

INTERNATIONAL WORKSHOP FOR YOUNG SCIENTISTS

"FUNCTIONAL MATERIALS FOR TECHNICAL AND BIOMEDICAL APPLICATIONS"

WORKSHOP PROGRAM

October 14-16, 2025, Lviv, Ukraine.

Tuesday, October 14 (Nanotechnology and nanomaterials) (Universitetska street, 1)

09:30 – 10:00	Registration	
10:00 – 10:30	Opening ceremony	
10:30 – 11:15	Prof., Dr. Sci., Acad. NASU. Ihor Yu. Zavaliy (Ukraine)	Interdependencies "hydrogen sorption properties - disordering of structure" for Ni/Co-based nanomaterials.
11:15 – 11:20	Break	
11:20 – 11:35	Iryna Dovbnia	Design and evaluation of Nd-doped copper ferrite nanoparticles for biomedical hyperthermia.
11:35 – 11:50	Vadym Smyrnov	Clustering effects of active particle ensembles.
11:50 – 12:05	Dmytro Shulha	The photonic zone structures of arrays of KDP nanorods.
12:05 – 12:20	Vladyslav Horchynsky	Nanocrystalline structures KDP based on AOA matrices.
12:20 – 12:35	Coffee-break	
12:35 – 12:50	Alina Lytvynenko (Zoom)	Nanocomposites induce apoptotic and non-apoptotic forms of enterocyte death in the ileum.
12:50 – 13:05	Roman Malysh (Zoom)	Optical phenomena in metallic crescent-shaped nanoparticles.
13:05 – 13:20	Maksim Maniuk (Zoom)	Plasmonic resonances in a chain of spherical metallic nanoshells.
13:20 – 13:35	Mykyta Lupan (Zoom)	pH-responsive $\text{CeO}_{2-x}@\beta\text{-CD}$ nanoparticles with prooxidant activity and controlled DOX release.
13:35 – 14:45	Lunch	
14:45 – 15:30	Prof. Alexander Sorokin (Ukraine)	Design and development of nanoscintillators for next-generation applications.
15:30 – 15:45	Break	
15:45 – 16:00	Andrii Bendak (Zoom)	Bismuth borates embedded in nanoporous membranes.
16:00 – 16:15	Shiva Udachan (Zoom)	Impact of atomic size on melting point of copper & gold nanoparticles.
16:15 – 16:30	Andrii Pauk (Zoom)	The problem of atomic radius calculation for the study of free volume in condensed systems.
16:30 – 16:45	Oleksandr Samoilov	Features of cyanine dye TDBC aggregation in a liquid crystal system.
16:45 – 17:00	Coffee-break	

Functional materials physical properties and application

17:00 – 17:15	Anton Krech	A new white reflector filament for the additive manufacturing of 3D printing of finely-segmented plastic scintillators.
17:15 – 17:30	Ilarion Khromiuk	Low-temperature plastic matrices for 3D printing.
17:30 – 17:45	Mykola Sibilyev	3D printing of a scintillation element for thermal neutron detection based on ZnS:Ag/boron.
17:45 – 18:00	Tetiana Sibilieva	Radiation-resistant plastic scintillators activated by a trifluoroderivative of 3-hydroxyflavone.
18:30	Welcome party	

Wednesday, October 15
(Cyril and Methodius Street, 8)

