



*The International Conference
on the Physics of 2D Crystals*

ICP2DC-2022

9th to the 14th of October 2022

The Conference Program

9th of October

The arrival day to Yerevan.

19.00 - Welcome dinner. Meeting at the Ani-Plaza hotel lobby.

10th of October

7.30 – 9.00 - Breakfast. Registration at the hotel lobby.

9.00 – 9.15 - Opening remarks.

9.15 – 10.30 Plenary&Invited talks. Chairman is prof. A.V. Kavokin

9.15 – 10.30 *Structure prediction for low-dimensional materials*

prof. Artem Oganov, Skoltech University, Russia

10.00 – 10.30 *Aslamazov-Larkin effect and photogalvanic transport in 2D materials*

prof. Ivan Savenko, Institute for Basic Science of South Korea

10.30 – 11.00 Coffee break

11.00 – 12.45 Invited talks. Chairman is prof. A. Akimov

11.00 – 11.45 *Crystalline Phase in strongly interacting Fermi mixtures*

prof. Georgy Shlyapnikov, Russian Quantum Center, Russia

11.45 – 12.15 ***Edge electronic states in a conducting Moebius stripe***

prof. Alexey Kavokin, Westlake university, China

12.15 – 12.45 ***Nanophotonics modelling for perovskite solar cells***

prof. Daniele Baretin, Cusano university, Italy

12.45 – 14.30 Lunch break Ani-Plaza hotel

14.30 – 15.45 Chairman is Dr. Chun-Yu Lu

14.30 – 15.15 ***Anisotropic photonics with Van-der-Waals materials***

prof. Valentin Volkov, Moscow Institute for Physics and Technology,
Russia

15.15 – 15.45 ***Anomalous optical response of graphene on hexagonal boron nitride substrates***

Dr. Davit Ghazaryan, Moscow Institute for Physics and Technology,
Russia

15.45 – 16.15 Coffee break

15.15 – 16.45 Chairman is prof. A. Oganov

16.15 – 16.45 ***Resonant transition metal dichalcogenide nanoparticles for nanophotonic applications***

Gleb Tselikov, Moscow Institute for Physics and Technology, Russia

16.45 – 17.15 ***Topological darkness in ultrathin films of transition metal dichalcogenides and other high-refractive-index materials***

Georgy Ermolaev, Moscow Institute for Physics and Technology,
Russia

17.15 – 17.45 ***Spectroscopic ellipsometry of two-dimensional materials and Van der Waals heterostructures***

Dr. Dmitrii Yakubovskii, Moscow Institute for Physics and
Technology, Russia

17.45 – 18.15 ***Spin noise in birefringent media***

Vadim Kozlov, St-Petersburg State university, Russia

Free time

11th of October

7.30 – 9.00 - Breakfast

9.00 – 10.45 **Chairman is prof. V. Volkov**

9.00 – 9.45 ***title to be confirmed*** (online)

prof. Vladimir Falko, Graphene Institute, University of Manchester, UK

9.45 – 10.15 ***Design of Stacking of Graphene-Silver Nanoparticles heterocompound for Near-infrared absorbers***

Dr. Chun-Yu Lu, Technology Innovation Institute, Abu Dhabi, UAE

10.15 – 10.45 Coffee break

10.45 – 13.15 **Chairman is prof. Aldo Di Carlo**

10.45 – 11.15 ***Pairing of 2D bosons under spin-orbit coupling and a transverse magnetic field***

Dr. Serguei Andreev, Moscow Institute for Physics and Technology, Russia

11.15 – 11.45 ***Full computational model for quasi 2D excitons in magnetic field in GaAs based heterostructures***

Dr. Filippe Grigoriev, St-Petersburg State University, Russia

11.45 – 12.15 ***Spatially-indirect exciton-exciton interaction in MoS2 bilayers***

Valeria Maslova, Moscow Institute of Physics and Engineering, Russia

12.15 – 12.45 ***Ti3C2 nanoparticles for photonic biomedical applications***

Andrey Vyshnevyy, Moscow Institute for Physics and Technology,
Russia

**12.45 – 13.15 *Nonlinear optical response of the polaritonic with trions
and superlattices in two-dimensional materials***

prof. Kon Wee Song, University of Exeter, UK

13.15 - 14.30 Lunch break

15.00 - Conference Excursion 1. Visit to the cognac factory Ararat.
Departure from the Ani-Plaza hotel lobby

