25TH SYMPOSIUM ON PHOTONICS AND OPTICS SPO 2024

Monday, November 4, 2024 - Friday, November 8, 2024

Zoom and Faculty of Physics, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine

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Monday, November 4, 2024

Welcome Coffee & Zoom connection - Room 103 (8:30 AM - 8:45 AM)

USyNC Workshop Opening - Room 103 (8:45 AM - 9:00 AM)

-Conveners: Patthey, Luc (PSI - Paul Scherrer Institut); Sikora, Marcin (SOLARIS National Synchrotron Radiation Centre, Jagiellonian University, Czerwone Maki 98, 30-392 Krakow, Poland); Kordyuk, Alexander (Kyiv Academic University)

Unifying Efforts: Developing the Ukrainian Synchrotron Community and Research Infrastructure - Room 103 (9:00 AM - 10:05 AM)

-Conveners: Babich, Danylo (PSI - Paul Scherrer Institut)

time	title	presenter
9:00 AM	Establishing the Ukrainian Synchrotron (and Neutron) Community organization	Dr CHUKOVA, Oksana (Taras Shevchenko National University of Kyiv)
9:10 AM	Synchrotron based search for new quantum materials	Prof. KORDYUK, Alexander (Kyiv Academic University)
9:35 AM	The European Synchrotron and FEL User Organisation (ESUO)	Prof. MCGUINNESS, Cormac (ESUO / Trinity College Dublin)
9:50 AM	NEPHEWS support for Ukrainian User communities use of Neutron and Photon sources	Mr PIWOWARCZYK, Piotr (SOLARIS National Synchrotron Radiation Centre, Jagiellonian University, Czerwone Maki 98, 30-392 Krakow, Poland)

Coffee Break - Room 103 (10:05 AM - 10:15 AM)

Unifying Efforts: Developing the Ukrainian Synchrotron Community and Research Infrastructure - Room 103 (10:15 AM - 12:00 PM)

-Conveners: Babich, Danylo (PSI - Paul Scherrer Institut)

time	title	presenter
10:15 AM	Advancing Ukrainian Science: The Micro/Nano XAS Beamline at SOLARIS Under the 'Light for Ukraine' Initiative	Prof. PATTHEY, Luc (PSI - Paul Scherrer Institut)
10:35 AM	SOLARIS Centre - facility status and research highlights	Prof. SIKORA, Marcin (SOLARIS National Synchrotron Radiation Centre, Jagiellonian University, Czerwone Maki 98, 30-392 Krakow, Poland)
10:55 AM	POLYX@SOLARIS: layout, specification & first results	Dr SOWA, Katarzyna (SOLARIS National Synchrotron Radiation Centre)
11:15 AM	Tender XAS Beamline at SOLARIS Synchrotron - ASTRA: Overview	Dr MAXIMENKO, Alexey (National Synchrotron Radiation Centre SOLARIS Jagiellonian University, Kraków, 31-007, Poland)
11:35 AM	Laboratory X-ray spectroscopy and imaging as a preliminary step towards synchrotron experiments	Dr YAKOVLIEV, Artem (Institute of Nuclear Physics, Polish Academy of Sciences, Krakow, Poland)

11:50 AM	Multilayer coatings for Synchrotron Radiation	Dr PERSHYN, Yu.P. (National Technical University “Kharkiv Polytechnic Institute”)

Lunch Break - Room 103 (12:00 PM - 1:00 PM)

Exploring Ultrafast Phenomena with the XFEL: Instruments, Capabilities, and Applications - Room 103 (1:00 PM - 2:45 PM)

-Conveners: Babich, Danylo (PSI - Paul Scherrer Institut)

time	title	presenter
1:00 PM	Attosecond X-ray Free-Electron Lasers	Prof. GORYASHKO, Vitaliy (Uppsala University, Sweden; RIKEN, SPring-8, Japan)
1:30 PM	European X-ray Free-Electron Laser: working principle and capabilities	Dr SERKEZ, Svitozar (European XFEL)
2:00 PM	Science at the FXE instrument of European XFEL	Dr BIEDNOV, Mykola (European XFEL)
2:30 PM	Ultrafast structural changes in Fe studied by time-resolved X-ray diffraction	Dr LIUBCHENKO, Oleksii (Institute of Physics Polish Academy of Sciences)

Coffee Break - Room 103 (2:45 PM - 3:00 PM)

Advanced Luminescence and Spectroscopy Techniques at DESY: Instruments, Materials, and Applications - Room 103 (3:00 PM - 4:15 PM)

