

## Meeting Agenda

**22 April**

**14-00 to 19-00**

### **Registration**

Address: 3F Banquet Hall, L.GEM Hotel Shenzhen

**23 April (Day 1)**

**9-00 to 9-30**

### **Opening session**

Session Chair: Prof. Yury Illarionov, SUSTech

**9-00 to 9-15**

### **Prof. Yury Illarionov**

Southern University of Science and Technology, China

“Welcome message from General Chair”

**9-15 to 9-20**

### **Senior Management Member**

Southern University of Science and Technology, China

“Welcome message from SUSTech”

**9-20 to 9-30**

### **Prof. Evgenii Aleksandrov**

Bauman Moscow State Technical University, Russia

“Welcome message from Bauman Moscow State Technical University”

**9-30 to 10-50**

### **Plenary session I**

Session Chair: Prof. Yury Illarionov, SUSTech

**9-30 to 10-10**

### **Prof. Alfred Ngowi**

Central University of Technology, Free State, South Africa (Deputy Vice Chancellor)

“Smart Materials for Healthcare and Environmental Applications: Harnessing South Africa’s Rare Earth Resources”

**10-10 to 10-50**

### **Prof. Xing Cheng**

Southern University of Science and Technology, China

“Nanolithography based high-resolution and large-scale micro and nanopatterning techniques and their applications”

<b>10-50 to 11-10</b>	<b>Coffee break + posters</b>
<b>11-10 to 12-30</b>	<b>Plenary session II</b> Session Chair: Prof. Yu Zhou, Central South University
<b>11-10 to 11-50</b>	<b>Prof. Evgenii Aleksandrov</b> Bauman Moscow State Technical University, Russia “Digital design and prediction of polymeric materials”
<b>11-50 to 12-30</b>	<b>Prof. Hassan Arafat</b> Khalifa University, UAE “Oxidation-stable MXene inks for additive manufacturing of high-performance energy storage devices”
<b>12-30 to 14-00</b>	<b>Lunch</b>
<b>14-00 to 15-20</b>	<b>Plenary session III</b> Session Chair: Prof. Yu Zhou, Central South University
<b>14-00 to 14-40</b>	<b>Prof. Ye Zhou</b> Shenzhen University, China “Neuromorphic tactile sensing device”
<b>14-40 to 15-20</b>	<b>Prof. Baowen Li</b> Southern University of Science and Technology, China “Thermal diode and its applications in solid state cooling”
<b>15-20 to 15-40</b>	<b>Coffee break + posters</b>
<b>15-40 to 17-50</b>	<b>Theory and quantum technologies</b> Session Chair: Prof. Evgenii Aleksandrov, Bauman MSTU
<b>15-40 to 16-10 (Keynote)</b>	<b>Prof. Raimundo Costa Filho</b> Federal University of Ceara, Brazil “Chiral states in $\alpha$ -T3 lattices”
<b>16-10 to 16-30</b>	<b>Prof. Nan Wang</b> GTIIT, China “Modelling superelastic folding in freestanding ferroelectric thin films”

**16-30 to 16-50**

**Dr. Roman Eremin**

AIRI Institute (New Materials Design), Russia

**“Combined DFT/data-driven solutions for accelerated exploration of composition/configuration spaces of chemically disordered crystals”**

**16-50 to 17-10**

**Prof. Dmitrii Chermoshentsev**

Russian Quantum Center, Russia

**“Microring resonators for soliton generation, quantum states engineering and coherent computing”**

**17-10 to 17-30**

**Prof. Ilya Semerikov**

Russian Quantum Center, Russia

**“Algorithms on 25 qudit (50 qubit) ion quantum computer”**

**17-30 to 17-50**

**Dr. Sergeï Andreev**

Ioffe Institute, Russia

**“Controllable fusion of electromagnetic bosons in 2D semiconductors”**

**17-50 to 18-00**

**Technical break**

**18-00 to 19-30**

**Round table discussions**

**I. Honorary Guest Country panel:**

**“Careers of outstanding Nigerian scientists in STEM research: what BRICS+ society could do to support genius students from African countries?”**

