

21st International Young Scientists Conference Optics and High Technology Material Science - SPO 2020 ONLINE

Friday, 25 September 2020 - Saturday, 26 September 2020

**Taras Shevchenko National University of Kyiv
Programme**

Friday 25 September 2020

Morning Session: Opening - Online (10:00-10:40)

-Conveners: Poperenko, Leonid (Taras Shevchenko National University of Kyiv, Faculty of Physics, Chair of Optics)

time	title	presenter
10:00	Opening	Prof. POPERENKO, Leonid (Taras Shevchenko National University of Kyiv, Faculty of Physics, Chair of Optics)
10:10	Ferromagnetic/graphene/ferroelectric nanostructures as a promising non-volatile spin filters and spin valves.	MAKSYM V. STRIKHA (Taras Shevchenko Kyiv National University)

Morning Session: Talks from Shizuoka University - Online (10:40-13:00)

-Conveners: Derenko, Serhii (Taras Shevchenko National University of Kyiv)

time	title	presenter
10:40	TlBr Photon Counting X-ray imager	Prof. AOKI, Toru (Shizuoka University)
11:05	Thermal Stability of Electrical and Spectral Properties of CdTe X-ray Detectors with a Schottky Barrier and Laser Doping p-n Junction	Mr OHNO, Amane (Shizuoka University)
11:15	Subjective Evaluation of Color reproduction by Color Adjustment of UHD-TV Displays	Mr TSUBOI, Ryo (Shizuoka University)
11:30	Material discrimination by spectral X-ray imaging using the photon counting type detector	Mr SUZUKI, Tatsuya (Shizuoka University)
11:45	Proposal of representation of internal structure of objects using X-ray 3D-CT imaging and virtual reality (AR)	Mr KASE, Hiroki (Shizuoka University)
12:00	A study on a new imaging method using photon counting detectors for improving the quality of X-ray images	Mr GOTO, Takeru (Shizuoka University)
12:15	Developing an imaging instrument using a small neutron source.	Mr MATSUMOTO, Kazuma (Shizuoka University)
12:30	Reconstruction of Energy Integrating by Photon Counting for High Dynamic Range X-ray Imaging	Dr TAKAGI, Katsuyuki (Shizuoka University)

Break - Online (13:00-14:00)

Afternoon Session - Online (14:00-15:35)

-Conveners: Redkin, Mykyta (Taras Shevchenko National University of Kyiv)

time	title	presenter
14:00	Deflection enabled multifunctional operation of a simple meta-grating at near-infrared	Dr SEREBRYANNIKOV, Andriy (Adam Mickiewicz University, Faculty of Physics)
14:25	Compositional dependencies of Raman spectra of Ge-As-Se chalcogenide glasses	POPOVYCH, Mykhailo (V.E. Lashkaryov Institute of Semiconductor Physics, National Academy of Sciences of Ukraine)

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14:40	Experimental conditions for the coupling of random lasing and stimulated Raman scattering of dyes	Mr SMALIUK, Andrii (Faculty of Physics of Taras Shevchenko National University of Kyiv)
14:55	Design of two-phase lock-in amplifier	METELOV, Volodymyr (Taras Shevchenko National University of Kyiv)
15:10	Transport Properties of SOI MOS Transistors	Dr ZELENSKA, Kateryna (Shizuoka University)

Break - Online (15:35-16:35)**Evening Session - Online (16:35-18:50)****-Conveners: Shcherbakov, Andrii (Walter Schottky Institute Technical University of Munich)**