-Conveners: Chukova, Oksana (Taras Shevchenko National University of Kyiv)

time	title	presenter
3:00 PM	Hard X-ray Photoelectron Spectroscopy at DESY	Dr GLOSKOVSKII, Andrei (Photon Science / DESY)
3:30 PM	Vacuum ultraviolet time-resolved luminescence at P66 at DESY: instrument characteristics and applications	Dr SMORTSOVA, Yevheniia (Deutsches Elektronen-Synchrotron DESY, Notkestr. 85, Hamburg 22607, Germany)
3:50 PM	Dopant-induced effects in zirconia-based materials: interrelation between structural transformation and luminescence variation	Dr KHOMENKOVA, Larysa (V. Lashkaryov Institute of Semiconductor Physics)

Coffe Break - Room 103 (4:15 PM - 4:30 PM)

X-ray Microscopy and Spectroscopy of Functional Material - Room 103 (4:30 PM - 5:35 PM)

-Conveners: Yakovliev, Artem (Institute of Nuclear Physics, Polish Academy of Sciences)

time	title	presenter
4:30 PM	Dichroic Ptychography in the Soft X-ray Energy Regime	Dr BUTCHER, Tim A. (Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy, 12489 Berlin, Germany)
5:00 PM	Micro-XRD Imaging of Lattice Contraction Induced by Resistive Switching in Chromium-Doped V□O□ Mott Insulator	Dr BABICH, Danylo (PSI - Paul Scherrer Institut)

5:20 PM	Addressing perovskite stability: crafting an protective layer for sustainable solar cells with the use of synchrotron-based X-ray spectroscopy techniques	Mr SUKHENKO, Ihor (Kurdyumov Institute for Metal Physics of the NAS of Ukraine)

USyNC Workshop: Closing Remarks & Photo - Room 103 (5:35 PM - 5:45 PM)

Tuesday, November 5, 2024

Welcome Coffee & Zoom connection - Room 103 (8:00 AM - 8:05 AM)

Workshop on Sustainable Materials and Technologies: Opening - Room 103 (8:05 AM - 8:15 AM)

-Conveners: Dzhagan, Volodymyr (Lashkaryov Institute of Semiconductor Physics (ISP), NAS of Ukraine); Kondratenko, Serhiy (Taras Shevchenko National University of Kyiv)

Workshop on Sustainable Materials and Technologies: Plenary Session - Room 103 (8:15 AM - 8:55 AM)

-Conveners: Kondratenko, Serhiy (Taras Shevchenko National University of Kyiv)

time	title	presenter
8:15 AM	Challenges to Carbon Neutrality	Prof. YOSHIDA, Tsukasa (Graduate School of Organic Materials Science, Yamagata University)

Coffee Break - Room 103 (8:55 AM - 9:00 AM)

Workshop on Sustainable Materials and Technologies: Emerging Trends in Perovskite Science and Technology 1 - Room 103 (9:00 AM - 10:45 AM)

-Conveners: Dzhagan, Volodymyr (Lashkaryov Institute of Semiconductor Physics (ISP), NAS of Ukraine)

time	title	presenter
9:00 AM	Optoelectronic Applications of Metal Halide Perovskites	Dr YAKUNIN, Sergii (ETH Zurich)
9:30 AM	High-throughout compositional screening of new sustainable (green) perovskite materials for energy conversion (light harvesting and emission)	Dr STROYUK, Oleksandr (Helmholtz Institute Erlangen-Nürnberg for Renewable Energy (HI ERN), Germany)
10:00 AM	Tuneable Excitonic Luminescence in 2D hybrid perovskites	Mr SHCHERBAKOV, Andrii (PCI University of Heidelberg)
10:15 AM	3D semiconducting hybrid perovskites with aziridinium cation	Dr GURAL'SKIY, Il'ya (Taras Shevchenko National University of Kyiv)
10:30 AM	Chiral 2D hybrid perovskites with amino acid cations	Ms KUCHERIV, Olesia I. (Taras Shevchenko National University of Kyiv)

Coffee Break - Room 103 (10:45 AM - 11:00 AM)

Workshop on Sustainable Materials and Technologies: Emerging Trends in Perovskite Science and Technology 2 - Room 103 (11:00 AM - 12:10 PM)

-Conveners: Golovynskyi, Sergii (College of Physics and Optoelectronic Engineering, Shenzhen University, Shenzhen, China)

time	title	presenter
11:00 AM	Perovskite-based electrode materials for solid oxide fuel cells	Dr KOLKOVSKYI, Pavlo (Vasyl Stefanyk Precarpathian National University)

11:20 AM	Low dimensional perovskites for quantum optics and polaritonics	Dr MUNOZ MATUTANO, Guillermo (Institut de Ciència dels Materials (ICMUV), Universitat de València. Catedrático José Beltrán 2, 46980 Paterna, Valencia, Spain.)
11:40 AM	Spectral stability of CsPbX3 (Br, I) perovskite nanocrystal for single photon emission	Dr GORJI, Setatira (Institut de Ciència dels Materials (ICMUV), Universitat de València. Catedrático José Beltrán 2, 46980 Paterna, Valencia, Spain.)
11:55 AM	First-principles calculations to investigate the optical properties of ASnO3 (A = Ba, Ca, Sr, and Mg) perovskite oxides for the optoelectronic applications	ELALAOUI, YOUNES (Faculty of Sciences Ben M'Sik, Hassan II University of Casablanca, B.P.7955, Morocco)

