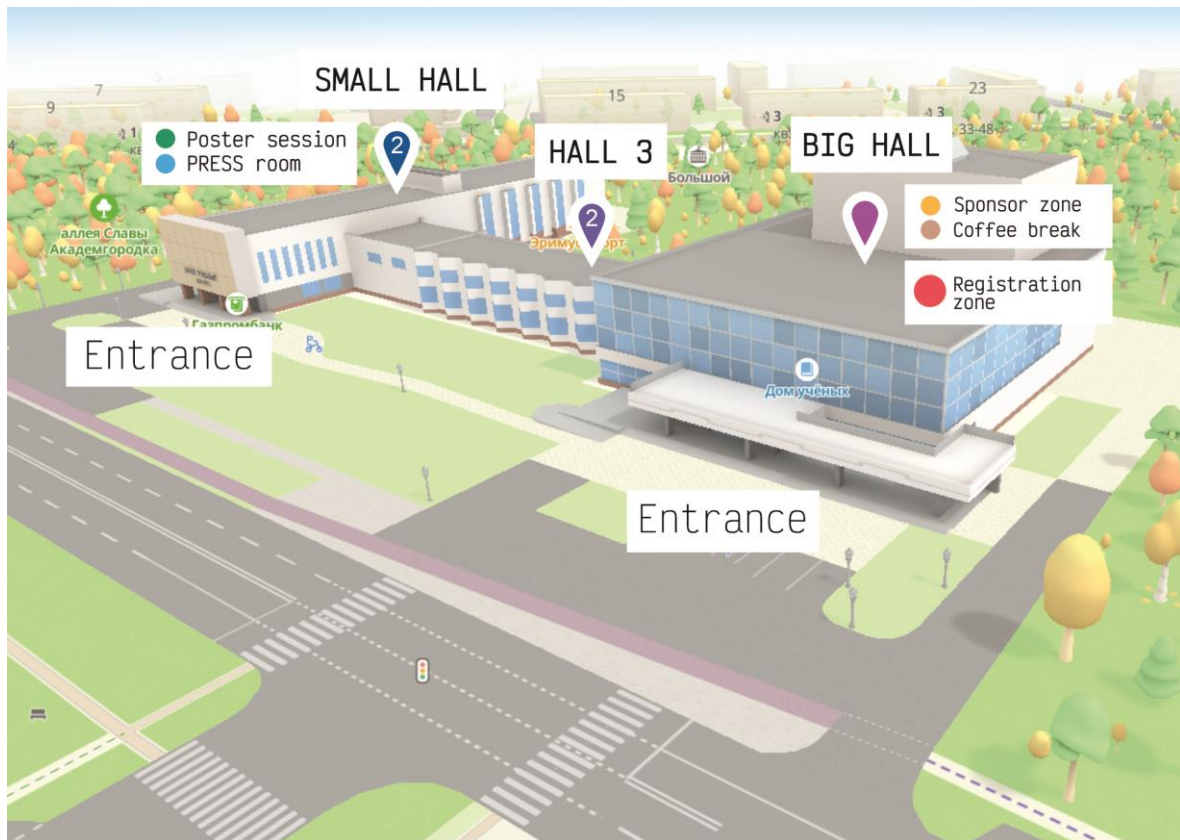
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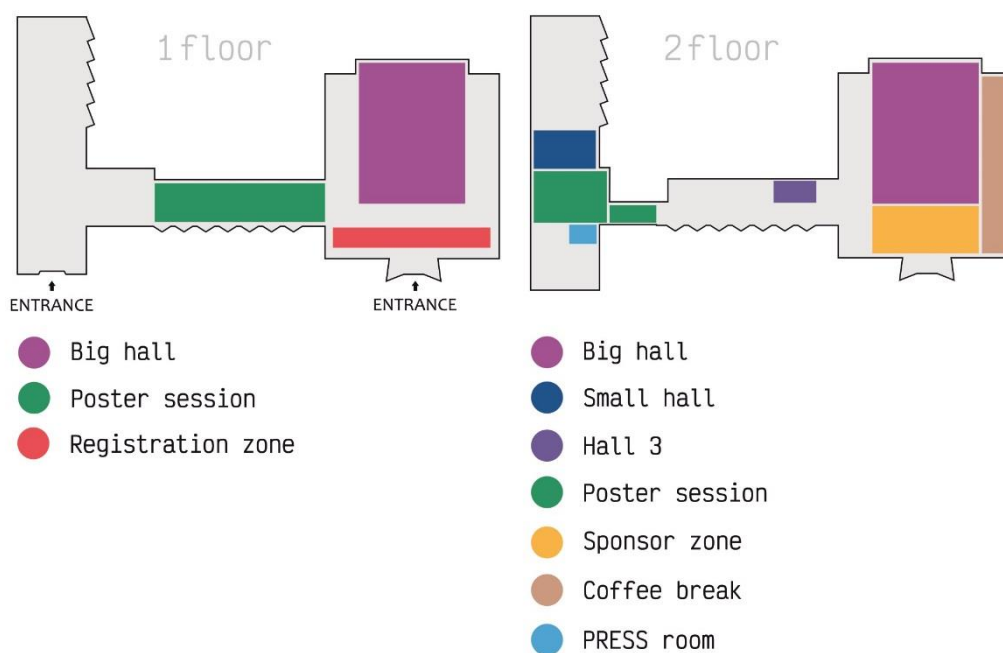
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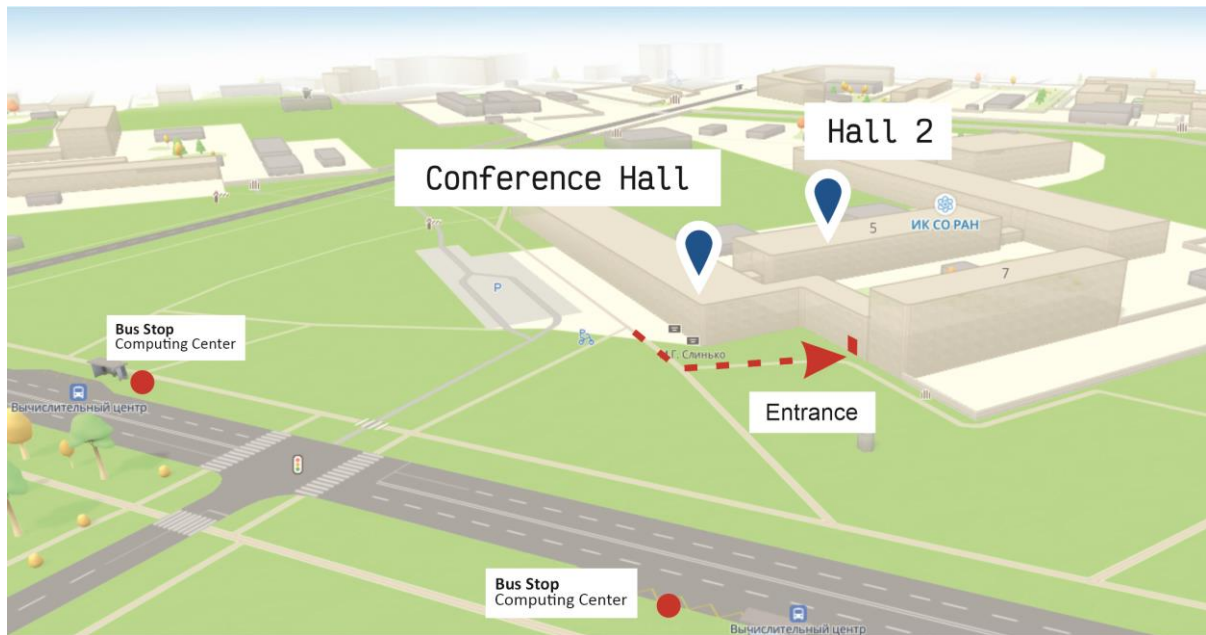
