

Venue: **CENTER FOR PHYSICAL SCIENCES AND TECHNOLOGY**

Saulėtekio av. 3

Vilnius, Lithuania

10-12 OCTOBER, 2018

October 9, 2018 (Tuesday)

18:00 **Welcome party**, Center for Physical Sciences and Technology, Saulėtekio av. 3, Vilnius

October 10, 2018 (Wednesday)

08:00 – 09:00		Registration	
08:45 – 09:00		Opening ceremony: Jurgita Petrauskienė, Minister of Education and Science of Republic of Lithuania Remigijus Šimašius, Mayor of Vilnius Gintaras Valušis, Director of the Center for Physical Sciences and Technology, chair of Apropos conference	
9:00 – 10:20		<i>Section 1: Semiconductor Nanostructures and Advanced Photonics Systems</i>	
9:00 – 9:30	I1	Edmund H. Linfield University of Leeds, United Kingdom	Terahertz quantum cascade lasers – from devices to applications
9:30 – 10:00	I2	Tsuneyuki Ozaki Institut National de la Recherche Scientifique, Canada	Intense THz sources and Nonlinear THz Optic
10:00 – 10:20	O1	Tadas Paulauskas Center for Physical Sciences and Technology, Lithuania	Stabilization of exotic atomic structures via wafer bonding
10:20 – 10:40		COFFEE BREAK	
10:40 – 12:30		<i>Section 2: Semiconductor Nanostructures and Advanced Photonics Systems</i>	
10:40 – 11:10	I3	Lukasz Klopotoski Institute of Physics PAS, Poland	Spin relaxation dynamics in copper-doped CdSe nanocrystals
11:10 – 11:30	O2	Vidmantas Gulbinas Center for Physical Sciences and Technology, Lithuania	Charge carrier motion dynamics in semiconducting single-wall carbon nanotubes
11:30 – 11:50	O3	Kirill Alekseev Loughborough University, United Kingdom	Nonlinear acoustoelectric effect in a superlattice: Bifurcations, current reversals, Bloch-like oscillations and amplification of THz electric fields
11:50 – 12:10	O4	Alesia Paddubskaya Belarusian State University, Belarus	Effect of graphene quality on its high-frequency electromagnetic properties
12:10 – 12:30	O5	Šarūnas Meškinnis Kaunas University of Technology, Lithuania	Structure and properties of the graphene directly synthesized on Si and SiO ₂
12:30 – 14:00		LUNCH	
14:00 – 15:20		<i>Section 3: Organic Materials for Optoelectronics</i>	
14:00 – 14:30	I4	Andrey Kadashchuk Institute of Physics, Ukraine	Optoelectronic properties of wide-bandgap hybrid organic-inorganic perovskite films
14:30 – 15:00	I5	Carlito S. Ponseca, Jr. Linköping University, Sweden	Towards Terahertz Organic Electronics: THz antenna from celery decorated with metallic conjugated polymer
15:00 – 15:20	O6	Saulius Juršėnas Vilnius University, Lithuania	Doped bifluorene crystals for organic laser applications
15:20 – 15:40		COFFEE BREAK	
15:40 – 17:20		<i>Section 4: Ultrafast and THz phenomena</i>	
15:40 – 16:00	O7	Vincas Tamošiunas Center for Physical Sciences and Technology, Lithuania	Laser-Ablated Antireflective Structures and Focusing of Terahertz Radiation
16:00 – 16:20	O8	Diana Gamzina SLAC National Accelerator Laboratory, USA	Nano-composite electron emitters for terahertz radiation
16:20 – 16:40	O9	Andrius Arlauskas Center for Physical Sciences and Technology, Lithuania	THz excitation spectroscopy for semiconductor band structure characterization
16:40 – 17:00	O10	Ieva Beleckaitė Center for Physical Sciences and Technology, Lithuania	Terahertz emission enhancement by forming LIPS structures on the surface of GaAs
17:00 – 17:20	O11	Dalius Seliuta Center for Physical Sciences and Technology, Lithuania	Optimization of the terahertz modulation based on frequency-agile metasurface
17:30 – 19:00		<i>Poster Session</i>	

October 11, 2018 (Thursday)