Lunch Break - Room 103 (12:10 PM - 12:40 PM)

Workshop on Sustainable Materials and Technologies: Frontiers in MoS and Two-Dimensional Materials - Room 103 (12:40 PM - 2:30 PM)

-Conveners: Kondratenko, Serhiy (Taras Shevchenko National University of Kyiv)

time	title	presenter
12:40 PM	2-dimensional MoS2 for photonic applications	Dr SERAVALLI, Luca (IMEM-CNR Institute)
1:00 PM	Impact of sulfur vacancies on the light emission and transport properties of MoS2 structures	Dr FABBRI, Filippo (NANO CNR)
1:20 PM	Exciton and trion photoluminescence properties in 2D molybdenum disulfide	Dr GOLOVYNSKYI, Sergii (College of Physics and Optoelectronic Engineering, Shenzhen University, Shenzhen, China)
1:40 PM	CuFe2O4/ reduced graphene oxide nanocomposites: effect of synthesis conditions on structure, morphology, magnetic, electrical and electrochemical properties	Prof. KOTSIUBYNSKYI, Volodymyr (Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk)
2:00 PM	Tailoring MoS□ Optical Response: A Plasmonic Nanoparticle Approach	Ms IRFAN, Iqra (Shenzhen University)
2:15 PM	CVD Synthesis of 2D-MoS□ for Heterostructure Development in Optoelectronic Devices	Ms ESPOSITO, Fiorenza (CNR-IMEM)

Coffee Breake - Room 103 (2:30 PM - 2:40 PM)

Workshop on Sustainable Materials and Technologies: Innovative Materials for Energy Conversion and Photonic Applications 1 - Room 103 (2:40 PM - 4:20 PM)

-Conveners: Golovynskyi, Sergii (College of Physics and Optoelectronic Engineering, Shenzhen University, Shenzhen, China)

time	title	presenter
2:40 PM	Physics and modeling of quantum dot solar cells	Prof. CAPPELLUTI, Federica (Department of Electronics and Telecommunications, Politecnico di Torino, ITALY)

3:00 PM	Luminescent carbon dots: critical review	Dr VASIN, Andrii (Lashkaryov Institute of Semiconductor Physics, Kyiv Ukraine)
3:20 PM	“Green” Aqueous Synthesis, Structural and Optical Properties of Quaternary Cu□ZnSnS□ and Cu□NiSnS□ Nanocrystals	Ms IVAKHNO-TSEHELNYK, Oleksandra (Semiconductor Physics & Research Center for Materials, Architectures and Integration of Nanomembranes (MAIN), Chemnitz University of Technology)
3:35 PM	The luminescence of aluminate spinels: overview and application to dosimetry	Prof. JACOBSOHN, Luiz (Clemson University)
4:05 PM	Structural and optical properties of β-Ga□O□ thin films obtained by spray pyrolysis	Ms SHAMROVSKA, Polina (Chemnitz University of Technology)

Coffee Break - Room 103 (4:20 PM - 4:30 PM)

Workshop on Sustainable Materials and Technologies: Innovative Materials for Energy Conversion and Photonic Applications 2 - Room 103 (4:30 PM - 6:30 PM)

-Conveners: Kondratenko, Serhiy (Taras Shevchenko National University of Kyiv)

time	title	presenter
4:30 PM	Progress in gallium oxide solar blind UV-C detectors	Dr BOSI, Matteo (IMEM CNR)
4:50 PM	Facts and Artifacts in Optical and Structural Characterization of Emerging Materials for Renewable and Sustainable Energy	Dr GALCA, Aurelian Catalin (National Institute of Materials Physics)
5:10 PM	Proposal for iterative cycles to obtain solar cell parameters, in the model of a solar cell diode.	Dr RANGEL KUOPPA, Victor Tapio (Lancaster University)
5:30 PM	A novel approach for the precise control of growth kinetics in GaN(0001) epilayers	Mr CANCIANI, Matteo (Università Milano-Bicocca)
5:45 PM	Synthesis and Optical Characterization of Gd3M2Al3O12: M=Ce+3, Fe+3	Ms TEJASWI RAMCHANDRA, Dewasthali (Lovely Professional University Punjab)
6:00 PM	Enhancing Optical and Electrical Performance of ZnO Thin Films by Mg dopant	Ms BAKSHI, Shruti (Lovely Professional University)
6:15 PM	Optimization of Back Surface Field (BSF) Layers for Efficiency Enhancement in CZTS Thin-Film Solar Cells	FATIHI, DOUNIA (University of Hassan II Casablanca)