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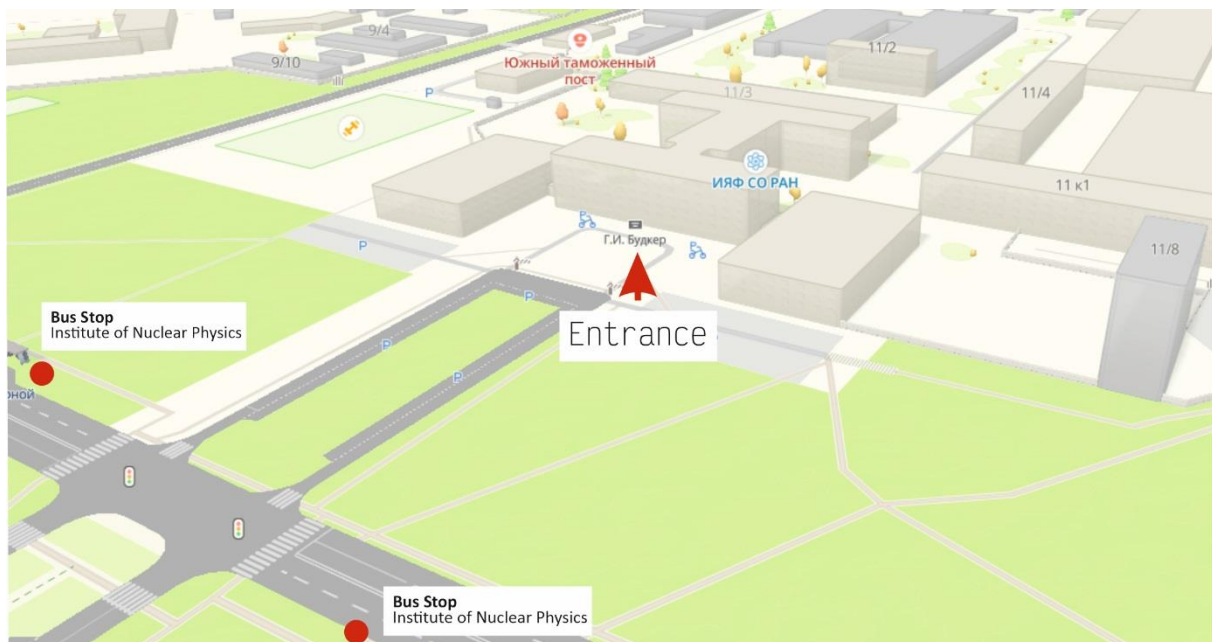
### House of Scientists



**Boreskov Institute of Catalysis**  
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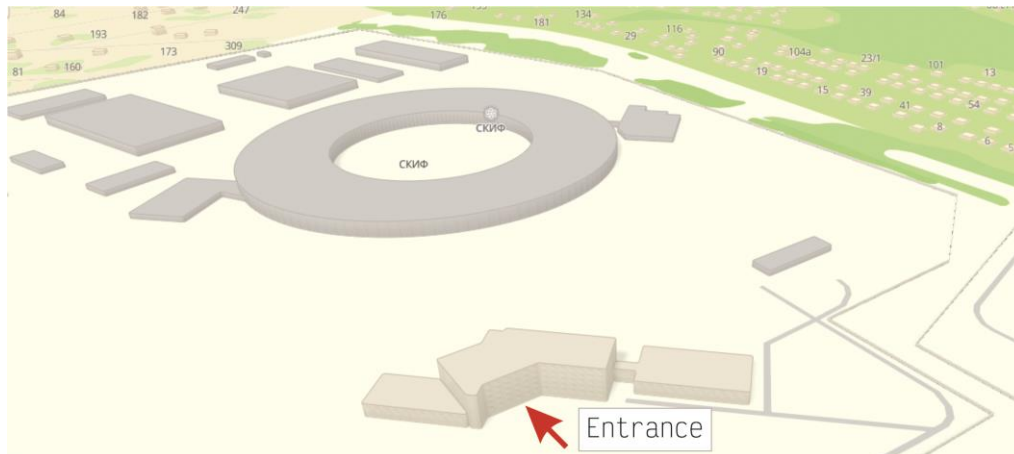


