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10th jubilee International Conference  
*"Nanotechnologies and Nanomaterials"*  
*NANO-2022*



**NANO Conference**

August 25-27, 2022  
the House of Scientists  
Lystopadovoho Chynu Str. 6, Lviv, Ukraine

## Dear colleagues!

We are sincerely glad to welcome you to our 10th anniversary conference NANO-2022, which will be held on August 25-27 in the House of Scientists, address: *Lystopadovoho Chynu Str. 6, Lviv, Ukraine*.

Please note that due to the Russian war against Ukraine, not all participants can be present onsite in the Conference Hall, therefore NANO-2022 will be held in hybrid format (offline+online).

For speakers who makes reports online and for those who want to join the discussion online, we propose joining the ZOOM conference via the link for lectors:

<https://us02web.zoom.us/j/86591088645?pwd=R0Q3ekRYOE5zd3RhVWlXS0wrUEEx4UT09>

**Please, pay attention, that speaker should be connected to the ZOOM 30 minutes before his speech.**

The ZOOM link for lectors will be active during all days of the conference.

We highly recommend using our special background during your presentation.

You can download the ZOOM lector background here: <https://fex.net/ru/s/ltplocd>

Presentation template is available by the link: <https://fex.net/ru/s/p63ffvx>

**To avoid delays and connection problems, please join 30 minutes before the start of your presentation according to the program.**

Also, for everyone who wants to watch the conference, there will be an online LIVE broadcast on YouTube:

The first day of the Conference:

<https://youtu.be/2s2bw8BJ-SY>

The second day of the Conference:

<https://youtu.be/lGEHvOPXd7M>

The third day of the Conference:

<https://youtu.be/zhWfXNRooIw>

If you have, any questions please call head of organizing commity: +380(67) 407 6798  
or send E-mail: [conference.nano@gmail.com](mailto:conference.nano@gmail.com)

**10th jubilee International Conference**  
**"Nanotechnologies and Nanomaterials" (NANO-2022)**  
*dedicated to the International Year of Basic Sciences for Sustainable Development*  
**25 – 27 of August 2022**  
 HYBRID FORMAT (Online+onsite format)  
 6 Listopadovoho Chyna Street, Lviv, House of Scientists

**CONFERENCE AGENDA**

**25.08.2022(6 Listopadovoho Chyna Street, Lviv, House of Scientists)**

<b>9:00-18:00</b>	<b>Registration (6 Listopadovoho Chyna Street, Lviv, House of Scientists)</b>
	<b>Welcome speech</b>
	<i>Deputy Minister of Education and Science of Ukraine for European Integration</i> <b>Oleksii Shkuratov</b>
	<i>Directorate-General Research and Innovation of European Commission</i> <i>Secoded National Expert</i> <b>Jana Drbohlavova</b>
9:30-10:00	<i>Former Chairman of the National Research Fundation of Ukraine</i> <b>Academician Leonid Yatsenko</b>
	<i>Charles T. and Ruth M. Bach Distinguished University Professor,</i> <i>Director, A.J. Drexel Nanomaterials Institute, Professor of Sumy State University</i> <b>Yury Gogotsi, D.Sc., Dr.h.c.</b>
	<i>Vice-Rector for Scientific Work at the Lviv National Polytechnic</i> <b>Prof. Chukhrai Natalia</b>
	<i>Head of the organizing commity</i> <b>Dr. Fesenko Olena</b>
	<b>Plenary Section</b> <span style="float: right;"><b>Chairman Acad. Leonid Yatsenko</b></span>
10:00-10:25 (online)	<b>Dr. Krzysztof Pomorski</b> <i>"Description of electrostatic semiconductor quantum dot based swap gate interacting perturbatively with Josephson junction"</i> Cracow University of Technology <b>Poland</b>
10:25-10:50 (online)	<b>Prof. Przemysław Raczyński</b> <i>«Self-sealing properties of phospholipid membranes after interactions with various nanostructures - MD study»</i> University of Silesia <b>Poland</b>
10:50-11:15 (online)	<b>Prof. Leonid Dolgov</b> <i>"Why plasmon enhancement coefficient is different for light absorption, scattering and luminescence effects"</i> University of Tartu <b>Estonia</b>
11:15-11:40 (online)	<b>Prof. Alexei Nazarov</b> <i>"RF plasma modification of MoS2 2D material "</i> Lashkaryov Institute of Semiconductor Physics NASU <b>Ukraine</b>
11:40-12:05 (online)	<b>Prof. Mauro Pereira</b> <i>« Giant GHz-THz Nonlinearities in Superlattices with applications to THz medical diagnostics»</i> Khalifa University Abu Dhabi <b>United Arab Emirates</b>
12:05-12:30 (online)	<b>Prof. Serhii Nedilko</b> <i>" Polymer and inorganic glass-ceramics nanocomposites filled with luminescent oxides"</i> Taras Shevchenko National University of Kyiv <b>Ukraine</b>
<b>12:30-13:25</b>	<b>Coffee break and Conference photo</b>
	<b>Chairman Dr. Oleg Dimitriev</b>
13:25-13:50 (online)	<b>Dr. Dovydas Karoblis</b> <i>The influence of annealing temperature on various properties of <math>Bi_{1-x}Gd_xFe_{0.85}Mn_{0.15}O_3</math> solid solutions prepared via sol-gel synthesis.</i> Institute of Chemistry, Vilnius University, <b>Lithuania</b> (TransFerr project)
13:50-14:15 (online)	<b>Prof. Anna Morozovska</b> <i>"Could the negative capacitance effect be used in FETs with a ferroelectric gate?"</i> Institute of Physics, NAS of <b>Ukraine</b> (TransFerr project)
14:15-14:40 (online)	<b>Dr. Andrius Pakalniškis</b> <i>"High-Pressure effects on Sm doped BiFeO3"</i> Institute of Chemistry, Vilnius University, <b>Lithuania</b> (TransFerr project)
14:40-15:05 (Lviv)	<b>Dr. Oleg Dimitriev</b> <i>"Immobilization-induced enhancement of S2 fluorescence of near-infrared dyes due to interaction with carbon quantum dots"</i> Lashkaryov Institute of Semiconductor Physics <b>Ukraine</b>

15:05-15:30 (Unknown)	<b>Prof. Georgiy Levchenko</b> "Silicon nanoparticles preparation and the formation of carbon-silicon hybrid nanoparticles for sensor applications" Donetsk Phys. Technical Institute NAS of Ukraine <b>Ukraine</b>
<b>15:30-15:45</b>	<b>Coffee break</b>
<b>Section "Nanocomposites and nanomaterials" <span style="float: right;">Chairman Prof. Anatoliy Negriyko</span></b>	
15:45-16:00 (online)	<b>Prof. Gennady Monastyrsky</b> "Origin of band contrast on TEM and HRTEM images of nanoparticles obtained by pulsed electrical discharge" Igor Sikorsky Kyiv Polytechnic Institute <b>Ukraine</b>
16:00- 16:15 (Lviv)	<b>Dr. Anton Tkachenko</b> "Genotoxicity of GdVO <sub>4</sub> :Eu <sup>3+</sup> nanoparticles in vitro: an experimental assessment" Kharkiv National Medical University <b>Ukraine</b>
16:15-16:30 (Lviv)	<b>Dr. Karina Valihura</b> "Fast synthesis of Mg-Al-hydrotalcite derived nanosystems with enhanced catalytic performance in the Guerbet ethanol condensation" L.V. Pisarzhevskii Institute of Physical Chemistry of the NAS of <b>Ukraine</b>
16:30-16:45 (Lviv)	<b>Prof. Olena Lavrynenko</b> « Comparative analysis of nanostructures formed by the chemical route in the iron-lanthanum-containing systems» Frantsevich Institute for Problems in Material Science, NAS of <b>Ukraine</b> .
16:45-17:00 (online)	<b>Prof. Volodymyr Krivoruchko</b> "Observation of spin-selective collective excitations of the condensates relative phase in proximitized singlet superconductor – half-metallic manganite nanostructures" Donetsk Institute for Physics and Engineering, the NAS of <b>Ukraine</b>
17:00-17:15 (Lviv)	<b>PhD student Oksana Zikrata</b> «Guerbet condensation of ethanol and 1-butanol over hydroxyapatite nanocatalysts» L.V. Pisarzhevskii Institute of Physical Chemistry of the NAS of <b>Ukraine</b> .
17:15-17:30 (online)	<b>Dr. Vitalii Chornii</b> "Preparation and optical properties of phosphotungstate nanostructured glass-ceramics" National University of Life and Environmental Sciences of <b>Ukraine</b>
17:30-17:45 (Unknown)	<b>Prof. Peter Kopcansky</b> "Optimization of multilayered electromagnetic shields using mesh adaptive direct search" Institute of Experimental Physics Slovak Academy of Sciences <b>Slovakia</b>
17:45-18:00 (online)	<b>PhD student Lucinda Blanco Redondo</b> « Supported Ir nanoparticles as catalyst for water electrolyzers: from synthesis to real application.» Charles University, Faculty of Mathematics and Physics, Department of Surface and Plasma Science, <b>Czech Republic</b>
18:00-18:15 (online)	<b>PhD student Dariusz Chomicki</b> « Surface relief gratings in methacrylic polymers containing quinoline-based azo-dyes» Institute of Physics, Faculty of Physics, Astronomy and Informatics, Nicolaus Copernicus University in Torun, <b>Poland</b>
18:15-18:30	<b>Information session about Horizon Europe, SMP &amp; EEN Programs.</b>
18:30-19:00	<b>Welcome networking cocktail party ( Free entrance)</b>
<b>10:00-19:00</b>	<b>Poster Session</b>