9:00 – 10:20		<i>Section 5: Nano and Biophotonics</i>	
9:00 – 9:30	I6	Peter Haring Bolívar Universität Siegen, Germany	PCR-free THz biosensing with metamaterials
9:30 – 10:00	I7	Joo-Hiuk Son University of Seoul, South Korea	Cancer treatment using terahertz radiation
10:00 – 10:20	O12	Gediminas Niaura Center for Physical Sciences and Technology, Lithuania	Electrochemical shell-isolated nanoparticle-enhanced Raman spectroscopy: bonding, structure and function of monolayers at smooth gold electrode
10:20 – 10:40		COFFEE BREAK	
10:40 – 12:30		<i>Section 6: Nano and Biophotonics</i>	
10:40 – 11:10	I8	Johannes Hohlbein Wageningen University & Research, Netherlands	From monitoring DNA polymerases <i>in vitro</i> to target search of CRISPR-Cas <i>in vivo</i>
11:10 – 11:30	O13	Galina Dovbeshko Institute of Physics, Ukraine	BN nanoparticles as spectroscopic marker and drug delivery system
11:30 – 11:50	O14	Aurimas Vyšniauskas Center for Physical Sciences and Technology, Lithuania	Temperature effect on molecular rotors
11:50 – 12:10	O15	Miroslav Menšík Institute of Macromolecular Chemistry, Czech Republic	Determination of time-dependent diffusion coefficient of excited species from time-resolved absorption spectra
12:10 – 12:30	O16	Marijonas Tutkus Center for Physical Sciences and Technology, Lithuania	DNA curtains – nanoscale platform for studying of DNA-protein interactions at the single-molecule level
12:30 – 14:00		LUNCH	
14:00 – 15:20		<i>Section 7: THz Phenomena and Devices</i>	
14:00 – 14:30	I9	Wojciech Knap Center for Terahertz Research and Applications (CENTERA), PAS, Poland and L2C laboratory CNRS and University of Montpellier, France	THz detectors based on transistors. From basic science to real world applications
14:30 – 15:00	I10	Polina Kuzhir Belarusian State University, Belarus	THz wave concentrators: Carbon based photonic crystals and perfect absorbers
15:00 – 15:20	O17	Linās Minkevičius Center for Physical Sciences and Technology, Lithuania	Silicon based diffractive optics for imaging applications at sub-THz frequencies
15:20 – 15:40		COFFEE BREAK	
15:40 – 17:10		<i>Section 8: THz Phenomena and Devices</i>	
15:40 – 16:10	I11	Hartmut G. Roskos Goethe-Universität, Germany	Surface plasmon-polaritons studied by scattering-type SNOM
16:10 – 16:40	I12	Deping Qian Linköping University, Sweden	Decrease the photovoltage losses in organic solar cells
16:40 – 17:10	I13	Kathy Lüdge Berlin University of Technology, Germany	Performance and emission dynamics of multi-section passively mode-locked semiconductor lasers
17:30 – 19:00		<i>Short excursion around Vilnius old town (on foot)</i>	
19:00 – Late		Dinner Gala, ARKANGELO Conference & Art Center, Maironio g. 11, LT-01125 Vilnius	

October 12, 2018 (Friday)

9:00 – 10:20		<i>Section 9: Laser Technologies and Nanomaterials</i>	
9:00 – 9:30	I14	Gediminas Račiukaitis Center for Physical Sciences and Technology, Lithuania	Reduction of graphite oxide to graphene using intense laser radiation
9:30 – 10:00	I15	Chiko Otani RIKEN Center for Advanced Photonics, Japan	Structural change of macromolecules by intense THz radiation
10:00 – 10:20	O18	Darius Abramavičius Vilnius University, Lithuania	Simulation of charge separation in disordered molecular systems – coherent effects
10:20 – 10:40		COFFEE BREAK	
10:40 – 12:30		<i>Section 10: Semiconductor Nanostructures and Advanced Photonics Systems</i>	
10:40 – 11:00	O19	Mažena Mackoīt Center for Physical Sciences and Technology, Lithuania	Optical properties of boron vacancy-related defects in hexagonal boron nitride
11:00 – 11:20	O20	Mikhail Shuba Belarusian State University, Belarus	Density dependence of the microwave conductivity of carbon nanotube based composites
11:20 – 11:40	O21	Mindaugas Ramonas Center for Physical Sciences and Technology, Lithuania	Noise temperature spectrum in a GaN quantum-well channel
11:40 – 12:00	O22	Keštutis Ikamas Vilnius University, Lithuania	Silicon Field Effect Transistors for Nonlinear Terahertz Autocorellators
12:00 – 12:20	O23	Evelina Poizingytė Center for Physical Sciences and Technology, Lithuania	Optical properties of GaAs _{1-x} Bi _x compounds
12:20 – 12:30	Closing Remarks		
12:30 – 14:00		LUNCH	
14:00 – 14:15	Karolis Stašys , FTMC Commercial Cooperation Opportunities		
14:15 – 15:15	Round table: Open Partnership		
15:15	Excursion to the laboratories and Open Access Center		

