

MEETING AGENDA

3rd Open BRICS+ Conference on Novel Materials and Devices

BRICS+ 3OCNMD

19–22 May 2026

Bauman Moscow State Technical University
Researcher Hall, Congress Center B4K, Brigadirsky Lane 13, Moscow

18 May Monday

14:00–18:00 Registration | Congress Center V4K, Brigadirsky Lane 13, Moscow

19 May Tuesday

9:00–14:00 Registration | Congress Center V4K

Opening Ceremony

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| 10:00–10:05 | Welcome message from BMSTU
Prof. Mikhail Gordin Rector, Bauman Moscow State Technical University (BMSTU), Russia |
| 10:05–10:10 | Welcome message from Founder and Honorary General Chair
Prof. Yuri Illarionov Southern University of Science and Technology, China |
| 10:10–10:15 | Welcome message from General Chair 2026
Prof. Evgenii Aleksandrov Bauman Moscow State Technical University (BMSTU), Russia |

Plenary Lectures

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| 10:15–11:00 | Artificial intelligence in chemistry, materials and catalysis
Prof. Valentine P. Ananikov Academician of RAS, Head of Laboratory, Zelinsky Institute of Organic Chemistry |
| 11:00–11:45 | Defective Mixed-Metal MOFs with Synergistic Sites for Electrocatalysis
Prof. Ali Morsali Tarbiat Modares University, Iran |

11:45–11:50 Group Photo

11:50–12:10 Coffee Break + Poster Session

12:10–13:40 Round Table Discussions: «BRICS+ cooperation in science and education in high-tech fields»

Prof. Yuri Illarionov | Southern University of Science and Technology, China
Ms. Albina Kutuzova | Department of International Cooperation, Ministry of Science and Higher Education of the Russian Federation, BRICS STI and Education Focal Point, Russia
Ms. Natalia Lazareva | Bauman Moscow State Technical University (BMSTU), Russia
Prof. Hassan Arafat | Khalifa University, Abu Dhabi, UAE
Prof. Ali Morsali | Tarbiat Modares University, Iran

13:40–14:40 Lunch

Catalysts

Session Chair: Prof. **Ali Ramazani**

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| 14:40–15:10 | Preparation of graphitic carbon nitride nanocomposites and study of their catalytic properties
Prof. Ali Ramazani <i>University of Zanjan, Iran</i> |
| 15:10–15:40 | Plasmonic Photoelectrochemical Reactions of Molecules Adsorbed on Noble Metal Nanostructures for Exploring the Photocatalytic Conversion Efficiency
Prof. De-Yin Wu <i>Xiamen University, China</i> |
| 15:40–16:10 | Direct Electrochemical Conversion of CO ₂ to Methanol in Water
Prof. Carlo Nervi <i>Skolkovo Institute of Science and Technology, Russia</i> |

16:10–16:30 Coffee Break + Poster Session

Focus keynote talk on 2D materials

Session Chair: Prof. Yury Illarionov

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| 16:30–17:00 | Quasi-one-dimensional excitons in transition metal dichalcogenide heterostructures
Prof. Anvar Baimuratov <i>Skolkovo Institute of Science and Technology, Russia</i> |
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Nuclear Materials

Session Chair: Dr. Vladimir Petrov

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| 17:00–17:30 | Creep properties of 15Kh2NMFA-A steel for WWER nuclear reactor vessels in the A1–A3 temperature range
Dr. Artem Marchenkov <i>Moscow Power Engineering Institute, Russia</i> |
| 17:30–17:50 | In silico design of new matrices for the immobilization of molten salt reactor wastes
Mr. Ivan Rubtsov <i>Institute for Artificial Intelligence MSU, Russia</i> |