## 26.08.2022(6 Listopadovoho Chyna Street, Lviv, House of Scientists)

09:00-18:00	<b>Registration</b>
	<b>Chairman Prof. Olena Lavrynenko</b>
09:00-09:15 (Lviv)	<b>Dr. Volodymyr Sohatsky</b> "Antiferromagnetic composites for spin electronics" Taras Shevchenko National University of <b>Kyiv</b>
09:15-09:30 (online)	<b>Prof. Alexander Rud</b> "Carbon nanospheres: synthesis and structure" G. V. Kurdyumov Institute for Metal Physics of N.A.S. of <b>Ukraine</b>
09:30-09:45 (online)	<b>Prof. Lyubov Patrylak</b> "Natural zeolites modified with silver nanoparticles as promising sorbents with antibacterial properties" V.P.Kukhar Institute of Bioorganic Chemistry and Petrochemistry of NAS of <b>Ukraine</b>
09:45-10:00 (Lviv)	<b>Dr. Olga Larina</b> «Catalytic properties of Zn-Mg(Zr)Si oxide nanosystems modified with alkali metals and rare-earth elements in the 1,3-butadiene production from ethanol» L.V. Pisarzhevskii Institute of Physical Chemistry of the NAS of <b>Ukraine</b>

10:00-10:15 (online)	<b>Dr. Victor Kislyuk</b> " <i>Structural anisotropy of ethylene vinyl acetate film</i> " G.V.Kurdyumov Institute of Metal Physics <b>Ukraine</b>
10:15-10:30 (online)	<b>Prof. Yurii Sementsov</b> " <i>Electrophysical and strength characteristics of polychlorotricfluoroethylene filled with carbon nanotubes dispersed in graphene suspensions</i> " Chuiko Institute of Surface Chemistry of NAS of <b>Ukraine</b>
10:30-10:45 (online)	<b>Prof. Oleksandr Bochechka</b> " <i>Intensification of the compaction process of diamond nanopowder under high pressure and high temperature</i> " V. Bakul Institute for Superhard Materials of the National Academy of Sciences of <b>Ukraine</b>
10:45-11:00 (Lviv)	<b>Prof. Prokopiuk Volodymyr</b> " <i>LaVO<sub>4</sub>:Eu<sup>3+</sup> nanoparticles show no genotoxicity on fibroblast cultures</i> " Institute for Problems of Cryobiology and Cryomedicine, National Academy of Sciences of Ukraine, Kharkiv, <b>Ukraine</b>
<b>11:00-11:15</b>	<b>Coffee break</b>
11:15-11:30 (online)	<b>Dr. Yevheniia Lobko</b> " <i>Pt-based catalysts: synthesis, structure, electrochemical activity and durability towards oxygen reduction reactions</i> " Charles University <b>Czech Republic</b>
11:30-11:45 (online)	<b>Dr. Alla Dyachenko</b> " <i>Bulk and supported nanocatalysts for hydrogenation of CO<sub>2</sub>: improvement or degradation?</i> " Chuiko Institute of Surface Chemistry of NASU <b>Ukraine</b>
11:45-12:00 (Lviv)	<b>Dr. Mykhailo Kurmach</b> " <i>Hierarchical zeolites as potential catalyst for Bayer-Villiger oxidations for cyclic ketones using H<sub>2</sub>O<sub>2</sub></i> " L. V. Piszarzhevsky Institute of Physical Chemistry <b>Ukraine</b>
12:00-12:15 (online)	<b>PhD student Malgorzata Sypniewska</b> " <i>Influence of the conductive polymer matrix on the structural and optical properties of metalloquinolates and their derivatives</i> " Institute of Physics, Faculty of Physics, Astronomy and Informatics, Nicolaus Copernicus University in Torun, <b>Poland</b>
12:15-12:30 (online)	<b>Student Dmytro Zhytnyk</b> " <i>Effect of chlorination on the interaction of carbon fibers with electromagnetic radiation in the ultrahigh-frequency range</i> " Taras Shevchenko National University of Kyiv <b>Ukraine</b>
12:30-12:45 (unknown)	<b>Dr. Dora Zakarian</b> " <i>Evaluation of the degree of solid solution hardening of multielement metal composite material's diborides</i> " Frantzevich Institute for Problems of Materials Science, <b>Ukraine</b>
12:45-13:00 (unknown)	<b>Prof. Victoria Vorobyova</b> " <i>Sustainable-green synthesis of silver nanoparticles using waste extract obtained by deep eutectic solvent. Characterization, assessment of their electrochemical and antioxidant activities</i> " National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" <b>Ukraine</b>
13:00-14:00	<b>Lunch</b>
	<b>Chairman Andriy Yaremkevych</b>
14:00-14:15 (online)	<b>Dr. Oksana Balaban</b> " <i>Polymer coatings &amp; brushes: electro-physical study and application</i> " Lviv Polytechnic National University <b>Ukraine</b>
14:15-14:30 (Lviv)	<b>PhD student Pavlo Polynchuk</b> " <i>Structural and magnetic properties of lanthanum-strontium manganite nanopowder</i> " Institute of Magnetism NAS of Ukraine and MES of <b>Ukraine</b>
14:30-14:45 (online)	<b>Dr. Ievgen Beliak</b> " <i>Optimization of photoelectric converters</i> " Institute for Information Recording of NASU <b>Ukraine</b>
14:45-15:00 (online)	<b>PhD student Vladyslav Borynskyi</b> " <i>Enhanced magnetic anisotropy in small-sized elliptical synthetic-antiferromagnets</i> " Institute of Magnetism of the NAS of Ukraine and MES of <b>Ukraine</b>
15:00-15:15 (online)	<b>PhD student Alina Madalina Darabut</b> " <i>Percolation behavior in electrical conductivity in epoxy resin/thermally expanded graphite nanocomposites</i> " Department of Surface and Plasma Science, Faculty of Mathematics and Physics, Charles University <b>Czech Republic</b>
15:15-15:30 (online)	<b>Ph.D. Student Yurii Kachurak</b> " <i>Sensitive liquid crystal composites for optical sensors</i> " Lviv Polytechnic National University, Department of Electronic Engineering <b>Ukraine</b>
15:30-15:45 (online)	<b>PhD student Vitalii Zadorozhnii</b> " <i>Ab initio study of the piezoelectric effects of the 2D semiconductors of IV group monochalcogenides (GeSe, GeS)</i> " Kryvyi Rih State Pedagogical University <b>Ukraine</b>
<b>15:45-16:00</b>	<b>Coffee break</b>
<b>Section "Physico-chemical nanomaterials science"</b>	
16:00-16:15	<b>PhD student Denys Samoilenko</b> " <i>Plasma-catalytic conversion of CO<sub>2</sub>-CH<sub>4</sub> over metal-oxide</i>