Prof. Olusoji Olusola Ilori, Prof. Adebayo Simeon Bamire, Prof. Ganiyu Adesola Aderounmu, Prof. Kayode Peter Ayodele, Obafemi Awolowo University, Nigeria

**II. “Which research funding programs we would need in BRICS+ countries”**

Prof. Yury Illarionov + panelists representing different countries

**III. “Opportunities in BRICS+ countries for interdisciplinary research and collaborations”**

Prof. Yury Illarionov + panelists representing different countries

## 24 April (Day 2)

**9-00 to 11-00** **SUSTech special session: lab introductions**

Session Chair: Prof. Yury Illarionov, SUSTech

**9-00 to 9-15** **Prof. Jiazen Wu**

Department of Materials Science and Engineering, Southern University of Science and Technology, China

**9-15 to 9-30** **Prof. Changjian Li**

Department of Materials Science and Engineering, Southern University of Science and Technology, China

**9-30 to 9-45** **Prof. Kai Xiao**

Department of Biomedical Engineering, Southern University of Science and Technology, China

**9-45 to 10-00** **Prof. Zhen He**

Department of Materials Science and Engineering, Southern University of Science and Technology, China

**10-00 to 10-15** **Prof. Ruitao Wen**

Department of Materials Science and Engineering, Southern University of Science and Technology, China

**10-15 to 10-30** **Prof. Yury Illarionov**

Department of Materials Science and Engineering, Southern University of Science and Technology, China

**10-30 to 10-45** **Prof. Yanan Dai**

Department of Physics, Southern University of Science and Technology, China

**10-45 to 11-00** **Prof. Jinhui Zhong**

Department of Materials Science and Engineering, Southern University of Science and Technology, China

**11-00 to 11-30** **Coffee break + posters**

<b>11-30 to 12-30</b>	<b>Honorary Guest Country special session: Nigerian delegation overview talks</b> Session Chair: Prof. Yury Illarionov, SUSTech
<b>11-30 to 12-00</b>	<b>Prof. Ganiyu Adesola Aderounmu and Prof. Kayode Peter Ayodele</b> Obafemi Awolowo University, Nigeria “Driving Knowledge, Innovation, and Collaboration in Africa: The ACE OAK-PARK Vision”
<b>12-00 to 12-30</b>	<b>Prof. Adebayo Simeon Bamire</b> Obafemi Awolowo University, Nigeria (Vice-chancellor) “Obafemi Awolowo University: A Hub for Research, Innovation, and International Collaboration”
<b>12-30 to 14-00</b>	<b>Lunch</b>
<b>14-00 to 14-40</b>	<b>Plenary session IV</b> Session Chair: Prof. Jinhui Zhong, SUSTech
<b>14-00 to 14-40</b>	<b>Prof. Wenkai Zhang</b> Beijing Normal University, China “Charge and energy transfer dynamics in organic photovoltaic materials”
<b>14-40 to 16-00</b>	<b>Spectroscopy and microscopy methods I</b> Session Chair: Prof. Jinhui Zhong, SUSTech
<b>14-40 to 15-10 (Keynote)</b>	<b>Prof. Rene Alfonsoa Nome</b> Universidade Estadual de Campinas, Brazil “Integrating Timescales from Femtoseconds to Real Time: concepts, methods, examples”
<b>15-10 to 15-40 (Keynote)</b>	<b>Prof. Donghai Li</b> University of Science and Technology of China, China “Exciton interactions in low-dimensional materials studied by coherent multi-dimensional spectroscopy”

**15-40 to 16-00**

**Dr. Liming Zheng**

Peking University, China

“Push the resolution of multi-dimensional electron microscopy via graphene”

**16-00 to 16-40**

**Coffee break + posters**

**16-40 to 18-10**

**Spectroscopy and microscopy methods II**

Session Chair: Prof. Jinhui Zhong, SUSTech

**16-40 to 17-10**

**(Keynote)**

**Prof. Tingchao He**

Shenzhen University, China

“Second harmonic generation circular dichroism in chiral metal halides”

**17-10 to 17-30**

**Dr. Yakun He**

KAUST, Saudi Arabia

“Photophysics of organic solar cells investigated using ultrafast spectroscopy”