time	title	presenter
16:35	Thermalization in a quantum Fermi-Pasta-Ulam-Tsingou problem	Dr MAKSYMOW, Andrii (IonQ)
17:00	Direct Femtosecond Laser Processing of Pd Surface For Nanostructures Creation	Dr RYBAK, A.S. (Institute of Physics, NAS of Ukraine)
17:15	Short-pulsed laser production of nanomaterials: clusters, nanoparticles, and periodic surface structures	Dr DMYTRUK, Andriy (Institute of Physics of NAS of Ukraine)
17:30	Overview on laser acoustics	Dr PEZERIL, Thomas (MIT - CNRS)
17:55	Photoconductivity of GeSn alloys	Mr DERENKO, Serhii (Taras Shevchenko National University of Kyiv)
18:10	Quenching of lasing effect from singly ionized Nitrogen molecules	Mr DANYLO, Rostyslav (Laboratoire d'Optique Appliquée)
18:25	Unusually long carrier lifetime in Mott Insulators: Key property for integration in Mott neurons	Mr BABICH, Danylo (Institut des Matériaux Jean Rouxel (IMN), Université de Nantes, CNRS)

Saturday 26 September 2020

Saturday Session - Online (11:00-13:00)

time	title	presenter
11:00	Temperature sensor based on Photonic crystal fiber	Dr DEBBAL, Mohammed (University Center BELHADJ BOUCHAIB)
11:15	GPON-FTTH NETWORK ARCHITECTURE AND DEPLOYMENT FOR RESIDENTIAL CONDOMINIUM	Mr BOUREGAA, Mouweffeq (Mustapha Stambouli University)
11:30	Analysis of New Design of Graphene Patch Antenna Element for satellite Application	Dr RABAH, Mohammed Amin (Algerian Space Agency- Satellite development center) Dr DEBBAL, Mohammed (Belhadj Bouchaib University center AinTemouchent - ALGERIA)
11:45	OPTICAL LOCAL AREA NETWORK SYSTEM DESIGN AND PERFORMANCE	Dr DEBBAL , Mohammed (BELHADJ BOUCHAIB University and Telecommunication Laboratory (LTT))
12:00	Realization of a device for detecting the electrical activity of the brain and the acquisition of the EEG electroencephalogram signal	Dr BADIR BENKRELIFA, Lahouaria (University Center BELHADJ BOUCHAIB, Ain-Temouchent, Algeria;) Dr BELAID, Boumedyen (Abou-Bekr BELKAID University, Tlemcen, Algeria;)
12:15	Design of a Photoplethysmograph in infrared based on an optical sensor	Prof. SEKKAL, Mansouria (University Center BELHADJBOUCHAIB) Prof. BADIR BENKRELIFA, Lahouaria (University Center BELHADJBOUCHAIB)
12:30	Investigation the optical effects of monochromatic light at 635 nm on human lung and liver tissues using Monte Carlo simulation	Dr GRANMAYEHRAD, Adeleh (Roudehen Branch, Islamic Azad University)
12:45	EVALUATION IN TRANSPARENT OPTICAL NETWORK ARCHITECTURE WITH PON ACCESS	Dr BOUREAA , MOUWEFSEQ (MUSTAPHA STAMBOULI UNIVERSITY)

Poster session - Online (13:00-15:50)