12th of October

7.30 – 9.00 - Breakfast

9.00 – 10.15 Chairman is prof. G. Shlyapnikov

**9.00 – 9.45 *Non-classical optics and transport of two-dimensional
excitons***

prof. Mikhail Glazov, A.F. Ioffe Physico-Technical Institute, Russia

9.45 – 10.15 *Spin physics of two-dimensional colloidal nanoplatelets*

prof. Dmitry Yakovlev, Technical University of Dortmund, Germany

10.15 – 10.45 Coffee break

10.45 – 13.15 Chairman is prof. M. Glazov

**10.45 – 11.15 *Density-dependent dynamics and effective temperature
of nonradiative exciton reservoir in quantum wells***

prof. Ivan Ignatiev, St-Petersburg State University, Russia

**11.15 – 11.45 *Quantization of exciton polaritons in shallow optical
traps***

Dr. Roman Cherbunin, St-Petersburg State University, Russia

11.45 – 12.15 *Strongly Quantum Confined CsPbBr₃ Nanocrystals: from dark excitons to hot electron generation*

prof. Alexey Akimov, Russian Quantum Center, Russia

12.15 – 12.45 *Thermally stimulated mechanisms of the defect-related luminescence in hexagonal boron nitride*

prof. Alexander Vokhmintsev, Ural State university, Russia

12.35 – 13.15 *2D materials in the field: The Graphene-Perovskite solar farm* (online)

prof. Emmanuel Kymakis, Hellenic Mediterranean University & Vice-President of HMU Research Center, Italy

13.15 – 14.30 Lunch break

14.30 – 15.45 Chairman is prof. Daniele Baretin

14.30 – 15.15 *In situ and operando characterization techniques devoted to the understanding of perovskite degradation under relevant stressors* (online)

prof. Frederic Sauvage, University of Picardie, France

15.15 – 15.45 *Nonlinear interactions in monolayer semiconductors*

prof. Michael Walker, University of Sheffield, UK

15.45 – 16.15 Coffee break

16.15 – 18.45 Chairman is prof. D. Yakovlev

16.15 – 16.45 *MBE grown Mg substituted fluorite dielectric layers for 2D-electronics*

Dr. Sergey Suturin, A.F. Ioffe Institute, Russia

16.45 – 17.15 *Effects of exciton fine structure in moiré quantum dots*

Dr. Dmitry Smirnov, Ioffe institute, Russia

17.15 – 17.45 *Synthesis and exfoliation of 2D (Ti, Hf, Zr)S₃ solid solutions for thin-film electronics*

Dmitry Muratov, The National University of Science and Technology MISIS, Russia

17.45 – 18.15 *to be confirmed*

prof. Konstantinos Petridis, HMU, Greece

17.45 – 18.45 Parallel section

Athena European University Meeting and round-table

19.30 Conference dinner. Departure from the Ani-Plaza hotel lobby

13th of October

7.30 – 9.00 - Breakfast

9.00 – 10.45 Chairman is prof. Alexander Vokhmintsev

9.00 – 9.45 *Tailoring interface properties with two dimensional materials in halide perovskite solar cells*

prof. Aldo Di Carlo, University of Rome II Tor Vergata

9.45 – 10.15 *Advanced interface modification with low dimensional materials for stabilized nano-crystalline perovskite solar cells*

Dr. Danila Saranin, The National University of Science and Technology MISIS, Russia

10.15 – 10.45 Coffee break

10.45 – 13.15 Chairman is prof. Ivan Savenko

10.45 – 11.15 *Thin-film inverted perovskite solar cells on flexible substrates*

Maria Tyukhova, The National University of Science and Technology MISIS, Russia

11.15 – 11.45 ***Heterodyne and direct detection at sub-terahertz wavelength with a superconducting niobium diselenide (NbSe₂)***

Dr. Kirill Shein, HSE Tikhonov Moscow Institute of Electronics and Mathematics, Russia

11.45 – 12.15 ***Highly stable GFETs with 2nm crystalline CaF₂ insulators***

Dr. Yuri Illarionov, Ioffe Institute, Russia

12.15 – 12.45 ***title to be confirmed*** (online)

Dr. Alexander Holleitner, Technical University of Munich, Germany

12.45 – 13.15 ***Magnetic metasurfaces for ultrafast spin control by laser pulses*** (online)

prof. Vladimir Belotelov, Russian Quantum Center, Russia

13.15 - Closing. Announcement of the ICP2DC'7

13.15 – 14.30 Lunch break

15.00 - **Conference Excursion 2.** Visit to the museum of ancient manuscripts, Matenadaran. Departure from the Ani-Plaza hotel lobby

14th of October

Free time. Departure of the conference participants