Poster Session

P01	Charge carrier spatial trapping limits all-polymer solar cell performance Rokas Jasiūnas, Armantas Melianas, Yuxin Xia, Nikolaos Felekidis, Vidmantas Gulbinas and Martijn Kemerink
P02	Ultrafast recombination and diffusion processes in lead free MASn₃ perovskites D. Litvinas, P. Ščajev, P. Baronas, R. Aleksiejūnas, S. Juršėnas, M. Kolenda, C. Qin, T. Fujihara, T. Matsushima, C. Adachi.
P03	Recombination and diffusion processes in electronic grade 4H silicon carbide Patrik Ščajev, Saulius Miasojedovas, <u>Liudvikas Subačius</u> , Kęstutis Jarašiūnas, and Masashi Kato
P04	Influence of the temperature and the excitation power on the optical properties of InGaAs quantum rods <u>Andrius Rimkus</u> , Evelina Pozingytė, Ramūnas Nedzinskas, Bronislovas Čechavičius, Julius Kavaliauskas, Lianhe Li and Edmund H. Linfield ²
P05	Investigation of reflectivity spectrum of GaN with periodic apertures on the surface V. Janonis ¹ , Indrišius Simonas, Prystawko Pawel, I. Kašalynas
P06	Growth and characterization of a few monolayers MoS₂ based optical properties in practical devices <u>Marius Treideris</u> , Vladimir Agafonov, Algimantas Lukša, Mindaugas Kamarauskas, Tomas Daugalas, Virginijus Bukauskas, Audružis Mironas, Saulius Balakauskas, Gediminas Niaura, Alfonsas Rėza, Arūnas Šetkus
P07	HRTEM characterization of Bi quantum dots in annealed GaAsBi/AlAs structure <u>Martynas Skapas</u> , Renata Butkutė, Sandra Stanionytė
P08	Rapid thermal annealing of epitaxial layers grown by MBE <u>Sandra Stanionytė</u> , Vaidas Pačebutas, Bronislovas Čechavičius, Andrius Bičiūnas
P09	Fast damage of thin II-type superconductor films by cumulated magnetic flux Linas Ardaravičius, Jonas Gradauskas, <u>Oleg Kiprijanovič</u> , Mindaugas Senulis
P10	Hot carrier impact on photovoltage formation in semiconductor p-n junctions Steponas Ašmontas, Jonas Gradauskas, Algirdas Sužiedėlis, Aldis Šilėnas, Edmundas Širmulis, Vitas Švedas, Viktoras Vaičiškuskas and <u>Ovidijus Žalys</u>
P11	Charge drift nonlinearity in organic semiconductors– harmonic generation as a probe of charge transport properties <u>Andrius Devižis</u> and Rokas Gegevičius
P12	Enhancing of spontaneous emission rate of small organic molecule material by using Tamm plasmon structures and periodic metal-dielectric structures K.M. Morozov, K. A. Ivanov, N. Selenin, S. Mikhrin, D. de Sa Pereira, C. Menelaou, A. P. Monkman and M. A. Kaliteevski
P13	Excited state dynamics of photochromic dimethyldihydropyrene derivatives in solutions <u>Ignas Čiplys</u> , Irena Kulszewicz-Bajer, Renata Karpicz
P14	Terahertz Excitation Spectra of InP Single Crystals <u>Ričardas Norkus</u> , Andrius Arlauskas, Arūnas Krotkus
P15	Uncertainties of Terahertz Wave Attenuation Due to Rain in Wireless Communications <u>Milda Tamošiūnaitė</u> , Vincas Tamošiūnas and Gintaras Valušis
P16	Efficient THz emission from AlGaAs/GaAs parabolic quantum wells with Bi quantum dots <u>Mindaugas Karaliūnas</u> , Evelina Pozingytė, Jan Devenson, Renata Butkutė, Andres Udal, and Gintaras Valušis
P17	Investigation of charge carrier transport in MID-IR laser diodes through the low-frequency noise spectroscopy <u>Justinas Glemža</u> , Vilius Palenskis, Sandra Pralgauskaitė and Jonas Matukas
P18	The first 1 TW-class laser system is under development in FTMC to study the intense laser-matter interaction <u>Paulius Mackonis</u> ¹ and Aleksej M. Rodin
P19	Impact of angular deviation of optical axis on the contrast ratio of beta barium borate crystal <u>Giedrius Sinkevicius</u> Algirdas Baskys
P20	Growth and Characterization of GaAsBi MQW Structures for NIR Lasers <u>Algirdas Jasinskas</u> , Renata Butkutė, Simona Pūkienė, Sandra Stanionytė, Evelina Pozingytė, Bronislovas Čechavičius and Arūnas Krotkus
P21	Thick epitaxial GaAsBi layers for infrared components <u>Simona Pūkienė</u> , Algirdas Jasinskas, Sandra Stanionytė, Bronislovas Čechavičius, Saulius Tumėnas, Jan Devenson, Renata Butkutė, Arūnas Krotkus
P22	Synthesis and Structure of Anodic Alumina/Carbon Composites Katsiaryna Chernyakova, <u>Renata Karpicz</u> , Nikita Lushpa and Igor Vrublevsky
P23	Preparation method influence on morphology and ultrafast optical properties of graphene layers <u>Erika Rajackaitė</u> , Domantas Peckus, Asta Tamulevičienė, Tomas Tamulevičius, Rimantas Gudaitis, Šarūnas Meškis and Sigitas Tamulevičius
P24	Discrimination between the graphene defects by a combination of the surface analysis methods <u>V. Bukauskas</u> , T. Daugalas, A. Sakavičius, A. Lukša, V. Nargelienė, G. Astromskas, A. Šetkus
P25	Shell-isolated nanoparticle-enhanced Raman spectroscopic analysis of living yeast cells <u>Agnė Zdaniauskienė</u> , Tatjana Charkova, Ilja Ignatjev, Vytautas Melvydas, Rasa Garjonytė, Ieva Matulaitienė, Gediminas Niaura