Workshop on Sustainable Materials and Technologies: Event Closure - Room 103 (6:30 PM - 6:35 PM)

-Conveners: Kondratenko, Serhiy (Taras Shevchenko National University of Kyiv)

Wednesday, November 6, 2024

Welcome Coffee & Zoom connection - Room 103 (8:00 AM - 8:15 AM)

Workshop on Direct Optical Lithography for Advanced Opto- and Microelectronics - Room 103 (8:15 AM - 9:05 AM)

-Conveners: Dzhagan, Volodymyr (Lashkaryov Institute of Semiconductor Physics (ISP), NAS of Ukraine)

time	title	presenter
8:15 AM	Short Intro about the creation of a maskless lithography lab in Kyiv in the framework of the NRFU project	Prof. DZHAGAN, Volodymyr (Lashkaryov Institute of Semiconductor Physics (ISP), NAS of Ukraine)
8:25 AM	Interference nanolithography based on chalcogenide photoresist	Dr DAN'KO, Viktor (Lashkaryov Institute of Semiconductor Physics (ISP), NAS of Ukraine)
8:45 AM	Towards control of femtosecond laser structuring of silicon	DMYTRUK, Andriy (Institute of Physics NASU)

Coffee Break - Room 103 (9:05 AM - 9:20 AM)

Workshop on Direct Optical Lithography for Advanced Opto- and Microelectronics - Room 103 (9:20 AM - 10:35 AM)

-Conveners: Dzhagan, Volodymyr (Lashkaryov Institute of Semiconductor Physics (ISP), NAS of Ukraine)

time	title	presenter
9:20 AM	Scanning Probe Lithography and Laser-Assisted Direct Nano-Relief Engineering	Dr LYTVYN, Petro (V. Lashkaryov Institute of Semiconductor Physics NAS Ukraine)
9:40 AM	Direct laser writing in maskless photolithography technology	Dr BELIAK, Ievgen (Institute for Information Recording of National Academy of Sciences of Ukraine)
10:00 AM	Laser Beam Lithography at Raith Laser Systems BV	Dr KESKINBORA, Kahraman (Raith Laser Systems BV)
10:20 AM	Advanced Maskless Lithography Techniques for High-Precision Microstructure Fabrication	Dr KALENYUK, Oleksii (G.V. Kurdyumov Institute for Metal Physics, N.A.S. of Ukraine, Kyiv Academic University)

Workshop on Direct Optical Lithography for Advanced Opto- and Microelectronics: Closing Remarks - Room 103 (10:35 AM - 10:45 AM)

Lunch - Room 103 (10:45 AM - 12:30 PM)

School on Advanced Optical Materials: Lab Tour (12:30 PM - 2:30 PM)

Coffee Break - Room 103 (2:30 PM - 3:00 PM)

School on Advanced Optical Materials: Lectures (in Ukrainian) (3:00 PM - 6:00 PM)

time	title	presenter

3:00 PM	Extraction of Equivalent Parameters of Barrier Structures from Current-Voltage Characteristics (Вилучення еквівалентних параметрів бар'єрних структур з вольт-амперних характеристик)	Prof. OLIKH, Oleg (Taras Shevchenko National University of Kyiv)
4:30 PM	Atomistic Modeling of Thermal Transport Processes in Nanomaterials (Атомістичне моделювання процесів теплового транспорту в наноматеріалах)	Dr KURYLIUK, Vasyl (Taras Shevchenko National University of Kyiv, Kyiv, Ukraine)

Thursday, November 7, 2024

Opening of conference part of SPO: Optics and High Technology Material Science - Room 103 (9:00 AM - 9:15 AM)

-Conveners: Kondratenko, Serhiy (Taras Shevchenko National University of Kyiv); Poperenko, Leonid (Taras Shevchenko National University of Kyiv, Ukraine)

Optics and High Technology Material Science: Plenary - Room 103 (9:15 AM - 10:00 AM)

-Conveners: Babich, Danylo (PSI - Paul Scherrer Institut)

time	title	presenter
9:15 AM	Analytical model for the switching voltage and gain coefficient of a CMOS inverter with nanochannel 2D transistors	Prof. STRIKHA, Maksym (Taras Shevchenko National University of Kyiv, Faculty of Radiophysics, Electronics and Computer Systems, 4g Glushkov Avenue, Kyiv, Ukraine)

Professional Development in Optics: Navigating Opportunities and Entrepreneurship - Room 103 (10:00 AM - 10:50 AM)

-Conveners: Mariia Kurilenko

time	title	presenter
10:00 AM	OPTICA: Navigating Emerging Opportunities in Optics and Photonics	Mr AMOUROUX, Yann (Director, Europe, OPTICA)
10:30 AM	How to start business in optics	Dr MELENEVSKY, Dmytro (Novazii LLC)

Coffee Break - Room 103 (10:50 AM - 11:00 AM)