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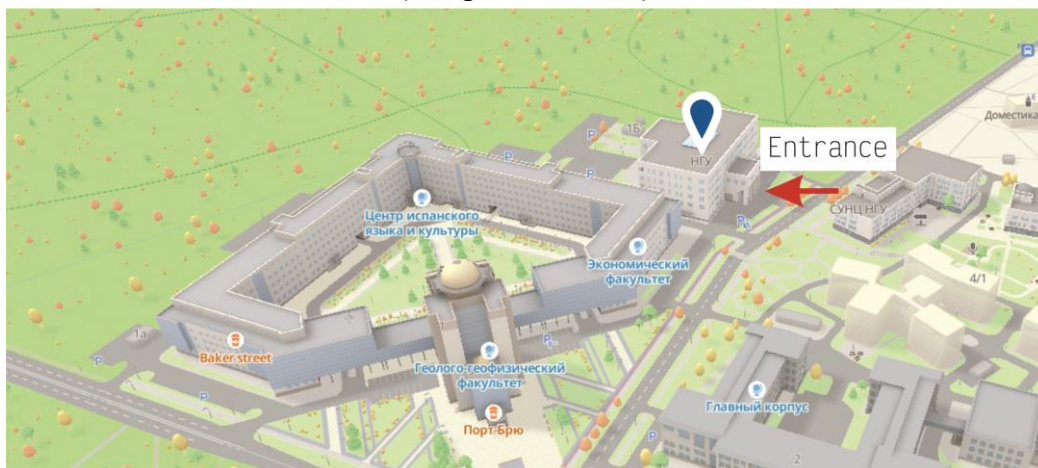
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**FOR NOTES**

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