

INTERNATIONAL SCHOOL AND WORKSHOP ON 2D CRYSTALS AND PHOTONICS

September 9-13, 2019, Tbilisi State University, Tbilisi, GEORGIA

<i>OPENING</i> Monday @ 8:45	MONDAY (Sep 9)	TUESDAY (Sep 10)	WEDNESDAY(Sep11)	THURSDAY (Sep 12)	FRIDAY (Sep 13)
9:00 – 10:15	L1: Tománek	L5: Finley	FULL-DAY BUS EXCURSION TO KAKHETI (Lunch provided)	L9: García de Abajo	L13: Ziegler
10:15 – 10:35	<i>Coffee Break</i>			<i>Coffee Break</i>	
10:35 – 11:50	L2: Höfling	L6: Högele		L10: Caldwell	L14: Shengelaya
11:50 – 12:00	<i>Break</i>			<i>Break</i>	
12:00 – 12:45	S1: Benimetskiy	S3: Tsiklauri		S5: Casalis de Pury	S7: Moskalenko
12:45 – 13:45	<i>Lunch</i>			<i>Lunch</i>	
13:45 – 15:00	L3: Lozovik	L7: Rontani		L11: Stockman	L15: Kavokin
15:00 – 15:10	<i>Break</i>			<i>Break</i>	
15:10 – 16:25	L4: Snoke	L8: Hawrylak		L12: Khurgin	S8: Kereselidze
16:25 – 16:45	<i>Coffee Break</i>			<i>Coffee Break</i>	<i>Coffee Break</i>
16:45 – 17:30	S2: Berman	S4: Jaskólski		S6: Bondarev	
17:30 – 17:40	<i>Break</i>			<i>Break</i>	
17:40 – 18:30	<i>STUDENTS+EXPERTS Round-Table Session</i>	<i>STUDENTS+EXPERTS Round-Table Session</i>		<i>STUDENTS+EXPERTS Round-Table Session</i>	
18:30 – ...	<i>WELCOME RECEPTION</i>	<i>POSTER SESSION + Career Development in Materials Science Briefing</i>		<i>GALA-DINNER</i>	<i>Round-Table/Poster Student Competition Awards + CLOSING REMARKS</i>