Advances in Nonlinear Optics and Laser-Matter Interactions: 1 - Room 103 (11:00 AM - 12:10 PM)

-Conveners: Babich, Danylo (PSI - Paul Scherrer Institut)

time	title	presenter
11:00 AM	Laser ultrasonics for the excitation of ultrafast acoustics or ultra-intense ultrasounds	Dr PEZERIL, Thomas (CNRS)
11:30 AM	The effect of substrate temperature in laser-induced high velocity micro-particle impacts	Dr CHABAN, Ievgeniia (Laboratoire de Mecanique des Solides, CNRS, Ecole Polytechnique, Institut Polytechnique de Paris, 91128, Palaiseau, France)
11:55 AM	Photoacoustic technique for determining optical absorption coefficients in nanostructured silicon	Dr LISHCHUK, Pavlo (Taras Shevchenko National University of Kyiv)

Lunch - Room 103 (12:10 PM - 1:00 PM)

Advances in Nonlinear Optics and Laser-Matter Interactions: 2 - Room 103 (1:00 PM - 3:00 PM)

-Conveners: Babich, Danylo (PSI - Paul Scherrer Institut)

time	title	presenter

1:00 PM	Nonlinear plasmonic nanostructures for quadratic nonlinear optics	Prof. LEDOUX-RAK, Isabelle (Laboratoire Lumière, Matière et Interfaces, UMR 8537, Ecole Normale Supérieure Paris-Saclay, CentraleSupélec, CNRS, Université Paris-Saclay, 91190 Gif-sur-Yvette, France)
1:30 PM	Stimulated Raman scattering microscopy: theory and applications	Dr SHYNKAR, Vasyl (HORIBA Scientific)
2:00 PM	Dependence of the random lasing threshold and spectrum of dyes on the parameters of the active scattering medium	Dr SMALIUK, Andrii (Taras Shevchenko National University of Kyiv)
2:15 PM	About the possibility of visualizing scattering areas of a medium using random lasing	Mr ZHURAVSKY, Michael (Taras Shevchenko National University of Kyiv)
2:30 PM	Peculiarities of forced radiation formation in thin dyed hybrid organic-inorganic films	Mr PODSHEBIAKIN, Artem (Taras Shevchenko National University of Kyiv)
2:45 PM	Transitioning from Manual to Automated Control: Mode-Locked Ultra-Fast Fiber Lasers via Machine Learning and Genetic Algorithms	YOUNES, MUHAMMAD HAMZA (SHENZHEN UNIVERSITY)

School on Advanced Optical Materials: Lectures (in Ukrainian) (3:00 PM - 4:30 PM)

time	title	presenter
3:00 PM	Femtosecond and Nanosecond Laser Technology for Material Research (Фемто та наносекундна лазерна техніка для дослідження матеріалів)	Prof. DMYTRUK, Igor (Faculty of Physics, Taras Shevchenko National University of Kyiv, Ukraine)

Coffee Break - Room 103 (3:00 PM - 3:10 PM)

Advances in Metasurfaces and Plasmonic Nanostructures - Room 103 (3:10 PM - 5:00 PM)

-Conveners: Babich, Danylo (PSI - Paul Scherrer Institut)

time	title	presenter
3:15 PM	Reciprocal Asymmetric Transmission: A Way Passed From Plane Waves To Metaholograms	Dr SEREBRYANNIKOV, Andriy (ISQI, Faculty of Physics, Adam Mickiewicz University)
3:45 PM	Manipulating over reflection, polarization and collection of light with metasurfaces	YERMAKOV, Oleh (Leibniz Institute of Photonic Technology)
4:15 PM	Engineering of Plasmonic Anisotropic Nanopatch-Based Metasurfaces	HRINCHENKO, Artem (V. N. Karazin Kharkiv National University)
4:30 PM	Inverse design of antireflection silicon-on-silicon coatings	OVCHARENKO, Anton (V. N. Karazin Kharkiv National University)
4:45 PM	Enhanced chiral sensing with plasmonic nanostructures	DEMIANYK, Oleh (V.N. Karazin Kharkiv National University, 4 Svobody Square, Kharkiv 61022, Ukraine)

Friday, November 8, 2024

Opening of Special Session at Shizuoka University - Room 103 (5:30 AM - 5:35 AM)

-Conveners: Aoki, Toru (Graduate School of Integrated Science and Technology, Shizuoka University. Research Institute of Electronics, Shizuoka University. Graduate School of Medical Photonics, Shizuoka University)

Imaging Techniques, CT Imaging, and Augmented Reality (5:35 AM - 6:45 AM)