17:50–18:50 Poster Session

20 May Wednesday

9:30–14:00

Registration

Infochemistry | AI for Materials Science

Session Chair: Prof. Ekaterina Skorb | Dr. Artem Mitrofanov

10:00–10:30	Methods and software for extracting knowledge from crystallographic databases Prof. Vladislav Blatov Samara State Technical University, Russia
10:30–11:00	Crystal Structure Prediction of Pharmaceutical Polymorphs and Co-crystals Dr. Zahrasadat Momenzadeh Abardeh Skolkovo Institute of Science and Technology, Russia
11:00–11:30	Intellectual technology of InfoChemistry for materials' design Prof. Ekaterina Skorb ITMO University, Russia
11:30–11:50	Artificial Intelligence in Materials Design: Formalization, Limitations, and Technological Sovereignty Ms. Ekaterina Korniyushina LLC AiNeuroChem, Russia
11:50–12:10	Group Photo + Coffee Break + Poster Session
12:10–12:25	Infochemistry and Artificial Intelligence: The Digitalization of Taste and the Rational Design of Bioactive Compounds in Food Systems Dr. Mariia Ashikhmina ITMO University, Russia
12:25–12:45	A Combined Approach using DFT and Machine Learning to Develop the Wide Tc–C Phase Diagram for the Robust Technetium Matrices Prof. Konstantin German Frumkin Institute of Physical Chemistry and Electrochemistry RAS, Russia
12:45–13:00	Machine learning methods for studying dynamic physicochemical processes in liquid media Mr. Timur Aliev ITMO University, Russia
13:00–13:20	Data-Driven Discovery of Functional Materials: Integrating DFT, Graph Neural Networks, and Experiment Dr. Roman Eremin AIRI Institute, Russia
13:20–13:40	Modeling of metal-hydrides hydrogen storage system using hybrid numerical, experimental and machine learning methods Prof. Viktor Kudiyarov National Research Tomsk Polytechnic University, Russia
13:40–13:55	HNRNPA2B1 protein and anticancer drugs: a combined molecular modeling and quartz crystal microbalance study Ms. Olga Volkova ITMO University, Russia
13:55–14:55	Lunch
14:55–15:10	CaviDAC: Determination of cavity volumes in calixarenes using tessellation and 'divide and conquer' algorithms Mr. Sergei Karalash ITMO University, Russia
15:10–15:30	Autoencoder as a tool for Raman spectral data deconvolution Dr. Artem Eliseev Lomonosov Moscow State University, Russia
15:30–15:45	An intelligent platform based on language models for nanostructured material design Mr. Nikita Krotkov ITMO University, Russia
15:45–16:00	Biologically active compounds of plant origin in the modulation of antioxidant protection systems Ms. Olga Osmak ITMO University, Russia
16:00–16:15	Physically grounded machine learning for polymer informatics: a systematic study of descriptors, models, and interpretability Dr. Gleb Averochkin BMSTU, Russia
16:15–16:35	Coffee Break + Poster Session
16:35–16:50	Arene-based fluorophores derived from enones and enone–hydrazones: complexing and spectral properties Mr. Dmitrii Sbytov ITMO University, Russia
16:50–17:05	Predicting Effective Properties of Polymer Composites via Machine Learning Mr. Ivan Shonichev BMSTU, Russia

17:05–17:20	Machine learning-assisted design of polyurethane materials using multi-level molecular descriptors Mr. Ilia Tonkii <i>ITMO University, Russia</i>
17:20–17:35	Hybrid graph neural network approaches for modeling complex chemical systems Mr. Kirill Karpov <i>Lomonosov Moscow State University, Russia</i>
17:35–17:50	Computer vision methods for analyzing microscopic images using machine learning Mr. Israel Alejandro Huaman Escobar <i>ITMO University, Russia</i>
18:00–21:00	Conference Dinner (for participants with oral presentations who have paid the registration fee)

21 May Thursday

9:30–14:00

Registration

Biomedical Engineering and Advanced Treatment Methods

Session Chair: Prof. Sergey Shchukin

10:00–10:30	Nanoparticles for photoinduced antitumor therapy Prof. Roman Akasov <i>Enikolopov Institute of Synthetic Polymeric Materials, Russia</i>
10:30–11:00	Organic Semiconductors in Biomedical Applications: From Interfaces to Therapy Prof. Yuriy Luponosov <i>Enikolopov Institute of Synthetic Polymeric Materials, Russia</i>
11:00–11:20	Fabrication and Mechanical Characterization of Chitosan-Birch Tar Composite Films Dr. Anna Borde <i>BMSTU, Russia</i>
11:20–11:40	New biocompatible and bioresorbable material for advanced wound care Dr. Oleg Evseenkov <i>BMSTU, Russia</i>
11:40–12:00	Group Photo + Coffee Break + Poster Session
12:00–12:20	Physicochemical Properties of Bioapatite Based on Hydroxyapatite, Collagen, and Selenite Ions Ms. Sofia Sipiagina <i>Dostoevsky Omsk State University, Russia</i>
12:20–12:40	LVAD axial pump redesign for patients with small anthropometric measurements (adolescents) Mr. Kirill Krotov <i>Moscow Aviation Institute, Russia</i>
13:40–14:40	Lunch