Functional materials physical properties and application

10:00 – 11:00	PhD Yuriy Storonsky (Ukraine)	Application of domestic scintillation detectors in ECOTEST™ radiation monitoring devices.
11:00 – 11:15	Coffee-break	
11:15 – 11:30	Denys Kofanov (Zoom)	Growth and characterization of dense LuGdYAG:Ce oxide crystals.
11:30 – 11:45	Denys Kofanov (Zoom)	Influence of cation substitution on the scintillation performance of YAP:Ce crystals.
11:45 – 12:00	Liliia Abramenko	Optical properties of a composite with inclusions in the form of dimers of metal prolate spheroids.
12:00 – 12:15	Volodymyr Klavdiienko	Study of GAGG:Ce scintillator as detector of rare nuclear decays.
12:15 – 12:25	Break	
12:25 – 12:40	Harri Moroz (Zoom)	Increasing the output power of triboelectric nanogenerators by doping with plasmonic nanoparticles.
12:40 – 12:55	Mykyta Shvydkyi (Zoom)	Thermal masking with two-layer cylindrical cloak.
12:55 – 13:10	Taras Muzyka (Zoom)	Energy states and luminescence of Ce ³⁺ , Yb ³⁺ and Er ³⁺ ions in CsPbCl ₃ crystals.
13:10 – 13:25	Volodymyr Novgorodtsev	Using the anisotropy of the scintillation response of stilbene to determine the direction to a fast neutron source.
13:25 – 14:15	Lunch	
14:15 – 15:00	Dr. Sci. Vladyslav Seminko (Ukraine)	Luminescent nanoparticles: fundamentals, properties, and emerging applications.
15:00 – 15:15	Pavlo Shchepanskyi	Influence of uniaxial pressure on refractive parameters of Rb ₂ SO ₄ crystals.
15:15 – 15:30	Mykola Shevchuk	Doping-dependent conductivity type change in Nd ³⁺ and Yb ³⁺ /Nd ³⁺ doped CsPbCl ₃ single crystals.
15:30 – 15:40	Break	
15:40 – 17:10	TWISMA roundtable:	
15:40 – 16:15	O. Sidletskiy (Institute for Scintillation Materials NAS of Ukraine)	Overview of the TWISMA project. Development of garnet and BSO crystal growth technologies for HEP experiments.
16:15 – 16:40	K. Lebbou (Institute of Light and Matter)	Development of fast-timing GAGG:Ce crystals.
16:40 – 17:10	J. Delenne, G. Terragni (CERN)	Tests of the developed garnet and BSO crystals for application in future calorimeters.

17:10 – 17:30	Coffee-break	
17:30 – 18:30	Dr. Daryna Skrynnyk-Myska (Ukraine)	Imagined community and artistic imagination: changes in collective identity in the focus of contemporary art (2014–2024).
18:40	City tour	

Thursday, October 16
(Cyril and Methodius Street, 8)

Functional materials physical properties and application

10:00 – 10:15	Anton Krech	The influence of a concentration of 1,4-diphenyl-1,3-butadiene dopant on the pulse shape discrimination capability of <i>p</i> -terphenyl single crystals.
10:15 – 10:30	Ilarion Khromiuk	A new approach to using organic composite detectors for <i>n</i> / γ discrimination.
10:30 – 10:45	Mykhailo Onysko	Modeling of electronic and optical properties of InAs _x Sb _{1-x} photodetectors for the mid-infrared range
10:45 – 11:00	Myron Rudysh	Nonlinear optical properties of the LiNH ₄ SO ₄ crystal.
11:00 – 11:15	Coffee-break	
11:15 – 11:30	Yuliia Horbatenko (Zoom)	Thermal conductivity investigations of trg-composites.
11:30 – 11:45	Oleksandr Lishchuk (Zoom)	3D analysis of photoelastic properties of Ba ₃ TaGa ₃ Si ₂ O ₁₄ crystals.
11:45 – 12:00	Mykhailo Zarembo (Zoom)	Electronic structure of Ca-doped CsPbCl ₃ perovskites: first principles study.
12:00 – 12:15	Volodymyr Kolomiets (Zoom)	Photovoltaic effect in scintillating MAPbI ₃ crystals.

12:15 – 14:00

Lunch

14:00 – 14:45

PhD. Yurii Kot (Ukraine)

Structural and bioactive materials for 3D bioprinting.

Functional materials obtaining technology

14:45 – 15:00	Oksana Yelisieieva	Radiation-resistant plastic scintillator on a mixed base of polystyrene-polyphenylmethylsiloxane.
15:00 – 15:15	Sofiia Sadivnycha	Optical and scintillation properties of calcium and magnesium co-doped YAG:Ce crystals.
15:15 – 15:30	Oleksandr Rebrov (Zoom)	Investigation of europium sesquioxide interaction with LiCl melt at 973 K in different types of atmosphere.
15:30 – 15:45	Yaroslava Polupan (Zoom)	Influence of the type of crystalline structure of organic crystals on the growth process by the modified vertical Bridgman method.

15:45 – 16:00

Coffee-break

Luminescent technology in biology and medicine

16:00 – 16:15	Maryna Pavliuchenko	Optical and scintillation properties YAG:Ce,Mg single crystals obtained in a gas atmosphere with different.
16:15 – 16:30	Andriy Pushak	Long time luminescence in RbCaF ₃ :Pr.
16:30 – 16:45	Taras Demkiv	Luminescence of polystyrene composite materials with embedded nanoparticles.
16:45 – 17:00	Andriy Plakhota (Zoom)	Scintillation grains of tungstates for detectors in high-energy physics
17:00 – 17:15	Andrii Aslanov (Zoom)	Luminescent properties of perovskite nanocrystals in polymer matrices

17:15

Workshop closing

17:45

Dinner