**17-30 to 17-50**

**Prof. Khadga Jung Karki**

GTIIT, China

“Nonlinear optical response from MoS<sub>2</sub>/gold nanoparticles hybrid system”

**17-50 to 18-10**

**Prof. Huayan Yang**

Shenzhen University, China

“From chiral atomically precise nanoclusters to chiral nanoparticles”

**19-00 to 22-00**

**Conference Dinner**

## 25 April (Day 3)

**9-00 to 10-30** **Special session of Brazil as the BRICS Chairman Country 2025**

Session Chair: Prof. Yury Illarionov, SUSTech

**9-00 to 9-40** **Prof. Cecília de Carvalho Castro e Silva**

MackGraphe – Mackenzie Institute for Research in Graphene and Nanotechnologies, Brazil

“Advanced Materials for Sustainable Healthcare and Environmental Applications”

**9-40 to 10-10** **Prof. Diego Rabelo do da Costa**

Universidade Federal do Ceará, Brazil

“Moiré excitons in twisted van der Waals hetero-bilayers”

**10-10 to 10-30** **Prof. Benedito Guimarães Aguiar Neto**

MackGraphe – Mackenzie Institute for Research in Graphene and Nanotechnologies, Brazil

“The MackGraphe and its Challenges in Transforming Knowledge in Nanotechnology into Innovation in Brazil”

**10-30 to 10-50** **Coffee break + posters**

**10-50 to 12-20** **Advanced treatment methods**

Session Chair: Prof. Yu Zhou, Central South University

**10-50 to 11-20** **Prof. Mikhail Zyuzin**

ITMO University, Russia

“Light-sensitive functional nanomaterials for therapy and temperature sensing inside cells”

**11-20 to 11-50** **Prof. Sandeep Somvanshi**

Dr. Babasaheb Ambedkar Marathwada University, India

“Treating Cancer with Next-Generation Nanomedicines and 3D Cell Culture Models”

**11-50 to 12-20** **Prof. Alessandro Parodi**

Sirius University of Science and Technology, Russia

“From Algae to cancer cells: AIEgen-based nanoparticles for tracking cellular processes in cancer and ecotoxicology”

<b>12-20 to 13-50</b>	<b>Lunch</b>
<b>13-50 to 15-50</b>	<b>Electronics based on 2D and thin film materials I</b> Session Chair: Prof. Yury Illarionov, SUSTech
<b>13-50 to 14-20</b> <b>(Keynote)</b>	<b>Prof. Olusoji Olusola Ilori</b> Obafemi Awolowo University, Nigeria “Fabrication and Characterization of Metal Organic Chemical Vapor Deposited Transparent Thin Film Transistor”
<b>14-20 to 14-50</b> <b>(Keynote)</b>	<b>Prof. Xiuju Song</b> Zhejiang University, China “2D Materials for wearable sensors”
<b>14-50 to 15-20</b> <b>(Keynote)</b>	<b>Prof. Yangbo Zhou</b> Nanchang University, China “Local laser oxidation enabling high-k dielectrics in van der Waals-integrated transistors”
<b>15-20 to 15-50</b> <b>(Keynote)</b>	<b>Prof. Yu Zhou</b> Central South University, China “2D polar materials growth and devices applications”
<b>15-50 to 16-10</b>	<b>Coffee break + posters</b>
<b>16-10 to 17-20</b>	<b>Electronics based on 2D and thin film materials II</b> Session Chair: Prof. Yury Illarionov, SUSTech
<b>16-10 to 16-40</b> <b>(Keynote)</b>	<b>Prof. Junyang Liu</b> Xiamen University, China “Electronic devices for logic operations and future integration through single-molecules”
<b>16-40 to 17-00</b> <b>(Student)</b>	<b>Ms. Yezhu Lv</b> Group of Prof. Yury Illarionov Southern University of Science and Technology, China “Modeling the impact of localized defects on the stability of 2D FETs using advanced TCAD tools”

**17-00 to 17-20**  
**(Student)**

**Mr. Zihan Liang**  
**Group of Prof. Xiaolong Chen**

Southern University of Science and Technology, China

“Infrared optoelectronics in twisted black phosphorus”