time title presenter

13:00	Optical anisotropy of the ribbon skin-layer of Ni-based amorphous metallic alloys	KOVANSHI, Petro (Taras Shevchenko National University of Kyiv, Faculty of Physics, Chair of Optics)
13:05	Spontaneous and stimulated Raman scattering of lasing dyes in polymer matrices and molecule microcrystals (powders)	Ms PRYHODIUK, Olha (Faculty of Physics of Taras Shevchenko National University of Kyiv)
13:06	Spectral properties of water-soluble melanines	Mrs MOROZOVA, Marharyta (Taras Shevchenko National University of Kyiv)
13:10	Realization of a device for detecting the electrical activity of the brain and the acquisition of the EEG electroencephalogram signal	Dr BADIR BENKRELIFA, Lahouaria (University Center BELHADJ BOUCHAIB, Ain-Temouchent, Algeria;) Dr BELAID, Boumedyen (Abou-Bekr BELKAID University, Tlemcen, Algeria;)
13:14	Features of the RL radiation distribution in a limited random medium	Mr ZHURAVSKY, Michael (Taras Shevchenko National University of Kyiv)
13:18	THERMALLY STIMULATED CONDUCTIVITY AND LUMINESCENCE, PHOSPHORESCENCE AND CURRENT RELAXATION OF ZNSE MONOCRYSTALS AFTER X-RAY IRRADIATION	Dr DEGODA, Volodymyr (Taras Shevchenko National University of Kyiv) Mrs PODUST, Galyna (Taras Shevchenko National University of Kyiv)
13:22	Fluorescence-based temperature control applied to microwave heating: The role of spectral parameters	Mrs HAIDUK, Nataliia
13:26	LUMINESCENT PROPERTIES OF THE La _{1-x} Sm _x VO ₄ :Ca NANOPARTICLES	DOROFIEIEVA, A. (Taras Shevchenko National University of Kyiv)
13:30	Modern state of optical microscopy	Mr HUDZ, Oleksii (NTUU "Igor Sikorsky KPI")
13:34	Wavelength Dependence of Femtosecond Laser-Induced Periodic Surface Structures formed on Tungsten and Copper Surfaces	Mr HRABOVSKYI, Yevheh (Taras Shevchenko National University of Kyiv)
13:38	Specificities of anelastic characteristics of nano composites multiwalled carbon nanotubes and polyvinyl chloride, polyethylene, foam polystyrene	DENIS , Lada (Taras Shevchenko National University of Kyiv)
13:42	Trion formation and exciton photoluminescence enhancement in 2D MoS ₂ coupled with plasmonic metal nanoparticles	Ms IRFAN, Iqra (Shenzhen University)
13:46	CLASSIFICATION OF A NEURON	Ms AVDEIONOK, Ira
13:50	MODERN UNLANDED AIRCRAFT LANDING SYSTEMS	Mr AVERIN, Dmytro
13:54	Channels of Cs-137 and K transfer from soil to plant under natural conditions in the 10-km Exclusion Zone of the Chernobyl nuclear power plant	Mrs PRIGODJUK, Olga (Taras Shevchenko National University of Kyiv)
13:58	Study and conception of a device dedicated to wireless neuromuscular stimulation	Dr BADIR BENKRELIFA1, Lahouaria (BELHADJ BOUCHAIB University Center)

14:02	Eccentric fiber Bragg grating for refractometry	Dr CHIKH-BLED, Hicham (University of Tlemcen)
14:06	ELLIPSOMETRY OF CUSCN/STILBAZOLIUM DYE HYBRID THIN FILMS	KONONENKO V.M. (1Taras Shevchenko National University of Kyiv, Faculty of Physics, Chair of Optics)
14:10	variation of chromatic dispersion in optical fibers	Dr DEBBAL, Mohammed (University Center BELHADJ BOUCHAIB)
14:14	Corderoite-type nanomaterials for optoelectronic applications	Dr BOKOTEY, O.V. (Faculty of Physics, Uzhhorod National University)
14:18	Optical features of semiconducting crystal Hg ₃ S ₂ Br ₂ : first-principles investigation	Dr BOKOTEY, O.V. (Faculty of Physics, Uzhhorod National University)
14:22	Stepwise behavior of surface properties in the filled polymer blend	Mr MISIURA, Andrii (Taras Shevchenko National University of Kyiv, Faculty of Physics)
14:26	Electroluminescence degradation of UV LEDs 365 - 405 nm at long-term operation	Mr VELESCHUK, Vitaliy (V.E. Lashkaryov Institute of Semiconductor Physics, NASU) Mr MALYI, Yevgen (Institute for Nuclear Research, NASU)
14:30	New KuQuinone for solar cells applications	BUGERA, Oleksandra (Department of Organic Chemistry, Faculty of Chemistry, Taras Shevchenko National University of Kyiv)
14:34	Vibrational properties of amorphous As-S-Ge glasses studied by Raman spectroscopy	REVUTSKA, L. (National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute")
14:38	High-performance 3D X-ray microtomography for non-destructive testing of materials and products in microelectronics	Dr VERTSANOVA, Olena (National Technical University of Ukraine "KPI")
14:42	A robust ratio for light ellipticity in magneto-optical Kerr effect	Dr ROZOUVAN, S. (Taras Shevchenko National University of Kyiv, Faculty of Physics, 64/13 Volodymyrska str., 01601 Kyiv, Ukraine)
14:46	Selection rules in magneto-optics for cobalt-iron based nanocomposites	Dr ROZOUVAN, S.G. (Taras Shevchenko National University of Kyiv, Faculty of Physics, 64/13 Volodymyrska str., 01601 Kyiv, Ukraine)