(online)	<i>catalysts</i> » L.V. Pisarzhevskii Institute of Physical Chemistry of the NAS of <b>Ukraine</b> .
16:15-16:30 (Lviv)	<b>Prof. Sergiy Kurta</b> " <i>Decrystallization and stabilization of liquid bee honey during storage</i> " Department of Chemistry Precarpathian National Vasyl Stefanyk University, <b>Ukraine</b>
16:30-16:45 (online)	<b>Dr. Oksana Koplak</b> « <i>Slowed magnetic relaxation in the Er<sup>3+</sup> single ion magnet in the absence of external magnetic field</i> » Politecnico di Milano, <b>Italy</b> .
16:45-17:00 (online)	<b>Dr. Aleksandra Bazan-Wozniak</b> " <i>Adsorption of cationic dye onto biocarbons: Kinetics and thermodynamic study</i> " Adam Mickiewicz University in Poznań, Faculty of Chemistry <b>Poland</b>
17:00-17:15 (online)	<b>Daryna Mruga</b> " <i>Development and characteristics research of ALT-sensitive biosensor</i> " Institute of Molecular Biology and Genetics, NASU <b>Ukraine</b>
17:15-17:30 (unknown)	<b>Yevheniia Nesterenko</b> " <i>The effect of electrolytic aggregation of Au nanoparticles on optical characteristics of AgInS<sub>2</sub>/ZnS QDs modified with oligonucleotides</i> " Institute of Molecular Biology and Genetics of NASU <b>Ukraine</b>
17:30-17:45 (Unknown)	<b>Dr. Petro Lytvyn</b> " <i>Nanoelastics of Ge<sub>1-x</sub>Sn<sub>x</sub> films driven by composition and structural relaxation</i> " V. Lashkaryov Institute of Semiconductor Physics NAS <b>Ukraine</b>
<b>09:00-18:00</b>	<b>Poster Session</b>

## 27.08.2022(6 Listopadovoho Chyna Street, Lviv, House of Scientists)

### Section "Nanooptics and photonics"

**Chairman Dr. Fesenko Olena**

09:00-09:15 (online)	<b>PhD student Yaroslavna Kashyrina</b> " <i>Polarons and bipolarons in one-dimensional systems (arbitrary coupling)</i> " Taras Shevchenko National University of Kyiv <b>Ukraine</b>
09:15-09:30 (online)	<b>Dr. Denys Myroniuk</b> " <i>Structure, optical properties and photocatalytic activity of undoped, Nd-doped ZnO nanocomposites</i> " Frantsevich Institute for problems of materials sciences of the NAS of <b>Ukraine</b>
09:30-09:45 (online)	<b>Dr. Oleh Yermakov</b> " <i>Polarization degree of freedom for guided waves</i> " V. N. Karazin Kharkiv National University <b>Ukraine</b>
09:45-10:00 (Lviv)	<b>Prof. Anatoliy Negriyko</b> " <i>The threshold of laser-induced damage of image sensors in open atmosphere</i> " Institute of Physics NAS of <b>Ukraine</b>
10:00-10:15 (online)	<b>Dr. Oksana Krupka</b> " <i>Optical Properties of Chromophore-Containing Methacrylate Based Polymers</i> " Taras Shevchenko National University of Kyiv, <b>Ukraine</b>
10:15-10:30 (Lviv)	<b>Student Arthur Medvid</b> « <i>Investigation of nanoscale core-shell structure of silicon microcrystal doped by boron and nickel: properties and application</i> » Lviv Polytechnic National University, <b>Ukraine</b> .
10:30-10:45 (online)	<b>Dr. Oleksandr Oberemok</b> " <i>Effect of implantation of Ho and Nd ions on the physical properties of thin ZnO films</i> " Lashkaryov Institute of Semiconductor Physics <b>Ukraine</b>
10:45-11:00 (unknown)	<b>Prof. Eugene Glushko</b> " <i>Extremely narrow resonances in defect containing photonic structures for metrology, sensing, collimation, signal processing and spectroscopy</i> " Institute of Semiconductor Physics, NAS of <b>Ukraine</b>
<b>11.00-11.15</b>	<b>Coffee break</b>

### Section "Nanochemistry and biotechnology"

11:15-11:30 (online)	<b>Dr. Halyna Dubova</b> « <i>Increased synthesis of biologically active components of medicinal mushrooms</i> » National Technical University of Ukraine "I. Sikorsky Kyiv Polytechnic Institute", <b>Ukraine</b> .
11:30-11:45 (online)	<b>Dr. Andrii Panko</b> " <i>Nanostructural and biocolloid transformations of bottom sea sediments and physicochemical methods of their separation</i> " F.D.Ovcharenko Institute of Biocolloidal Chemistry NAS of <b>Ukraine</b>
11:45-12:00 (Lviv)	<b>Dr. Liudmyla Shkotova</b> « <i>The use of metal nanoparticles of the platinum group to improve the analytical characteristics of enzyme biosensors for application in biotechnological industries</i> »

	Department of Biomolecular Electronics, Institute of Molecular Biology and Genetics, NAS of <b>Ukraine</b>
12:00-12:15 (Lviv)	<b>Prof. Irina Voloshina</b> " <i>Green biosynthesis of nanoparticles using Lactobacillus</i> " Department biotechnology, leather and furs, National University of Technologies and Design <b>Ukraine</b>
12:15-12:30 (online)	<b>Dr. Alla Tereshchenko</b> " <i>Toward development of new optical immunosensors based on nanostructured ZnO thin films</i> " Odesa National I.I. Mechnikov University, <b>Ukraine</b>
12:30-12:45 (Lviv)	<b>PhD student Oksana Karpenko</b> " <i>Mechanism of methanol interaction with defects on graphene-like materials: quantum chemical study</i> " O.O. Chuiko Institute of Surface Chemistry, National Academy of Sciences of <b>Ukraine</b>
12:45-13:00 (Lviv)	<b>Prof. Dmytro Zayachuk</b> " <i>Ion nanostructuring of crystal surfaces and processes of self-organization</i> " Lviv Polytechnic National University <b>Ukraine</b>
13:00-14:00	<b>Lunch</b>
<b>Section " Nanoscale physics and Nanostructured surfaces"</b>	
	<b>Chairman Prof. Sergiy Kurta</b>
14:00-14:15 (Lviv)	<b>Dr. Natalia Rusinchuk</b> " <i>Theoretical study of the interactions inside the system of N nanoparticles</i> " Taras Shevchenko National University of Kyiv <b>Ukraine</b>
14:15-14:30 (online)	<b>Student Oleksii Bereznykov</b> " <i>Controlled self-ordering in the dynamics of forming periodic quasi-one-dimensional</i> " Igor Sikorsky Kyiv Polytechnic Institute <b>Ukraine</b>
14:30-14:45 (online)	<b>Prof. Mikhail Belogolovskii</b> " <i>Charge transport through superconducting nanodevices</i> " Kyiv Academic Institute <b>Ukraine</b>
14:45-15:00 (online)	<b>Prof. Olena Rogachova</b> " <i>Quantum size effects and transport properties of Bi<sub>2</sub>(Te<sub>1-x</sub>Sex)<sub>3</sub> 3D-topological insulators thin films</i> " National technical university "Kharkiv polytechnic institute" <b>Ukraine</b>
15:00-15:15 (online)	<b>Prof. Sergiy Kotrechko</b> " <i>Stochastic nature of failure of carbyne-graphene nanoelements under thermomechanical loading</i> " G.V. Kurdyumov Institute for Metal Physics, National Academy of Sciences of <b>Ukraine</b>
15:15-15:30 (Lviv)	<b>Prof. Evgen Len</b> " <i>Positron spectroscopy of nanoscale regions of homogeneous atomic and magnetic orderings in strongly correlated alloys</i> " G.V. Kurdyumov Institute for Metal Physics, NAS of <b>Ukraine</b>
15:30-15:45 (Lviv)	<b>Dr. Myroslav Sushko</b> " <i>Short-scale scattering effects in critical fluids and heterogeneous media</i> " Odesa I.I.Mechnikov National University <b>Ukraine</b>
15:45-16:00 (online)	<b>PhD student Aleksandr Murmantsev</b> " <i>Plasma Emission Spectroscopy of Underwater Discharge in the Synthesis of Metal Nanoparticle</i> " Faculty of Radiophysics, Electronics and Computer Systems, Taras Shevchenko National University of Kyiv <b>Ukraine</b>
16:00-16:15 (online)	<b>PhD student Anastas Romansky</b> " <i>Electronic structure of Ni, Pd and Pt ultrathin films</i> " G. V. Kurdyumov Institute for Metal Physics of the N.A.S. of <b>Ukraine</b>
16:15-16:30 (Lviv)	<b>PhD student Khrystyna Metsan</b> " <i>Effect of the electric field and the acceptor impurity on the energy spectrum of spherical quantum dot</i> " Drohobych Ivan Franko State Pedagogical University <b>Ukraine</b>
<b>09:00-17:00</b>	<b>Poster Session</b>



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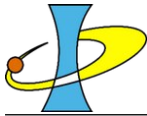
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## POSTER SESSION