-Conveners: Kateryna Zelenska

time	title	presenter
5:35 AM	Spatial Representation of 3D X-ray CT using Mixed Reality that Matches the Practitioner’s Perspective	Dr KASE, Hiroki (Shizuoka University)
5:55 AM	Simulation of Micro-metal Detection with Backscattered X-ray	HAYASHI, Kohei (Shizuoka University)
6:05 AM	Visualization of Radiation Intensity Distribution in Space Using Augmented Reality	KAWAKAMI, Takumi (□□□□)
6:15 AM	Nonlinear Characteristic of Sinogram for White X-ray and Superiority ART method rather than Fourier transform method for CT-imaging Reconstruction	SUZUKI, Takaharu (Shizuoka University)
6:25 AM	3D representation for simulation of the feeding situation and feeding of “scalpels and other instruments that approach the body” into the body.	Mr HORIUCHI, TAKAYA (Shizuoka University)
6:35 AM	Identification of composite material using CT imaging	TAKEMOTO, Shunsuke (Shizuoka Univ.)

Coffee Break - Room 103 (6:45 AM - 6:55 AM)

Radiation Detectors and Detector Materials (6:55 AM - 7:55 AM)

-Conveners: Kateryna Zelenska

time	title	presenter
6:55 AM	Electrical characteristics of Cu-electrode CdTe detectors	TAKAGI, Katsuyuki (Shizuoka University, ANSeeN Inc.)
7:15 AM	Characterization of Mesa Structure of GaN-based Radiation Detectors	Mr INABA, Kagemitsu (Graduate School of Integrated Science and Technology, Shizuoka University)
7:25 AM	Electron Beam Doping with CdTe for Radiation Detectors.	SHINMURA, Yuki (Shizuoka University)
7:35 AM	Development of Compact Neutral Source using D-D Reaction	NAKIYAMA, Keigo (Shizuoka Univ.)
7:45 AM	X-ray and alpha-ray detection properties of TlBr polycrystalline films	TOYOTA, Kouhei (Shizuoka University)

Coffee Break - Room 103 (7:55 AM - 8:05 AM)

Quantum Optics and Photonic Information Processing - Room 103 (8:05 AM - 9:35 AM)

-Conveners: Babich, Danylo (PSI - Paul Scherrer Institut)

time	title	presenter

8:05 AM	Revealing hidden photons: imperfect photocounting measurements and their applications	Prof. SEMENOV, Andrii (Bogolyubov Institute for Theoretical Physics, National Academy of Sciences of Ukraine)
8:35 AM	Tight tests for nonclassicality	KOVTONIUK, Vadym (Bogolyubov Institute for Theoretical Physics)
8:50 AM	Realistic Photon-Number Resolution and Its Impact on Gaussian Boson Sampling	YEREMENKO, Ivan (Bogolyubov Institute for Theoretical Physics of the National Academy of Sciences of Ukraine)
9:05 AM	Quantum light in atmospheric turbulence	KLEN, Mykyta (Bogolyubov Institute for Theoretical Physics, NAS of Ukraine, Vul. Metrologichna 14b, 03143 Kyiv, Ukraine)
9:20 AM	Optical Emulation of Rabi coupling for Sensing Applications	Dr PASHAEI ADL, Hamid (Institut de Ciència dels Materials (ICMUV), Universitat de València. Catedrático José Beltrán 2, 46980 Paterna, Valencia, Spain.)

Coffee Break - Room 103 (9:35 AM - 10:00 AM)

Luminescent Materials and Photonic Applications - Room 103 (10:00 AM - 11:35 AM)

-Conveners: Kateryna Yablochkova

time	title	presenter
10:00 AM	Glass-ceramic and hybrid nanocomposites with luminescent complex oxide fillers: research and possible applications	Prof. NEDILKO, Serhii (Taras Shevchenko National University of Kyiv)
10:20 AM	Theoretical modelling of luminescence processes in oxide glass-ceramic nanocomposite materials	Dr HIZHNYI, Yuriy (Taras Shevchenko National University of Kyiv)
10:35 AM	Luminescent glass-ceramics and cellulose-oxide composites based on K2Eu(PO4)(WO4) red phosphor	Dr CHORNII, Vitalii (National University of Life and Environmental Sciences of Ukraine)
10:50 AM	Fluorescence based explosives sensor: potential of plasmonic enhancement for the development of ultrasensitive portable technique	Dr LOPATYNSKYI, Andrii (V.E. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine)
11:05 AM	Bismuth-based Solid State Phosphors: Design, Structural Diversity, and Luminescence Properties	Dr TEREBILENKO, Kateryna (Taras Shevchenko National University of Kyiv)
11:20 AM	Application of textural analysis for research the relationship between the microrelief of surfaces and laser speckles	SACHKO, Artem (Ukrainian Physics and Mathematics Lyceum of Taras Shevchenko National University of Kyiv)

Coffee Break - Room 103 (11:35 AM - 12:00 PM)

Advanced Optical Systems: From Design to Construction - Room 103 (12:00 PM - 1:05 PM)