14:50	Spectroscopic study of water clusters in synthetic calcium hydroxyapatite	Dr DOROSHENKO, Iryna (Taras Shevchenko National University of Kyiv)
14:54	ELEMENTAL COMPOSITION OF NANOSTRUCTURED SILICON	Mr MELNICHENKO, Mykola (Taras Shevchenko National University of Kyiv)
14:58	Effect of a low-temperature Ar matrix on hydrogen-bonded clusters (H ₂ O) _n	Mrs VASYLIEVA, Antonina (Taras Shevchenko National University of Kyiv)
15:02	MORPHOLOGY OF NANOSIZED GOLD FILMS	Ms HAVRYLIUK , Daria (Taras Shevchenko National University of Kyiv)
15:06	RESEARCH OF THE ELECTRON STATE IN A PRISMATIC QUANTUM DOT WITH A SHELL	Mr MOROZOV, Mykola (Dmytro Motornyi Tavria State Agrotechnological University)
15:10	OPTICAL PROPERTIES OF FILMS BASED ON MEROCYANINE DYES	Prof. KULISH, Mykola (Taras Shevchenko National University of Kyiv)
15:14	Synthesis and luminescence properties of K ₃ Gd(PO ₄) ₂ :Eu phosphor	CHORNII, Vitalii (1)National University of Life and Environmental Sciences of Ukraine; 2) Taras Shevchenko National University of Kyiv)
15:18	The Magnetoresistance of Single Wall Carbon Nanotubes Modified by Nickel	ШПІЛЬКА, Денис
15:22	Specificities of adsorption properties of SiO ₂ + Si, nano composites of multiwalled carbon nanotubes and polyvinyl chloride, polyethylene, foam polystyrene after laser radiation	GRYGORENKO , Bogdan (Taras Shevchenko National University of Kyiv)
15:26	Artificial compound eye	Mr ANTONENKO, Vitalii (NTUU "Igor Sikorsky KPI")
15:30	ESTIMATION OF TRANSMISSION QUALITY IN WDM NETWORKS	Ms BOUGHERAR , Fatima Zohra (Mustapha STAMBOULI University) Ms BOUALAM , Ghania (Mustapha STAMBOULI University)
15:34	Peculiarity of mechanical characteristics of nano composites of multiwalled carbon nanotubes and polyethylene, polyvinyl chloride, porous polystyrene	BOYKO , Volodymyr (Taras Shevchenko National University of Kyiv)
15:38	Polystyrene Surface Modification for Enhancing Adsorption of Biomolecules: a Surface Plasmon Resonance Study	SHYNKARENKO, Olena (V. Lashkarev Institute of Semiconductor Physics NAS of Ukraine)
15:42	Features of adsorption, mechanical properties of nano composites of multiwalled carbon nanotubes and polyethylene, polyvinyl chloride, porous polystyrene	BEZZUBCEV , Mychaylo (Taras Shevchenko National University of Kyiv)
15:46	X-ray diffraction study of structure of rare-earth orthovanadate nanoparticles doped with calcium	Ms RAHIMI MOSAFER, houri sadat (Institute of Physics, Polish Academy of Sciences)

Closing - Online (15:50-16:00)