10:00-18:00	Poster Session 25.08.2022
	<b>Section "Nanostructured surfaces"</b>
	<b>Dr. Svitlana Petrovska</b> « <i>Properties of multilayer aluminum-doped indium saving ITO thin films deposited by sputtering method</i> »
	<b>Dr. Svitlana Petrovska</b> « <i>Iron-doped indium-saving indium tin oxide thin films deposited by DC sputtering method using Fe<sub>3</sub>O<sub>4</sub> target</i> »
	<b>Dr. Dmytro Vinnychenko</b> « <i>Structure and properties of carbon-containing nanostructured coatings on metal surfaces obtained by electric discharge in gas and electric explosion of electrical conductors</i> »
	<b>Dr. Volodymyr Posuvailo</b> « <i>Structural transformations in oxide ceramic coatings formed on aluminum alloys in silicate electrolyte</i> »
	<b>Prof. Tetiana Mazur</b> « <i>Investigation mobility of current carriers from temperature for CdTe and PbTe thin films</i> »
	<b>PhD student Ihor Skrypnyk</b> « <i>Investigation of frontal functional nanolayers of solar silicon using electrochemical technologies of porous silicon</i> »
	<b>Ph.D. Olha Maksymiv</b> « <i>Corrosion-mechanical properties of structural steels with surface nanostructure</i> »
	<b>Dr. Yevhen Petrenko</b> « <i>Temperature dependence of coherence lengths for optimally-doped YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-δ</sub> thin films</i> »
	<b>Student Nazar Shvachko</b> « <i>Ni nanostructures on semiconductor surfaces</i> »
	<b>Ph.D. student Oleh Izhyk</b> « <i>Peculiarities of the formation of functional oligomer brushes onto a glass surface in dilute and semi-dilute regimes</i> »
	<b>PhD student Ivanna Vakaliuk</b> « <i>The morphology investigation of the cadmium sulphide thin films for solar cell applications</i> »
	<b>Prof. Agnieszka Nosal-Wiercińska</b> « <i>Catalytic activity of acetazolamide on electroreduction of In(III) in chlorates(VII); use of a nanostructured cyclic renewable film of liquid silver amalgam electrode (R-AgLAFE)</i> »
	<b>Dr. Oksana Strilchuk</b> « <i>Morphological changes of structures with surface quantum dots under the gamma irradiation</i> »
	<b>Prof. Sergey Ryabtsev</b> « <i>Physical properties of Fe-Ag-Pt films</i> »
	<b>Prof. Malgorzata Wiśniewska</b> « <i>Study of the nanostructure of the mixed adsorption layer of heavy metal and diclofenac on the surfaces of synthetic zeolites and their carbon composites</i> »
	<b>Viktor Borysiuk</b> « <i>Theoretical prediction of adsorption characteristics of cellulose molecules on the surface of carbon nanostructures</i> »
	<b>Section "Nanocomposites and nanomaterials"</b>
	<b>Prof. Tatyana Zheltonozhskaya</b> « <i>Promising nanobiotechnology to increase the shelf life of chicken eggs based on nanosilver preparation in hybrid carriers</i> »
	<b>PhD student Oleksandr Shyrokov</b> « <i>XRD studies of the precursor thermal decomposition in the production of nanopowders LaLuO<sub>3</sub>:Yb<sup>3+</sup> with a perovskite type structure</i> »
	<b>Dr. Halina Mykhailova</b> « <i>Optimization of electronic properties of carbon nanostructures</i> »
	<b>PhD student Mykola Yakymchuk</b> « <i>Electrical conductivity features of metal-carbon nanocomposites</i> »
	<b>Student Anna Gusak</b> « <i>Nanostructured adsorbents for arsenic compounds removal</i> »
	<b>Dr. Tetiana Barlas</b> « <i>Nanocomposites based on porous III-V semiconductors</i> »
	<b>PhD student Denys Shpylka</b> « <i>Transport properties of surface modified single-walled carbon nanotubes</i> »
	<b>PhD student Mariia Khemii</b> « <i>Structural and morphological properties of ultrasonic-modified NiMoO<sub>4</sub> hydrate</i> »
	<b>Prof. Volodymyr Dutka</b> « <i>Nanocomposites of polyaniline and polymethacrylic acid</i> »
	<b>Dr. Yuliia Horbenko</b> « <i>Electrochromic and gas-chromic properties of conjugated polymer films doped with nanoclusters on flexible substrates</i> »





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**Dr. Orest Fliunt** «*Evolution of low-frequency dispersion in solids with change of temperature*»

**PhD student Taras Benko** «*Method Of Reducing Cmos Inverter Switching Energy*»

**Dr. Viktor Nikolaenko** «*Thermo-Effect at Transition Surfac Electron to Surface Polaron over Superfluid Helium Film on Structured Substrate*»

**Dr. Iryna Ovsiienko.** «*Transverse resistivity of acceptor graphite intercalation compounds*»

**Prof. Vasyl Moiseienko** «*Photoluminescence of Eu<sup>3+</sup> ions in thin-film opals and resonator structures based on them with spatial localized feedback*»

**Dr. Vitalii Chornii** «*Computational investigation of atomic and electronic structures of phosphate-based crystal-glass composites*»

**PhD student Nazar Popilovskyi** «*Fabrication of Cu-based-CNT composites via electroplating and powder metallurgy techniques.*»

**PhD student Nazar Popilovskyi** «*Formation of nanoscale phases during rapid solidification of Al-Cu-Si alloys*»

**PhD student Maksym Yermakov** «*Raman investigations of Cu<sub>2</sub>MgxZn<sub>1-x</sub>SnS<sub>4</sub> films with different chemical composition*»

**Dr. Liudmyla Sukhodub** «*Antimicrobial Properties of Nanocomposite Biomaterial for the Treatment of Purulent Wounds and Infected Ulcers*»

**Prof. Ruslan Politanskyi** «*"The model of a giant magnetoresistance, built taking into account the bulk scattering of spins of conducting electrons"*»

**Prof. Bohdan Tsizh** «*Combined Polymer Nanostructures for Selective Gas Sensors*»

**Dr. Olga V. Vashchenko** «*Novel Liquid Crystal System For Transdermal Drug Delivery*»

**PhD student Oleksii Syvolozhskyi** «*Electro-transport properties of CNT decorated by FeNi nanoparticles*»

**Dr. Oleksandr Kushnerov** «*Structure and properties of CoCrFeNiMnBe high-entropy alloy films obtained by liquid quenching*»

**PhD student Vitalii Maksymych** «*Nitrogen-doped carbon for supercapacitors: synthesis, properties and applications*»

**Dr Olga Prygunova** «*Nanocomposites NiFe(CoFe)/Silica(Alumina) for the catalytic hydrogenation of CO<sub>2</sub>*»

**Dr. Inna Kirian** «*Hydrogen sorption/desorption kinetics in the Mg-C system*»

**Prof. Malgorzat Grabarczyk** «*Carbon nanotubes as a base material for working electrodes increasing the sensitivity of determinations in stripping voltammetry*»

**Prof. Yurii Sementsov** «*Electrophysical and strength characteristics of polychlorotricfluoroethylene filled with carbon nanotubes dispersed in graphene suspensions*»

**Dr. Rabie Amari** «*Investigation of the effect of Ni Doping on the Structural, Luminescence, Optical and Electronic Properties of ZnO Nanopowders*»

**Dr. Oleg Lytvynenko** «*Hong-Ou-Mandel quantum effect on "polymer - multiwall CNT" composites*»

**PhD student Hanna Rostova** «*Radiation resistance of steel T91 after deformation in different structural states*»

**Prof. Bahri DEGHFEL** «*Effect of high Ni Doping on the properties of ZnO Nanopowders*»

**PhD student Khrystyna Hutsul** «*Functional nanomaterials based on zinc oxide*»

**PhD student Anna Nazar** «*Catalyst containing natural nanosilica, palladium(II) and copper(II) salts in oxidation of carbon monoxide with oxygen*»

### Section "Physico-chemical nanomaterials science"

**Dr. Dmytro Koziarskyi** «*Electrical properties of p-CuCoO<sub>2</sub>/n-Si heterojunction*»

**V.M. Sidak** «*Space-charge polarization phenomena in single crystal and ceramics of bismuth sodium titanate*»

**Prof. Malgorzata Wiśniewska** «*Polymers and metal ions adsorption on the surface of biochars obtained from the nettle and sage herbs*»