-Conveners: Kateryna Yablochkova

time	title	presenter
12:00 PM	Object detection by wide-field multi-camera optical systems followed by their tracking through narrow-field devices mounted on turrets	Prof. SAVANEVYCH, Vadym (Kharkiv National University of Radio Electronics)
12:20 PM	Design of an optical system with off-axis parabolic mirrors for THz system	Mr SHEKERA, Andrii (V.E. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine)
12:35 PM	Applying Deep Learning Approaches to Estimate the Number of Layers in Nanomaterials from Optical Images	BABICHUK, Ivan (Wuyi University)
12:50 PM	Enhancing Microfluidic Mixing Efficiency: CFD Analysis of a 3D Y-Shaped Serpentine Device	EL MOUDEN, Zahra (Hassan II University ,Casablanca Morocco)

Lunch - Room 103 (1:05 PM - 1:40 PM)

Biomedical Imaging and Nanotechnology - Room 103 (1:40 PM - 3:00 PM)

-Conveners: Kateryna Yablochkova

time	title	presenter
1:40 PM	Stem cells loaded with near-infrared nanoparticles for dynamic imaging of cancer, metastasis and inflammatory focuses	Dr GOLOVYNSKA, Iuliia (College of Physics and Optoelectronic Engineering, Shenzhen University, Shenzhen, China)
2:00 PM	Optical transparency windows in near-infrared and short-wave infrared for skin, skull and brain: tissue optical properties and fluorescence bioimaging	Dr GOLOVYNSKYI, Sergii (College of Physics and Optoelectronic Engineering, Shenzhen University, Shenzhen, China)
2:20 PM	Femtosecond Optical Kerr Effect for Biological Application	Dr MAMANI, Sandra (Institute for Ultrafast Spectroscopy and Lasers, Departments of Physics and electrical Engineering, The City College of the City University of New York, 160 Convent Avenue, New York, NY 10031, USA)
2:35 PM	Human stem cells carrying polymer nanoparticles with visible and near-infrared dyes for dynamic imaging of inflammatory focuses in the brain	BARI, Rana Zaki Abdul
2:45 PM	Nanostructured InGaN for biomedical application	Dr KOPLAK, Oksana (Università degli Studi di Milano-Bicocca)

Coffee Break - Room 103 (3:00 PM - 3:15 PM)

Laser-Plasma Interactions and Spectroscopy - Room 103 (3:15 PM - 4:00 PM)

-Conveners: Kondratenko, Serhiy (Taras Shevchenko National University of Kyiv)

time	title	presenter
3:15 PM	Excitation of Frequency Harmonics of q-Gaussian Laser Beams Propagating through Radially Inhomogenous Plasma Channel	LIMBU, Abhay (Lovely Professional University)

3:30 PM	Ion Acoustic Wave Excitation by Bessel Gauss Laser Beams in Plasmas with Axial Density Ramp: Effect of Self Focusing	PRATAP, Rudra (lovely Professional university, Phagwara, Punjab, India)
3:45 PM	Laser Absorption Spectroscopy of Electric Discharge Plasma with Copper Vapour Admixtures	Ms SYCH, Daryna (Faculty of Radiophysics, Electronics and Computer Systems of Taras Shevchenko National University of Kyiv)

Poster Session - Room 103 (4:00 PM - 5:25 PM)

time	title	presenter
4:00 PM	Recovery of germanium optical elements for infrared technique devices	Dr MALANYCH, Galyna (V.Ye. Lashkaryov Institute of Semiconductor Physics of the NAS of Ukraine) Prof. PEKAR, Grygoriy (V.Ye. Lashkaryov Institute of Semiconductor Physics of the NAS of Ukraine)
4:03 PM	Tetragonal scheelite structure and bright luminescence of NaBi(MoO4)2 doped with europium(III) Single Crystals	Mrs POPOVYCH, Anastasiia (Taras Shevchenko National University of Kyiv)
4:06 PM	Creation of nano-objects for nanoelectronics and spintronics	MELNICHENKO, Mykola (Taras Shevchenko National University of Kyiv)
4:09 PM	Intermolecular interaction of (CH3)2CO•••HCl complex: IR spectra, DFT method, QTAIM, NCI, RDG, ELF, LOL, FMO analyses.	Ms NURMURODOVA, Gulshan (Samarkand State University)
4:12 PM	Modification of Borophosphate Glass Composition for Joint Thermal Processing with Molybdenum Oxide for Development of Solar Cell Coatings	Mrs SAIENKO, Liliia (Taras Shevchenko National University of Kyiv)
4:15 PM	Spectroscopic study of ibuprofen interaction with polyethylene glycol matrix	RUDENOK, Tetiana (Faculty of Physics, Taras Shevchenko National University of Kyiv)
4:18 PM	Dynamical Diffraction Model for Analyzer-Based Imaging	Dr LIZUNOV, Vyacheslav (G.V.Kurdyumov Instituite for Metal Physics, N.A.S. of Ukraine)
4:21 PM	Effect of MoO3 Content on Structural, Thermal and Luminescent Properties of Potassium Phosphomolybdate Glasses	Mr VOINALOVYCH, Artem (Taras Shevchenko National University of Kyiv)
4:24 PM	Fractal Resonators for Use in a Microwave Kinetic Inductance Detector	Dr KALENYUK, O.A. (G. V. Kurdyumov IMP of the N.A.S.U.)
4:27 PM	Green body composition for layered ceramic composites	Mr KLENIN, Mykola (Taras Shevchenko National University)
4:30 PM	Optical Band Gap Tuning in Mixed B-site and X-site Aziridinium Perovskites	PETROSOVA, Hanna (Taras Shevchenko National University of Kyiv)
4:33 PM	Spontaneous and stimulated UV laser-induced excitonic luminescence from ZnO nanopowder	Dr IZMAILOV, Igor (V.E. Lashkaryov Institute of Semiconductor Physics, National Academy of Sciences of Ukraine)