**17-30 to 19-30**

**Poster session**

## 26 April (Day 4)

**9-00 to 11-00**

### **Plenary session V**

Session Chair: Prof. Evgenii Aleksandrov, Bauman MSTU

**9-00 to 9-40**

### **Prof. Amine El Moutaouakil**

University of United Arab Emirates, UAE

**“Terahertz technologies with 2D nanomaterials and their applications: from basic physical properties to market applications”**

**9-40 to 10-20**

### **Prof. Zinaida Terentyeva**

Bauman Moscow State Technical University, Russia

**“Application of machine learning methods to optimize the quality of the conductive surface and the permeability of porous structures obtained by selective laser melting”**

**10-20 to 11-00**

### **Prof. Jun Feng**

Southern University of Science and Technology, China

**“Dig into the zero-dimension materials and extend their application”**

**11-00 to 11-20**

### **Coffee break + posters**

**11-20 to 12-40**

### **Plenary session VI**

Session Chair: Prof. Cecília de Carvalho Castro e Silva, MackGraphe, Brazil

**11-20 to 12-00**

### **Prof. Chernet Amente Geffe**

Addis Ababa University, Ethiopia

**“Prospective of Diluted Magnetic Semiconductors (DMSs) for the development of Technology”**

**12-00 to 12-40**

### **Prof. Luca Pasquali**

University of Modena and Reggio Emilia, Italy

**“Growth modes of ionic fluorides on conductive crystalline substrates”**

**12-40 to 14-00**

### **Lunch**

**14-00 to 15-20**

**Plenary session VII**

Session Chair: Prof. Cecília de Carvalho Castro e Silva,  
MackGraphe, Brazil

**14-00 to 14-40**

**Prof. Ali Sadeghi**

Shahid Beheshti University, Iran

**“Computational Modelling of Nanostructures in the Age of Artificial Intelligence”**

**14-40 to 15-20**

**Prof. El-Sayed Rabie El-Sayed Hassan**

Central Metallurgical Development Institute (CMRDI), Egypt

**“Critical Metals in Egypt: Occurrence, Characterization and Advanced Processing”**

**15-20 to 15-40**

**Coffee break + posters**

**15-40 to 18-00**

**Light interaction with nanomaterials**

Session Chair: Prof. Jinhui Zhong, SUSTech

**15-40 to 16-10**

**(Keynote)**

**Prof. Wei Wang**

Sichuan University, China

**“Ultrafast coupling dynamics in bulk TMDC metasurfaces”**

**16-10 to 16-30**

**Prof. Wenxin Wang**

Harbin Engineering University, China

**“Lattice plasmons: from fabrication to applications”**

**16-30 to 16-50**

**Prof. Rouhollah Karimzadeh**

Shahid Beheshti University, Iran

**“Hydrodynamical tuning of birefringence in 2D-liquid crystals”**

**16-50 to 17-10**

**Prof. Chao Zhan**

Xiamen University, China

**“Plasmon-regulated electrochemical processes”**

**17-10 to 17-30**

**Dr. Leyi Zhao**

The Hong Kong Polytechnic University, Hong Kong, China

**“Strong coupling assisted enhancement of energy transfer between two-dimensional heterojunctions”**

**17-30 to 17-50**

**(Student)**

**Mr. Kaizhen Liu**

**Group of Prof. Jinhui Zhong**

Southern University of Science and Technology, China

**“Tunable surface plasmon-exciton polaritons on engineered plasmonic nanostructure”**

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**17-50 to 18-00**

**Technical break**

**18-00 to 18-20**

**Closing remarks and announcement of “3rd Open BRICS+ Conference on Novel Materials and Devices”**

**Prof. Yury Illarionov**, Southern University of Science and Technology, China

**Prof. Evgenii Aleksandrov**, Bauman Moscow State Technical University, Russia

**27 April (Not an official conference day)**  
**Brokerage meetings and cultural program**

**Morning**      **SUSTech campus tour and lab visit**  
**(By agreement with SUSTech PIs)**

**Afternoon**      **Cultural tour in Shenzhen for those who are interested**  
**(See the website)**