**Dr. Ivan Koziarskyi.** «*Features of the electrical properties of ZnO:Al/ZnS/n-CdTe heterojunctions*»

**Dr Ewa Skwarek** «*Selected physicochemical properties of hydroxyapatite and white - blue clay composite*»



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- Dr. Markiyani Kushlyk** «Mechano-chemical modification of  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> and  $\beta$ -Ga<sub>2</sub>O<sub>3</sub>:Eu micropowders by plasmonic nanoparticles»
- Prof. Valerii Barbash** «Extraction of organosolv pulp and nanocellulose from post-harvest residues of corn »
- Dr. Artem Kozyrev** «Metal-based nanocrystalline materials condensed from the vapor phase»
- Dr. Svitlana Chernii.** «Synthesis and photophysical properties of indolenine styrylcyanine dye and its carboxyl-labeled derivative»
- Prof. Pavlo Galiiy** «Indium deposited nanosystems formation on 2D layered chalcogenide crystals' surfaces»
- PhD student Khrystyna Vlad** «Electrochemical hydrogenation properties of Ni/Co-C composites»
- Dr. Ivan Babichuk.** «Raman mapping few-layer MoS<sub>2</sub> to develop flexible electronics»
- PhD student Mariia Samsonenko** «Photocatalytic performance of mixed lithium niobates-tantalates prepared by mechanochemical methods»
- PhD student Miglè Babelytė** «Synthesis and lower critical solution temperature behavior of chitosan and N-isopropylacrylamide graft copolymers»
- Dr. Victoria Chornovol** «Vapor-condensed composite materials Ni-Al<sub>2</sub>O<sub>3</sub>, NiCr-Al<sub>2</sub>O<sub>3</sub> with oxide nanophase»
- Dr. Svitlana Khalameida** «Mechanochemical transformation of Pb<sub>2</sub>MoO<sub>5</sub> single crystal into nano-dispersed state»
- Dr. Dmytro Slobodzyan** «Study of point-defect complexes reconstruction in silicon near-surface layers under the ion implantation process»
- Prof. Evgeny Polunkin** «Synthesis And Structure Of Carbon Nanospheres In Liquid Phase»
- Prof. Robert Pietrzak.** «Study of biocarbons derived from residue after supercritical extraction of carrot seeds from adsorption of gaseous NO<sub>2</sub>»
- PhD student Valentina Voloshchuk.** «Effect of Intensifying Additives on the Properties of Celsian Ceramics»
- Dr. Eugen Dukhopelnikov.**«Proflavin binding to LSMO nanoparticles at temperatures above and below the Curie point»
- PhD student Yuriy Bilogorodskyy.** «Phase stability of nanostructured materials under irradiation»
- PhD student Vasyl Hreb** «Sol-gel derived ZnAl<sub>2</sub>O<sub>4</sub> nanopowders co-doped with Cr<sup>3+</sup>, Er<sup>3+</sup> and Yb<sup>3+</sup> ions»
- Dr. Anton Lytvynenko.** «Catalytic activity of composites of nickel boride nanoparticles and anodic nanoporous alumina in hydrogenation reactions»
- Student Vadym Soloviov** «Hydrophobization of the surface of carbon nanomaterials using the Diels–Alder reaction»
- Dr Olga Prygunova** «Surface functionalization of nanoporous carbons with sulfur- and halogen-containing groups»
- Student Vadym Soloviov** «The catalytic activity of phosphotungstic acid-carbon nanocomposites in the dehydration reaction of bioethanol»
- Dr. Volodymyr Povazhnyi.** «The post-carbonization stage of carbon materials synthesis as a factor influencing its thermal stability»
- Dr. Victor Prysiashnyuk** «Flooding of massive samples and thin films of the Gd-Fe system»
- Dr. Andriy Kapran.** «Effect of Zn-BEA zeolites dealumination on their catalytic performance in propane dehydrogenation to propylene with CO<sub>2</sub>»
- Prof. Alexander Molnar** «Influence of the In-Ga substitution on the physical properties of layered CuInP<sub>2</sub>S<sub>6</sub> crystals»
- PhD student Yuriy Venhryn** "Photoluminescent properties in different gas ambient of ZnO nanopowders doped by Mo and V"
- Student Dmytro Zhytnyk.** «Effect of chlorination on the interaction of carbon fibers with electromagnetic radiation in the ultrahigh-frequency range»



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**Student Oleksii Dovgan** «Effect of the bromination method of PAN carbon fibers on their interaction with ultrahigh-frequency electromagnetic radiation»

**Dr. Nadiia Artyukhova** «Optimization of the drying devices functioning in the process of forming the ammonium nitrate's nanoporous structure»

**Dr. Artem Artyukhov.** «Formation process of the nanoporous structure in porous ammonium nitrate granules: indicators of influence»

**Dr. Artem Artyukhov.** « Formation of a nanoporous coating on urea granules»

**Dr. Andrey Sarikov** "Molecular Dynamics Simulation of the Formation of Extended Defect Structure in 3C-SiC Thin Films on Si(001) Substrates"

**09:00-18:00 Poster Session 26.08.2022**

**Section "Nanocomposites and nanomaterials"**

**Prof. Lyudmyla Karabanova** «Thermal properties of the POSS-containing nanocomposites based on PU/PHPMA semi-IPNs»

**PhD Oksana Isaieva** «Influence of different polymers on photoluminescence of colloidal ZnO nanocrystal»

**PhD Oksana Isaieva** «Ex-situ vs. in-situ fabrication routes for luminescent nanocomposites C-dots/porous silica»

**Dr. Ievgen Beliak.** «Optimization of photoelectric converters»

**Student Nadiia Diyuk** «Properties of the nanosized zinc pyrovanadate synthesized by mechanochemical, barothermal and ultrasonic methods»

**Student Nadiia Diyuk** «Mechanochemical synthesis and characterization of ZnMoO<sub>4</sub>·0,8H<sub>2</sub>O, and ZnMoO<sub>4</sub> nanostructures»

**Dr. Nataliya Permyakova.** «Properties of natural heteropolysaccharide xanthan in aqueous solutions and its compositions with cobalt nanoparticles»

**PhD student Serafym Lopatko** «The main ways for metal nanoparticles degradation»

**PhD student Larysa Lopatko** «Application of nanoparticles of metal oxides In wooden building materials»

**Student Irina Slobodianyuk** «Adsorption and protolytic properties of nanocryptomelane and its activity in ozone decomposition reaction»

**Dr. Larisa Kunitskaya.** «The influence of relative humidity on the ion (proton) conductivity of the intramolecular polycomplexes»

**Dr. Vitalii Honcharov** "Thermal efficiency of nanoscale aluminum layer modified by ionic implantation"

**Prof. Tatyana Zheltonozhskaya.** «Graft copolymer-assisted synthesis of nickel nanoparticles in aqueous solutions»

**Dr. Pavel Maksimchuk** «Hydroxyl radicals scavenging by small oxide nanocrystals with variable valence ions»

**Prof. Djamel Allali** «Structural, elastic and thermodynamic properties of Ag-based oxides XAgO (X = Li and Na): An ab initio study»

**Dr. Nataliya Kussyak.** «Study of the adsorption of Immunoglobulinum humanum by functionalized - NH<sub>2</sub>, - SH, - COOH groups on the surface of nanoscale magnetite»

**Dr. Andrii Kussyak** «In vitro study of the bioactivity of sol-gel glass 60S doped with Y»

**PhD student Yevhenii Zabolotnii** «Photocatalytic activity of nanosized TiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> and TiO<sub>2</sub>/MgO composites synthesized by ultrasonic method in the decomposition of metronidazole»

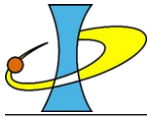
**PhD student Vladimir Zaika** «Effect of alternative treatments methods on the electronic structure of ZrO<sub>2</sub>-TiO<sub>2</sub>»

**PhD student Vladyslav Zamorskyi** "Features of dispersion of dimensional and magnetic parameters in spinel ferrite nanoparticles"

**Dr. Valentyn Rudenko** «Ultrafast dynamics of carrier relaxation in PdO thin films»

**Student. Elysaveta Polishchuk** «Structure of the Composites Based on Bacterial Cellulose and Multi Walled Carbon Nanotubes»

**PhD student Alexandr Boychuk.** «Formation of active interphase on the iron particles in c/pvdf media»



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**Dr. Lesya Demchenko.** «Magnetic and structural features of aged Cu-Al-Mn-Fe alloys»

**Prof. Volodymyr Vasylechko** «Antimicrobial activity of transcarpathian clinoptilolite modified with salts of transition metals»

**Student Bohdan Maidanyk** «Effect of Ar<sup>+</sup> treatment on thermal stability and micromechanical properties of Fe<sub>75</sub>Mo<sub>5</sub>Si<sub>6</sub>B<sub>14</sub> amorphous alloy»

#### Section "Nanooptics and photonics"

**PhD student Polina Pisklova** «Interaction between Molecular Aggregates Incorporated in Layered Polymer Films»

**Dr. Andrii Sizhuk** «Processing the analytical optical signals by the means of the system of the nickel nanostripes, deposited on the glass substrate and the chromium nanofilm»

**PhD student Ihor Danylenko** «Peculiarities of nanoscale structural defects in multisectoral HPHT-diamond plates reviled by selective etching»