4:36 PM	Optical Properties of Luminescent Centers in Bi-Doped Glass-Ceramics: A TD-DFT Study	BORYSIUK, Viktor (Taras Shevchenko National University of Kyiv)
4:39 PM	Isotope effects on the IR spectrum of the CX3Y•••HCl complex in liquefied argon: DFT calculations, topological analyses, and electronic properties	Mr KHUJAMOV, Utkir (Samarkand State University)
4:42 PM	Electronic structures and optical properties of different phases of polyvinylidene fluoride (PVDF) crystals	BARANCHICOV, Zahar (student)
4:45 PM	IMPEDANCE SPECTROSCOPY OF GeSn/Ge/Si STRUCTURES AT DIFFERENT TEMPERATURES	KONDRATENKO, Serhiy
4:48 PM	Characterization of novel solar energy converters based on meta-heuristic algorithms	Prof. OLIKH, Oleg (Taras Shevchenko National University of Kyiv)
4:51 PM	Nonlinear Spatial Frequency Chirping Of Quadruple Gaussian Laser Beams Interacting with Narrowband Gap Semiconductors: Effect of Self Focusing	MALIK, Nishu (Lovely Professional University Phagwara)
4:55 PM	Structural and spectroscopic insights into Sodium-Europium(III) orthophosphate	Mrs NESMIIAN, Kateryna (Taras Shevchenko National University of Kyiv)
4:58 PM	Gouy Phase Shift of Bessel Gauss Laser Beams in Plasmas with Axial Temperature Ramp: Effect of Self Focusing	BRAR, Rajnoor Singh (Lovely Professional University)
5:01 PM	Molten salt synthesis of Bi2WO6:Eu	Dr TEREBILENKO, Kateryna (Taras Shevchenko National University of Kyiv) Mr ORIEKHOV, Stanislav (Taras Shevchenko National University of Kyiv)
5:04 PM	Fluorescence spectra of Ukrainian beers: machine learning exploratory study	DANILIUK, Dmytro (Taras Shevchenko National University of Kyiv)
5:07 PM	The theory of structure formation of electron-hole liquid in dichalcogenides under optical pumping	Dr CHERNYUK, Andriy (Institute for Nuclear Research, NAS of Ukraine)
5:10 PM	Optimization of CdxTeyOz Nanocomposite Film Synthesis via the SILAR Method for Controlled Structural and Phase Properties	Mr POPOV, Anatoli (Institute of Solid State Physics University of Latvia, Riga, Latvia)
5:13 PM	The Role of GeO2 in the Glass-Ceramic Formation and Microstructure of Sodium Phosphate-Molybdate Glasses	Mr PASHYNSKYI, Yehor (Taras Shevchenko National University of Kyiv)
5:16 PM	Study of noncovalent interactions in various solutions of thiophene-2-carboxylic acid	KHUDAYKULOV, Bekzod (Samarkand State University)
5:19 PM	QUANTUM CHEMICAL CALCULATIONS OF CHEMICAL BOND DEVIATION IN CLO2	FURMAK, Illia (student)
5:22 PM	Optical thermometry: fluorescence of rear-earth ions in aluminum nitride thin films	KRAVCHENKO, Vladyslav (Taras Shevchenko National University of Kyiv, Faculty of Physics)

School on Advanced Optical Materials: Lectures (in Ukrainian) (4:30 PM - 7:30 PM)

time	title	presenter

4:30 PM	Metamaterials: Theory and Applications (Метаматеріали. Теорія та застосування.)	Dr KOZACHENKO, Viktor (Taras Shevchenko National University of Kyiv)
6:00 PM	Unique Properties of Laser Radiation and Its Applications in Science and Technology (Унікальні властивості лазерного випромінювання і застосування його в науці і техніці)	YASHCHUK, Vasil (Taras Shevchenko National University of Kyiv)