P26	<p>New mathematical tools in electrodynamics: geometric (Clifford) algebra</p> <p><u>A. Dargys</u> and A. Acus</p>
P27	<p><i>In vivo</i> CARS microscopy of scytonemin in cyanobacteria <i>Nostoc commune</i></p> <p>Petras Venckus Skalvis Paliulis Jolanta Kostkevičiene <u>Andrej Dementjev</u></p>
P28	<p>THz emission from electrically driven AlGa_N/Ga_N HEMT structures as potential 2DEG plasmonic THz emitters</p> <p><u>Ignas Grigelionis</u>, Vytautas Janonis, Vytautas Jakštis and Irmantas Kašalynas</p>
P29	<p>Terahertz detection and harmonic generation in AlGa_N/Ga_N high electron mobility transistors</p> <p><u>Juozas Vyšniauskas</u> and Alvydas Lisauskas</p>
P30	<p>Fibonacci terahertz imaging</p> <p><u>Domas Jokubauskis</u>, Linas Minkevičius, Mindaugas Karaliūnas, Simonas Indrišiūnas, Irmantas Kašalynas, Gediminas Račiukaitis, Gintaras Valušis</p>
P31	<p>Oxide Layer Enhances Photocurrent Gain of the Planar MAPb₃ Photodetector</p> <p><u>Rokas Gegevičius</u>, Marius Franckevičius, Marius Treideris, Vidmantas Gulbinas</p>
P32	<p>LSO and GAGG scintillators for picosecond timing</p> <p><u>Augustas Vaitkevičius</u>, Saulius Nargelas, Marco Lucchini, Etienne Auffray, Andrey Fedorov, Vitaly Mechinsky, Mikhail Korjik, Gintautas Tamulaitis</p>
P33	<p>Carbon nanolayers for diffractive terahertz optics</p> <p><u>Rusnė Ivaškevičiūtė</u>, Linas Minkevičius, Domas Jokubauskis, Andžej Urbanovič, Algimantas Lukša, Andrius Sakavičius, Arūnas Šetkus, and Gintaras Valušis</p>
P34	<p>EdgeFET Terahertz Detector Based on Two Lateral Schottky Barrier Gates</p> <p>P. Sai, D. But, P. Prystawko, I. Yahniuk, P. Wiśniewski, M. Słowikowski, B. Stonio, K. Nowakowski-Szkudlarek, J. Przybytek, W. Knap, S. Romyantsev, <u>G. Cywiński</u></p>