**Dr. Alexander Sorokin** «Effect of J-aggregates' Formation in Liquid Crystal Matrix on Their Optical Properties»

**Prof. Andriy Luchechko** "Structural and photoluminescence properties of  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> nanocrystals obtained by mechanosynthesis"

**Dr. Leonov D.** «Kinetic and Electrostatic Control of Electroluminescence in Molecular Junctions»

**Dr.Bochkova T.M.** «The influence of the initial charge composition on the electrical and optical properties of the single crystals of PbO – MoO<sub>3</sub> system»

#### Section "Nanoscale physics"

**PhD student Danyil Azarkh** «Viscoelastic properties of starches measured by the ferrofluid droplet deformation method»

**A.M. Korostil** «Magnetic Field-Controlled Light Transmission in Ferronematic Liquid Crystals»

**A.M. Korostil** «On spintronic torque effect in multilayer magnetic nanostructures»

**A.M. Korostil** «Electrical excitation of magnetic spin waves in nanoheterostructures»

**Atamas N.O.** «Structural features of aqueous solutions of alcohols»

**PhD student Sviatoslav Semchuk** "Mechanical Properties Of Si/Ge Core-Shell Nanowires: Molecular Dynamics Simulations"

**Dr. Vitalii Borblik** «Electrostatics of a nanowire heterostructure radial p-i-n diode»

**Prof. Petro Kostrobii.** «Modeling of thermodynamic characteristics of 2D electronic layers near the surface of an atomically thin dielectric»

**Prof. Petro Kostrobii.** «Gate tunable electron interaction in atomically thin dielectric films»

**Dr. Eduard Zubov.** «Spin-reorientation phase transition and nonequilibrium thermodynamics of compensated ferrimagnet ErFeO<sub>3</sub>»

**PhD student Vasyl Hutiv** «Quantum theory of energetic parameters in two-well nanostructure, being a main operating element of broadband photodetector functioning in far IR range»

**PhD student Anatolii Biliuk.**«Kinetic theory of magnetic absorption of laser irradiation by a metallic nanoparticles»

**Dr. Stepan Syrotyuk** «The effect of the pressure on electronic structure of the doped solid solutions ZnSeTe:T (T=Cr, Mn, Fe)»

**PhD student Andriy Velgosh.** «Transitional processes in a incommensurate superstructure in the surface energy field»

**Prof. Eugene Strativnov** «CFD-simulation and analyses of cavitation and dispersion processes for globulated multilayer graphene obtaining»

**PhD student Andriy Velgosh.** «Transition from order to chaos of incommensurate superstructure described by the Lifshitz invariance under conditions  $n = 3$ »

**PhD student Olha Boliasova.** «RF-dynamics of vortex kinks in the mixed state of nanostructured superconductors with columnar defects»



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**PhD student Maryna Chubrei.** «Optical absorption in core-shell quantum antidot with donor impurity under applied co-directed electric and magnetic fields»

**Prof. Evgen Len** «Positron spectroscopy of nanoscale regions of homogeneous atomic and magnetic orderings in strongly correlated alloys»

**Prof. Volodymyr Holovatsky.** «Magnetic field effect on the optical properties core-shell type II quantum dot»

**Dr. Oleh Kuzyk.** «The deformation effects in isovalent doping of CdSe quantum dots with a multilayer shell for their biomedical applications»

**Dr. Sergiy Konoplyuk** «Electric transport properties of a Ni-Mn-In alloy subjected to external stimuli»

**Dr. Roman Demediuk.** «Quantum wells delta-doped to the center with background doping in barriers»

**Dr. Bogdan Vasylyv** «Study of the role of alloying elements Cr, Ni, Fe, and Al in the improvement of high-temperature (700–800 °C) fracture toughness of Ti-based composites»

**Dr. Bogdan Vasylyv** «Microstructure, high-temperature strength and fracture toughness of Ti–Si–X composites containing refractory phases»

#### Section " Nanoobjects microscopy"

**Prof. Aleksandr Bagmut** «Polymorphous crystallization of amorphous films of Ta<sub>2</sub>O<sub>5</sub>»

**Dr. Tetiana Monastyrska** «Magnetohydrodynamic treatment and optimization of alloying complex of Al-Si-Mg casting alloys»

#### Section "Nanoplasmonics and surface enhanced spectroscopy "

**PhD Nazar Mazur.** «SERS-application of Ag nanoparticles synthesized from bio-extracts»

**Dr. Roman Lys** «The role of dislocations in radiation-stimulated changes in the electrophysical and optical characteristics of silicon structures»

**Dr. Nataliya Berezovska** «Plasmonic nanocavity metasurfaces based on femtosecond laser-nanostructured patterns perspective for the enhanced optical response of organic and biological molecules»

#### 09:00-16:00 Poster Session 27.08.2022

#### Section "Nanobiotechnology for health-care"

**Student Orest Blashkiv.** «Effect of gold nanocomposites and Quercetin treatment on male reproductive function»

**Dr. Oksana Nadтока.** «Chitosan-based interpenetrating polymer network hydrogels»

**PhD student Daria Yarynka.** «Chip based plasmon-enhanced fluorescence sensor for highly-sensitive zearalenone analysis»

**Prof. Ihor Stolyarchuk** «Co-doped CdS quantum dots and their bionanocomplex with protein: interaction and bioimaging properties»

**Prof. Ihor Stolyarchuk** «Surface morphology and optical properties of ZnMeO ( Me: Co, Ni ) thin films prepared by RF – sputtering»

**Stanislav Ponomarenko** «Drug delivery with pH-sensitive star-like Dextran-Graft Polyacrylamide copolymer»

**Dr. Serhii Radio** « Prediction of Substitution Limits and Thermodynamic Stability for Y<sub>1-x</sub>Ln<sub>x</sub>F<sub>3</sub> (Ln = Sm–Lu) Nanosized Materials»

**Dr. Solomiya Paryzhak** «Biocompatibility of γ-Fe<sub>2</sub>O<sub>3</sub> nanoparticles with blood cells»

**Dr. Mykhaylo Losytskyy.** «Two kinds of luminescence centers in low-temperature phosphorescence spectra of IPNV RNA»

**Prof. Ganna Shestopalova** "Hydrogen bonds and molecular recognition"

**Dr. Svitlana Smolyak** «Yttrium and lanthanum doped bioglass»

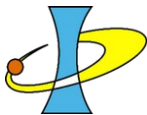
#### Section "Nanocomposites and nanomaterials"

**PhD student Maria Moklyak** «Structurally dependent electroconductivity properties of ultrafine composites α-FeOOH/α-Fe<sub>2</sub>O<sub>3</sub>»

**Aksimentyeva O.I.** «Polymer-Magnet Nanosystems»

**Ptashnyk V.** «Influence of cavitation and non-cavitation ultrasonic treatment on the structure of nanoporous carbon materials»

**Dr. Sergii Guzii** «Reduction of combustibility of the polyurethane matrix of microwave-absorbing composite materials»



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**Prof. Igor Olenych** «Composites based on silicon and carbon nanostructures for ionizing radiation sensing»

**Prof. Igor Olenych** «Electrical and photoelectric properties of hybrid structures based on reduced graphene oxide and doped porous silicon»

**Prof. Igor Olenych** «Humidity sensor element based on oxidized porous silicon – reduced graphene oxide hybrid structures»

**Dr. Ludmila Vovchenko** «Optimization of multilayered electromagnetic shields using mesh adaptive direct search»

**PhD student Roman Pedan** «Diffusion and diffusion-driven local ordering in Co-Pt thin films»

**Dr. Sergii Burylov** «Magneto-orientational effects in ferromagnets with conically degenerated anchoring at particles surfaces»

**Dr. Rostyslav Bovhyra.** «Ab initio study of the effect of metal doping on electronic properties of  $(ZnO)_n$  ( $n = 96, 120$ ) nanoclusters»

**PhD student Serhii Antonin** «Conductivity of nanocomposite  $SiO_xNy$  and  $SiO_xNyAl_z$  films»

**Dr. Liudmila Filevska** «Formation of a conducting phase in Porous Glasses»

**Dr. Tetiana Plutenko.** «A novel method for synthesis and characterization of Ni–Zn ferrite nanoparticles»

**Prof. Liliya Frolova** «Synthesis and study of diatomite/alginate/ $Fe_3O_4$  composite polymer material»

**Prof. Eduard Lysenkov** «Structure and properties of antimicrobial nanocomposite materials filled with silver nanoparticles»

**Dr. Volodymyr Sydorhuk** «Nano-dispersed Zn-Al double hydroxide and oxides for photocatalytic application»

**Student Anna Gusak.** «Nanostructured adsorbents for arsenic compounds removal»

**Student Anna Lozova** «The effect of interfaces number on solid state reactions in Ni-Ti thin films »

**Prof. Halyna Klym** «Analysis of evolution of free volumes in the  $BaGa_2O_4$  ceramics doped with  $Eu^{3+}$  ions»

**Prof. Halyna Klym** «Multicomponent positron-positronium trapping models to study of internal nanovoids in ceramic solids»

