



**The**  
**I**nternational  
**C**onference on  
**T**heoretical  
**S**tudies and **N**ew  
**T**echnologies

**14<sup>th</sup> - 19<sup>th</sup> of April 2025**  
**Varadero, Cuba**

# *The scientific program of ICSNT-2025*

## 14.04.2025 Monday

16<sup>00</sup> – 19<sup>00</sup> – Conference registration in the hotel lobby of the main building

19<sup>00</sup> – 19<sup>30</sup> – Welcome reception

19<sup>30</sup> – 21<sup>00</sup> – Free-time for a dinner at the hotel

## 15.04.2025 Tuesday

**9.00 – 9.10**    **Opening remarks to the ICSNT 2025**  
Prof. A.V. Kavokin, Conference Chairman

9.10 – 10.00 – PLENARY TALK: “*Exciton fine structure in semiconductor nanostructures*”  
Prof E.L. Ivchenko, Ioffe Institute, Russia

**10<sup>00</sup> – 10<sup>30</sup>**    **coffee break**

### **Session “Polaritonics”** **Chairman prof. A. Kavokin**

10<sup>30</sup> – 11<sup>10</sup>    INVITED TALK: “*Quantum Coherence of Polariton Condensates*”  
Prof. Marc Aßmann, TU Dortmund, Germany

11<sup>10</sup> – 11<sup>50</sup>    INVITED TALK: “*Ultrafast dynamics of exciton polaritons at room temperature*”  
Prof. Hui Li, East China Normal University, China

### **Group-picture**

**12<sup>00</sup> – 14<sup>30</sup>**    **Lunch break**

### **Session “Light-matter interactions in solids”** **Chairman Prof. M.E. Portnoi**

14<sup>30</sup> – 15<sup>00</sup>    “*Exciton-polaron problem in 2D*”  
Prof. Vanik Shahnazaryan, MIPT University, Russia

15<sup>00</sup> – 15<sup>30</sup>    “*Spin-Meissner Effect in Systems of Coupled Polariton Condensates*”  
Dr. Andrey Kudlis, MIPT University, Russia

**15<sup>30</sup> – 16<sup>00</sup>**    **coffee break**

16<sup>00</sup> – 16<sup>30</sup>    “*All-optical temporal logic gates in localized exciton polaritons*”  
Mr. Haoyuan Jia, East China Normal University, China

16<sup>30</sup> – 17<sup>00</sup>    “*Decay of the twisted relativistic electron in a strong inhomogeneous magnetic field*”  
Mr. Mikhail Epov, ITMO University, Russia

## 16.04.2025 Wednesday

### Session “Light-matter interactions in solids” Chairman Prof. M. Aßmann

9<sup>10</sup> – 10<sup>00</sup> – PLENARY TALK: “*The exciton condensate interaction with the nuclei*”  
Prof. Israel Bar Joseph, Weizmann University of Science, Israel

10<sup>00</sup> – 10<sup>30</sup> coffee break

10<sup>30</sup> – 11<sup>10</sup> INVITED TALK: “*Features and peculiarities of light-matter coupling in 2D superconducting thin films*”

Prof. Ivan Savenko, Goudong University, China.

11<sup>10</sup> – 11<sup>50</sup> INVITED TALK: “*Higher-order topological insulators in polariton wave lattices*”

Dr. Xuekai Ma, Paderborn University, Germany

12<sup>00</sup> – 14<sup>30</sup> Lunch break

### Session “Photonics, plasmonics and polaritonics” Chairman Prof. I. Savenko

14<sup>30</sup> – 15<sup>10</sup> INVITED TALK: “*TBA*”  
Prof. Zhanhai Chen, Xiamen University, China

15<sup>10</sup> – 15<sup>50</sup> INVITED TALK: “*Dissipative trapping of polariton condensates in various systems*”  
Prof. Anton Nalitov, MIPT University, Russia

15<sup>50</sup> – 16<sup>20</sup> “*Widely tunable OPO in mid IR region for medical and scientific applications*”  
Dr. Alexey Karapuzikov, Special technologies, Ltd, Russia

16<sup>20</sup> – 17<sup>00</sup> INVITED TALK: “*Integrated microring resonators for soliton generation, coherent computing, and quantum light sources*”  
Dr. Dmitry Chermoshentsev, RQC, Russia

## 17.04.2025 Thursday

9<sup>30</sup> – 16<sup>00</sup> Conference excursion. The meeting point is at the main entrance of the hotel.

## 18.04.2025 Friday

### Session “Light-matter interactions in solids” Chairman Prof. E. Ivchenko

9<sup>10</sup> – 10<sup>00</sup> – PLENARY TALK: “*Optical properties and THz applications of quasi-one-dimensional nanocarbons*”

Prof. Mikhael Portnoi, University of Exeter, UK

**10<sup>00</sup> – 10<sup>30</sup> coffee break**

10<sup>30</sup> – 11<sup>10</sup> INVITED TALK: “*Ultrafast Dynamics of Exciton-Polariton Condensates*”  
Prof. Alex Hayat, Technion University, Israel.

11<sup>10</sup> – 11<sup>50</sup> INVITED TALK: “*Magnetophotonics for advanced control of spins*”  
prof. Vladimir Belotelov, Lomonosov Moscow State University&RQC, Russia

**12<sup>00</sup> – 14<sup>30</sup> Lunch break**

**Session “New functional materials and metasurfaces” Chairman Prof. Hui Li**

**14<sup>30</sup> – 15<sup>00</sup>** “*Dislocations and interdomain interlayer elastic waves in relaxed moire superlattices*”

Dr. Vladimir Enaldiev, MIPT University, Russia

15<sup>00</sup> – 15<sup>30</sup> “*Off-diagonal and non-Hermitian disorder in multilayer topological systems*”  
Prof. Zaur Alisultanov, MIPT University, Russia

**15<sup>30</sup> – 16<sup>00</sup> coffee break**

16<sup>00</sup> – 16<sup>30</sup> “*Trion transitions in monoatomic carbon wires*”  
Dr. Stella Kavokina, MIPT University& Saint-Petersburg State University, Russia

16<sup>30</sup> – 17<sup>00</sup> INVITED TALK: “*New trends in MRI for medical and industrial applications*”  
Prof. Carlos Cabal Mirabal, Medical Biophysics Center& Havana University, Republic of Cuba

**19.00-22.00 – the conference dinner.**

**19.04.2025 Saturday**

**Session “Light-matter interactions in solids”  
Chairman Prof. Alex Hayat**

9<sup>10</sup> – 9<sup>50</sup> INVITED TALK: “*Coherent quantum transport of microcavity exciton polaritons*”  
Prof. Sanjib Ghosh, Chinese University of Hong Kong, China

**9<sup>50</sup> – 10<sup>30</sup> coffee break**

10<sup>30</sup> – 11<sup>10</sup> INVITED TALK: “*Pathways of quantum polaritonics*”  
Prof. Alexey Kavokin, MIPT University & Saint-Petersburg State University, Russia

11<sup>10</sup> – 11<sup>50</sup> INVITED TALK: “*Polariton Lattices for Binary Neuromorphic Network Architectures*”  
prof. Evgeny Sedov, MIPT University& Saint-Petersburg State University, Russia

**12<sup>00</sup> – 14<sup>30</sup> Lunch break**

14<sup>30</sup> – 16<sup>30</sup> *Round table on Problems of Modern Condensed – Matter Physics*

16<sup>30</sup> – 17<sup>00</sup> **Closing session**