Cryochemistry and Hybrid Materials

Session Chair: Prof. Tatyana Shabatina

12:40–13:10	Cryochemical modification of drug substances: mathematical modeling and practical aspect Prof. Tatyana Shabatina <i>BMSTU, Russia</i>
13:10–13:40	Hydrophobic Eutectic Solvents Functionalized Graphene Oxide Nanocomposites for Pharmaceutical Waste Remediation Prof. Hassan Arafat <i>Khalifa University, Abu Dhabi, UAE</i>
14:40–15:00	(Online) Long-term data storage in diamonds Prof. Khadga Jung Karki <i>GTIIT, China</i>
15:00–15:30	Nanophotonics for perovskite optoelectronic devices Prof. Sergey Makarov <i>ITMO University, Russia</i>
15:30–16:00	Application of refractometry for study the curing kinetics and the stability of epoxy binders Prof. Sergey Kotomin <i>BMSTU, Russia</i>
16:00–16:20	Composite materials based on novel fluorinated co-polyetherimides reinforced with carbon or glass fabric Mr. Alexander Khina <i>BMSTU, Russia</i>
16:20–16:40	Coffee Break + Poster Session
16:40–17:00	Refractometric sensitivity of chiral and achiral plasmonic nanocrescent arrays Ms. Ekaterina Lobanova <i>BMSTU, Russia</i>
17:00–17:20	Hybrid Magnetic Nanocomposites of Magnetite and 5-Fluorouracil: Cryoformation and Physicochemical Properties Mr. Alexey Shumilkin <i>BMSTU, Russia</i>
17:20–17:40	Green synthesis of silver nanoparticles with subsequent cryostructuring of Ag/gelatin/dioxidine hybrid matrices Ms. Aleksandra Ryzhkova <i>BMSTU, Russia</i>

22 May Friday

9:00–12:00

Registration

2D Materials for Microelectronics | Special Session of L2DON, SUSTech

Session Chair: Prof. Yury Illarionov

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| 10:00–10:40 | Shaping reliability analysis of post-silicon transistors towards faster commercialization
Prof. Yury Illarionov <i>Southern University of Science and Technology, China</i> |
| 10:40–11:00 | Universal Hysteresis Mapping Method for Scaled MoS ₂ FETs
Ms. Yezhu Lv <i>Southern University of Science and Technology, China</i> |
| 11:00–11:20 | Long-Term Operational Stability of Dual-Gated ITO/HfO ₂ FETs via Full Top-Gate Coverage: A Comprehensive Bias-Stress Mapping
Mr. Jianming Huang <i>Southern University of Science and Technology, China</i> |
| 11:20–11:40 | Mobile charges in MoS ₂ /high-k oxide transistors: from abnormal instabilities to transient negative differential resistance
Mr. ShaoKai Zhou <i>Southern University of Science and Technology, China</i> |
| 11:40–12:00 | Interface Engineering in Violet Phosphorus/PdSe ₂ Van der Waals Heterostructures for Optoelectronic Devices
Dr. Waqas Ahmad <i>Southern University of Science and Technology, China</i> |

12:00–12:20 Coffee Break + Poster Session

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| 12:20–12:40 | Launching a 2D Semiconductors Research Program: A Materials-First Approach to Next-Generation Electronics
Prof. Arely Cano <i>Center for Research and Advanced Studies of the National Polytechnic Institute, Mexico</i> |
| 12:40–13:00 | Controlled magnetron deposition in situ for MoS ₂ thin films quality achieving
Mr. Mikhail Sharapkov <i>BMSTU, Russia</i> |
| 13:00–13:20 | Study of the formation process of colloidal photonic crystal films with controlled packing density for light-deformable MEMS elements
Mr. Artem Ibragimov <i>BMSTU, Russia</i> |

Group Photo

13:20–14:20 Lunch

Photonics, Spectroscopy & Microscopy | Promising Porous Materials

Session Chair: Prof. Ali Morsali

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| 14:20–14:50 | In Situ Scanning Tunneling Microscopy Study on Electrochemical Interface and Electrodeposition in Deep Eutectic Solvents
Prof. Jiawei Yan <i>Xiamen University, China</i> |
| 14:50–15:20 | Advanced Porous Materials and Nanocomposites for High-Performance Electrochemical Energy Storage and Conversion
Prof. Mir F. Mousavi <i>Tarbiat Modares University, Iran</i> |
| 15:20–15:40 | Pressure-induced band gap changes and resistive state switching in halide perovskite nanomaterials
Dr. Aleksandra Furasova <i>ITMO University, Russia</i> |
| 15:40–16:00 | Hydroxylated silica with ultra-high specific surface area
Dr. Daniil Eurov <i>Ioffe Institute, Russia</i> |

16:00–16:20 Coffee Break + Poster Session

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| 16:20–16:40 | Optimized van der Waals density functionals for molecular crystals
Prof. Dmitry Fedorov <i>Skolkovo Institute of Science and Technology, Russia</i> |
| 16:40–17:00 | Design of coordination compounds and high-performance polymers
Prof. Evgenii Aleksandrov <i>BMSTU, Russia</i> |

17:00–17:20	Influence of graphite heat treatment and gas dynamic parameters on mechanical properties of compact porous graphite materials Mr. Ildar Nigmatullin JSC "INUMIT", Russia
17:20–17:40	Nanomicroporous polymeric materials for electrochemical devices Dr Veniamin Boldyrev BMSTU, Russia

17:40–18:00	Closing Remarks & Awarding of Poster Session Participants
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CONTACTS

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