**Prof. Halyna Klym** «Peculiarities of preparing and characterization of thick-film nanostructures based on ceramics for sensors applications»

**Prof. Halyna Klym** «PEDOT:PSS polymer matrices reinforced with carbon nanotubes: electrical and structural properties»

**Prof. Halyna Klym** «Influence of frequency and temperature on electrical resistivity of polymer-based nanocomposites»

**Prof. Nina Ostapenko** «Manifestation of optical vibrations in thermoluminescence of polysilane films and nanocomposites»

**PhD student Dmytro Chemerys** «Low temperature magnetotransport properties in GaAs whiskers»

**Dr. Yuriy Kostiv** «Ageing phenomena in temperature-sensitive thick-film nanostructures»

**Dr. Yuriy Kostiv** «Structural properties and free volumes in the Y-doped  $BaTiO_3$  ceramics»

**PhD student Oleh Ivanichok** «Electrochemical properties of carbon material obtained from walnuts»

**Prof. Serhii Revo.** «Study of aluminium containing multiwall carbon nanotubes»

**Prof. Yulian Vysochanskii.** «Pseudospin modelling and mean field analysis of ferrielectricity in  $CuInP_2S_6$  van der Waals crystals»

**PhD student Dmytro Solonets** «Synthesis of thermally stable ultrasmall metallic Ni nanoparticles confined in microporous carbon»

**PhD student Vitalii Zadorozhnyi.** «Ab initio study of the piezoelectric effects of the 2D semiconductors of IV group monochalcogenides ( $GeSe$ ,  $GeS$ )»

**Dr. Victor Zadorozhnyi** « Liquid crystal control of the electromagnetic wave propagation through metal-multilayer dielectric structure»

**Dr. Nikita Liedienov** «Structural properties of iron-formate under high pressure»



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**Dr. Andriy Yakymovych** «Hybrid solder joints: the effect of nano-sized Ni and ceramic»

**Dr. Andriy Yakymovych** «Insights into synthesis of nanosized Ni and Fe particles by chemical reduction method»

**Dr. Viktoriya Podhurskaya** «Corrosion resistance of nanostructured titanium coatings deposited by cathodic arc evaporation»

**Dr. Viktoriya Podhurskaya** «Investigation of long-term oxidation resistance of titanium alloy with a Ti,Me-Al-C nanocomposite coating»

**Dr. Viktoriya Podhurskaya** «Effects of the substrate bias voltage and gas pressure on electrical conductivity and microhardness of the nanostructured TiON coatings»

**Dr. Viktoriya Podhurskaya** «Study of the effects of the microstructure, contact stress and temperature on the area specific resistance of fuel cell materials»

**Prof. Andrii Kashuba** «Ab initio studies of the gas adsorption on the surface CdSe<sub>1-x</sub>S<sub>x</sub> ultra-thin films»

**Dr. Tetiana Bulavinets** « Optical Properties of Au-CuS Core-Shell Nanoparticles »

**Dr. Cecylia Wardak** «Copper-sensitive ion-selective electrode with solid contact based on copper oxide nanoparticles- multiwalled carbon nanotubes-nanopomposite»

**PhD student Vladyslav Popruzhko.**«Characteristic mechanical spectroscopy of nanocomposites of multiwalled carbon nanotubes and polyamide, polyvinyl chloride, polyethylene, expanded polystyrene»

**Dr. Anatoliy Onanko.** «Mechanical Spectroscopy of Nanocomposites of Multiwalled Carbon Nanotubes and Polyamide, Polyethylene, Polyvinyl chloride, Porous Polystyrene»

**Dr. Andriy Yakymovych** «Insights into synthesis of nanosized Ni and Fe particles by chemical reduction method»

**Dr. Andriy Yakymovych** «Metal deposited nanoparticles as “bridge materials” for lead-free solder nanocomposites»

**Prof. Yulia Bondar** «Nanocomposite adsorbent based on natural zeolite for selective removal of <sup>137</sup>Cs from high salt solutions»

**PhD student Dmytro Komarenko** «Optical characterization of Al<sub>2</sub>O<sub>3</sub> based eutectics: effect of plates thickness»

**Prof. Irina Savchenko** «Comparative characteristics of sorption properties of silica gels with in situ immobilized azopolymers for Cu (II), Pb (II) Cd (II) and Fe (III) ions»

**Prof. Irina Savchenko** «Sorption properties of porous aluminosilicate minerals of Ukraine, in situ modified by poly [5- (p-nitrophenylazo) -8-methacryloxyquinoline] of toxic metal ions»

**PhD student Mariia Samsonenko** « Visible light photocatalytic properties of nano-sized tin dioxide doped with iron»

**Dr. Maksym Barabashko** " Thermally reduced graphene oxide (TRGO): the study of thermal defunctionalization "

**Dr. Maksym Barabashko** "Influence of the additives of multi-walled carbon nanotubes to the porosity of hydroxyapatite composite"

**Prof. Serhii Nedilko** "Influence of carbon nanotubes content on the thermal-structural properties of high-density polyethylene"

**PhD student Dmytro Komarenko, Andriy Ronkovych** «Nonlinear optical response of ZnO-PMMA nanocomposites under picosecond laser excitation»

**Dr. Liena Vergun** «Structure of nanoclusters and density of solutions of rigid-chain polymers»

**Dr. Tetiana Verbytska.** «Formation of ordered L10 FePt phase in Pt/Ag(Au)/Fe and Fe/Ag(Au)/Pt trilayers»

**Dr. Tetiana Tkachenko** «Influence of ratio of silicon complex and hydrolyser agent on silicon dioxide characteristics»

**Dr. Mariia-Olena Danyliak** "The anticorrosion performances of the zeolite/Zn(H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub> pigment for aluminium alloy"

**Dr. Maksym Fizer** «5-Alkyl-1,2,4-triazole-3-thiones as stabilizers in the synthesis of silver nanoparticles»



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**Prof. Orest Malyk** «Defect structure and kinetic properties of  $\text{CdSe}_x\text{Te}_{1-x}$  ( $x=0.1$ ) solid solution: *ab initio* calculation»

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**PhD student Nadiya Davydiuk.** «Proton conductive membranes for DMFC»

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**Dr. Andrii Gilchuk** «Ti-Ni based nanocomposites produced by spark erosion method»

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**Dr. Tatyana Kiose** «Nanocatalyst for carbon monoxide oxidation based on palladium(II), copper(II) salts and carbon fiber material»

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**PhD Anton Taran** «Color change of PVD zirconium-based oxycarbonitride coatings obtained at various deposition parameters»

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**Lisnyak V.V** «Silicon nanoparticles preparation and the formation of carbon-silicon hybrid nanoparticles for sensor applications»

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## History of NANO Conference



*Group photo of participants of the 1<sup>st</sup> International Summer School for young scientists "NANOTECHNOLOGY: from fundamental research to innovations" (Bukovel 2012)*



*Interview with Prof. Dr. Thomas A. Klar, Director of the Institute of Applied Physics, Johannes Kepler University of Linz, Austria*

*At the lecture during the 1<sup>st</sup> International Summer School*



*Summer school participants on the background of the monument, which is a symbol of the geographical center of Europe (Rakhiv district)*

*Closing ceremony of the 1<sup>st</sup> International Summer School for young scientists "NANOTECHNOLOGY: from fundamental research to innovations"*



*Group photo of the 2<sup>nd</sup> International Summer School participants (Bukovel 2013)*



*Summer School participant PhD. Vorokhta M. (Czech Republic) tries to play trembita*



*Plenary Session*



*The organizing committee working hard*



*PhD. Lyashchova A.G. (Ukraine)*



*Group photo of 1<sup>st</sup> International NANO–2013 Conference participants  
(Bukovel 2013)*



*Opening speech by Dr. Habil.  
Emmanuelle Lacaze (France)*



*Online presentation of the Springer book  
with selected proceedings of the 1<sup>st</sup>  
International Summer School*



*Head of the Local organizing committee  
Dr. O.Fesenko*



*Excursion to the city of Lviv*



*Group photo of 3<sup>rd</sup> International Summer School participants (Yaremche 2014)*



*Discussion with speaker*



*Hiking the path of Dovbush, Carpathians*



*Director of Institute of Physics of NAS of Ukraine Prof. Leonid Yatsenko awards prizes to the winners of competition*



*Interview with Prof. Leonid Chernozatonskiy from Prokhorov Institute of general physics (Russia)*