A. LECTURE/SEMINAR PROGRAM (speaker's last name alphabetical order)

TOPIC	INVITED LECTURE (75 min)	SEMINAR TALK (45 min)
<i>2D Plasmonics and Metasurfaces</i>	<ol style="list-style-type: none"> 1. Josh Caldwell, Vanderbilt U., USA: Controlling Infrared Light with Nanoscale Precision Using 2D Material Polaritons 2. F. Javier García de Abajo, ICFO, Barcelona, Spain: Plasmonics in Two-Dimensional Crystals 3. Alexander Shengelaya, TSU, Georgia: Unexpected Magnetism in Semiconducting Transition Metal Dichalcogenides 	<ol style="list-style-type: none"> 1. I.Bondarev, NCCU, USA: Strongly Correlated Collective Excitations in Quasi-2D Nanostructures of Metals and Semiconductors 2. A.Casalis de Pury, U. Cambridge, UK: Plasmonic Nanoparticle Reflectors for hBN Planar Microcavities
<i>Physics of Excitons in Low-Dimensional Semiconductors</i>	<ol style="list-style-type: none"> 1. Jon Finley, TUM-WSI, Munich, Germany: Trapping Excitons in Monolayers and Heterostructures of Atomically-Thin Semiconductors 2. Pawel Hawrylak, U. Ottawa, Canada: Excitonic Complexes in Semiconductor and Graphene Quantum Dots 3. Alexander Högele, LMU, Munich, Germany: Cavity and Magnetic Field Effects on Interlayer Excitons in MoSe₂-WSe₂ Heterostructures 4. Alexey Kavokin, Westlake U., China: Qubits Based on Split-Ring Condensates of Exciton-Polaritons 5. Yurii E. Lozovik, Spectroscopy Inst., Troitsk, Russia: Superfluidity and BEC in Novel 2D Materials 6. Massimo Rontani, CNR-NANO, Modena, Italy: Excitonic Insulator in Long-Range Interacting Systems 7. Klaus Ziegler, U. Augsburg, Germany: Topological Phases Created by Electron-Phonon Interaction 	<ol style="list-style-type: none"> 1. W.Jaskólski, Copernicus U., Poland: Forcing Single Layer Graphene to Behave Like a Gated Bilayer 2. T.Kereselidze, TSU, Georgia: Electronic and Optical Properties of Ellipsoidally Shaped Nanoparticles 3. S.A.Moskalenko, Applied Physics Inst., Moldova: 2D Magneto-Excitons with Linear Dispersion Law under the Influence of the Quantum Point Vortices 4. Sh.M.Tsiklauri, CUNY, USA: Trions in Transition Metal Dichalcogenide and Buckled Monolayers
<i>Polaritonics and Nonlinear Optics with Quantum Materials</i>	<ol style="list-style-type: none"> 1. Sven Höfling, U. Wuerzburg/U. St.Andrews, Germany/UK: Valley Selective Condensation and Expansion of Exciton-Polaritons Based on MoSe₂ Monolayer Crystals 2. Jacob Khurgin, J.Hopkins U., USA: Waveguiding and Second Order Nonlinearities in Transition Metal Dichalcogenides 3. Mark Stockman, Georgia State U., USA: Quantum Solids in Ultrafast Strong Laser Fields: Topological Nanophotonic Phenomena 4. David W. Snoke, U. Pittsburgh, USA: Polariton Condensates with Long Lifetime and Long-Distance Transport 5. David Tománek, Michigan State U., USA: Magic with 2D Semiconductors 	<ol style="list-style-type: none"> 1. F.Benimetskiy, ITMO, Russia: Strong Coupling of Excitons in Direct Bandgap 2D Semiconductor with Optical Bound States in the Continuum 2. O.Berman, CUNY, USA: Spin Hall Effect for Microcavity Polaritons in Transition Metal Dichalcogenides

B. POSTER PRESENTATIONS (presenter's last name alphabetical order)

- **B.Beradze, TSU, Georgia:** Magnetic Phase Diagram of a Spin-1/2 Antiferromagnetic Two-Leg Ladder in the Presence of Modulated along Legs Dzyaloshinskii-Moriya Interaction
- **A.M.Grudinina, MEPhI, Moscow, Russia:** Ground State of an Anisotropic 2D Exciton and Magneto-Exciton in Phosphorene Monolayer and Bilayer
- **L.Jibuti, TSU, Georgia:** Study of Resistive Switching Effect in the Si+W+ZrO₂+HfO₂+Mo+Al Nanostructure
- **V.A.Kuznetsov, Solid State Phys. Inst., Chernogolovka, Russia:** Excitonic Effects and Non-Trivial Spin Polarization at Filling Factor of 3/2
- **Z.Machavariani, TSU, Georgia:** Trions and Biexcitons in Core/Shell Nanowires
- **Jason D. Orlando, NCCU, USA:** Surface-Enhanced Raman Scattering Characteristics of Gold Nanoparticle-Decorated WS₂ Nanosheets
- **M.V.Rakhlin, Ioffe Inst., St-Petersburg, Russia:** Efficient Single-Photon Sources of Red Light Based on a Waveguide Photonic Nanoantenna with an InAs/AlGaAs Quantum Dot
- **Giacomo Sesti, U. Modena, Italy:** Anomalous Screening in Narrow-Gap Carbon Nanotubes

POSTER PREPARATION INSTRUCTIONS: Poster Format – Portrait A0 841 mm × 1189 mm (33.1 in × 46.8 in); tapes/pins will be provided