*Group photo of the 3<sup>rd</sup> International NANO-2014 Conference participants (Lviv, 2014)*



*Choir of Lviv National Ivan Franko University performs the national anthem of Ukraine*



*Opening speech of Rector of Ivan Franko National University of Lviv, Prof. Volodymyr Melnyk*



*Report of Prof. Francesco Bonaccorso, leading specialist in graphene investigations*



*Scientific discussion with the audience*



*Group photo of the 3<sup>rd</sup> International NANO-2015 Conference participants (Lviv 2015)*



*Scientific discussion with the audience*



*Report of Prof. Dr. Thomas A. Klar, Director of the Institute of Applied Physics, Johannes Kepler University of Linz, Austria*



*Ivan Franko National University of Lviv violin ensemble performs*



*"Cheremosh" folk song and dance ensemble during the Conference opening ceremony*



*Group photo of the 4<sup>th</sup> International NANO-2016 Conference participants  
(Lviv 2016)*



*Scientific discussion with the audience*



*Report of Prof. Dr S. S. Choi  
(South Korea)*



*Registration of participants*



*Excursion to the Museum of Folk Culture  
and Rural Life in Lviv*



*Group photo of 5<sup>th</sup> International Summer School participants (Bukovel 2017)*



*Scientific reporting*



*Report of Prof. Dr Stefano Bellucci*



*Tourist complex Mygovo*



*Don't forget for dinner barbeque*

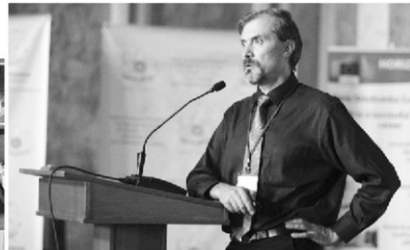




*Group photo of the 5<sup>th</sup> International NANO-2017 Conference participants  
(Chernivtsi 2017)*



*Report of heads of conference*



*Report of Prof. Dr. Vadym Mochalin  
(USA)*



*Registration of participants*



*Symphonic orchestra of Chernivtsi*



*Group photo of the 6<sup>th</sup> International NANO-2018 Conference participants  
(Kyiv 2018)*



*Registration of participants*



*Report of Dr. Hanna Morozovska  
(Ukraine)*



*Discussion during the poster session*



*Organizing committee  
of NANO-2018*



*Presentation of Philippe Mariani, CEO of Sophia Antipolis Foundation*



*Interview for a media*



*Experts in innovative ecosystem*



*Discussion with the audience*



*Expert committee chooses the best startups*



*Group of the 7<sup>th</sup> International NANO-2019 Conference participants (Kyiv 2019)*



*Registration of the participants*



*Report of Prof. Andzey Suchocki  
(Austria)*



*Mr. Jastin Taruska, member of the  
Innovation start-ups competition jury*



*Awarding the winners of the Innovation  
start-up competition*



*A collective photo of the participants of the NANO-2020 conference on the stairs of the Lviv House of Scientists*



Nanostructures

Somewhere between fashion and revolutionary substance

Commercial implementations...

The field is nicely interdisciplinary

The level of hype is extraordinary

The micro scale of the structure and dynamics of matter, so long neglected, is being gradually filled in.

Importantly, little is known very accurately or precisely.

It's fun!



*Online speech by Nobel laureate Roald Goffman Prof. Roald Goffman*

**Infrared emitting nanoparticles as agents for biomedical imaging, optical sensing and therapy**

Tymish Y. Ohulchansky

College of Physics and Optoelectronic Engineering, Shenzhen University, Shenzhen, Guangdong, China



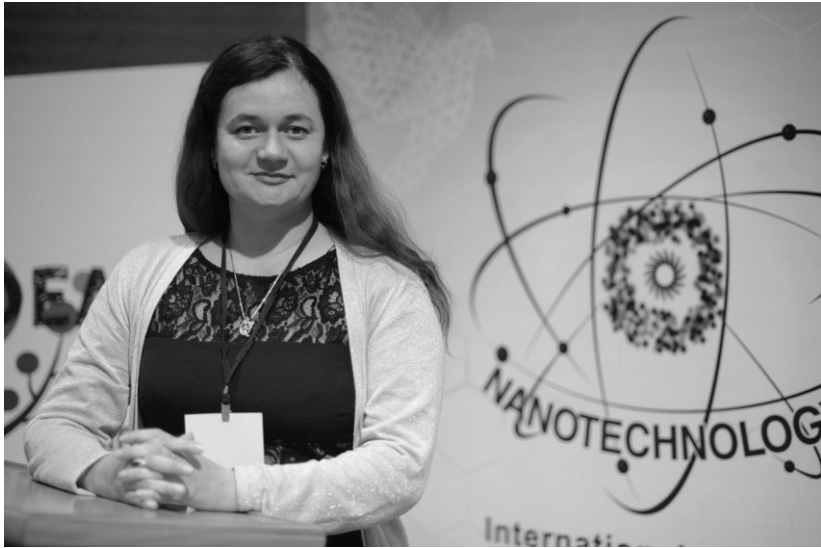




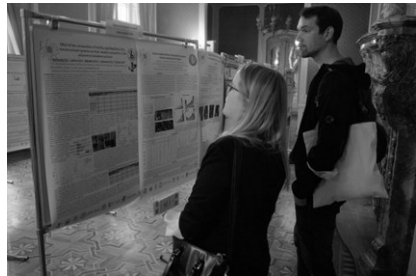

*Online and offline speech by Prof. Tymish Y. Ohulchansky and Dr. Sergey Kolotilov respectively*



*A collective photo of the participants of the NANO-2021 conference  
on the stairs of the Lviv House of Scientists*



*Head and main organizer of the NANO conference Olena Fesenko*



## Our publications

Abstracts Book of the 1st International Summer School (2012)  
Abstracts Book of the 1st International Summer School and International Conference NANO 2013  
Abstracts Book of the 2nd International Summer School and International Conference NANO 2014  
Abstract Book of the 3rd International Conference NANO-2015  
Abstract Book of the 4th International Conference NANO-2016  
Abstract Book of the 5th International Conference NANO-2017  
Abstract Book of the 6th International Conference NANO-2018  
Abstract Book of the 7th International Conference NANO-2019  
Abstract Book of the 8th International Conference NANO-2020  
Abstract Book of the 9th International Conference NANO-2021  
O. Fesenko, L. Yatsenko and M. Brodin et al. (eds.), Nanomaterials, Imaging techniques, Surface Studies, and Applications, Springer Proceedings in Physics 146, DOI: 10.1007/978-1-4614-7675-7, ©Springer Science+Business, Media, New York 2013  
O. Fesenko, L. Yatsenko (eds.), Nanocomposites, Nanophotonics, Nanobiotechnology, and Applications, Springer Proceedings in Physics 156, DOI: 10.1007/978-3-319-0661-0, ©Springer International Publishing, Switzerland 2014  
O. Fesenko, L. Yatsenko, Nanoplasmonics, Nano-Optics, Nanocomposites, and Surface Studies 167, DOI: 10.1007/978-3-319-18543-9, ©Springer International Publishing, Switzerland 2015  
O. Fesenko, L. Yatsenko, Nanophysics, Nanophotonics, Surface Studies, and Applications 183, DOI: 10.1007/978-3-319-30737-4, ©Springer International Publishing, Switzerland 2016  
O. Fesenko, L. Yatsenko, Nanocomposites, Nanostructures, and Their Applications 221, DOI: 10.1007/978-3-030-17759-1, ©Springer International Publishing, Switzerland 2019  
O. Fesenko, L. Yatsenko, Nanophotonics, Nanooptics, Nanobiotechnology, and Their Applications 222, DOI: 10.1007/978-3-030-17755-3, ©Springer International Publishing, Switzerland 2019



Participants of International Summer Schools and International NANO Conferences

- published their articles in Special Issue of Springer Open Journal "Nanoscale Research Letters" (in 2013, 2014 and 2015) dedicated to NANO Conferences. Impact Factor of Journal - 2.779.

In 2016-2018 it was also possible to publish an articles for participants of the NANO conference in Applied Nanoscience Journal, The European Physical Journal Plus (EPJ Plus) and Applied Sciences Journal (SN).

[www.springer.com/materials/nanotechnology/journal/11671](http://www.springer.com/materials/nanotechnology/journal/11671)

Also, since 2017 year it was possible to publish the articles for participants of NANO Conference in the Molecular Crystals and Liquid Crystals Journal <https://www.tandfonline.com>





## Our Partners:

The Enterprise Europe Network helps businesses innovate and grow on an international scale. EEN-Ukraine Consortium can help you to find investors, international partner and promote your innovation products. Our contacts:



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