

The International Summer School “NANOTECHNOLOGY: from fundamental research to innovations”

26th August – 2th September 2012

Program

Sunday, 26th of August 2012

10.30-11.30	Arriving, meeting guests
11.30	Registration beginning
14.00	Moving in hotel beginning
18.00-19.00	Dinner
19.00-21.00	Culture program

Monday, 27th of August 2012,

Main conference hall, hotel Romantic, Yaremche

Svobody Str. 363/32

Session 1.1: Nanocomposites – Lectures

Moderator: NASU corresponding member, Prof. Ragulya Andrey

10.00-10.05	The opening speech	Acad. Naumovets A.G., Vice-President NASU (Ukraine)
10.05-10.10	The introductory speech	NASU corresponding member Prof. Yatsenko L.P., Director of Institute of Physics, NASU (Ukraine)
10.10-10.15	The introductory speech	Prof. Gianmario Martra, University of Torino, Department of Chemistry & Interdepartmental Centre (Italy)
10.15-10.20	The introductory speech	Dr. Katarzyna Matczyszyn, Wroclaw University of Technology / Universite Pierre et Marie Curie (France)
10.20-10.25	The introductory speech	Dr. Leonid Dolgov Institute of Physics, University of Tartu (Estonia)
10.25-10.30	The introductory speech	Mr. Vladimir Arkhangelski, European Profiles SA (Greece)
10.30-10.35	The introductory speech	Dr. Olena Fesenko, Manager of Nanotwinning project, Institute of Physics, NASU (Ukraine)
10.35-11.35	Lecture	NASU corresponding member Prof. Ragulya Andrey, Frantsevich. <i>State-of-the Art and Challenges in Ceramic Nanocomposites.</i> Institute for Problems in Materials Science, NASU (Ukraine)
11.35-12.35	Lecture	Dr. Kadashchuk Andrey. <i>Charge carrier transport in organic nanoparticles systems: fullerene (C₆₀) films.</i> Institute of Physics, NASU (Ukraine)
12.35-13.35	Lecture	Dr. Venkat Rao. <i>Nano-bio architectures: combining chemistry and biology in nanotechnology.</i> CSC Defense Group, Alexandria, Virginia (USA)
13.35-15.00	Lunch	
14.00-15.00	Press-conference	

Session 1.2: Nanocomposites – Presentations

Moderator: Dr. Venkat Rao

15.00-15.15	Round table meetings, young scientist presentation	Alberto G. <i>Fluorescent hybrid dye-silica nanoparticles: role of the dye structure on the dispersion throughout the silica matrix and overall brightness.</i> Università degli Studi di Torino (Italy)	
15.15-15.30		Apartsin E. <i>Assemblage of nucleic acid complex on the SWNT surface.</i> Institute of Chemical Biology and Fundamental Medicine SB RAS (Russia)	
15.30-15.45		Karachetsev M. <i>Pecularity of Poly(rC) and Poly(rI) hybridization on the carbon nanotube surface.</i> Institute for Low Temperature Physics and Engineering (Ukraine)	
15.45-16.00		Kredentser S. <i>Magnetically-induced ordering of dispersions of non-magnetic hard rods doped with spherical superparamagnetic nanoparticles.</i> Institute of Physics NASU (Ukraine)	
16.00-16.15		Nazarychev V. <i>Multiscale computer simulations of thermostable polyimide nanocomposites.</i> Institute of Macromolecular Compounds RAS (Russia)	
16.15-16.30		Nosenko A. <i>The influence of dopants Mo and Ni on magnetic characteristics of Fe-Si-B amorphous alloys.</i> G.V. Kurdiymov Institute for Metal Physics, NASU (Ukraine)	
16.30-16.45		Pylypchuk E. <i>Gd-containing magnetic nanoparticles for neutron capture therapy and magnetic resonance imaging.</i> Chuiko institute of surface chemistry, NASU (Ukraine)	
16.45-17.00		Shaydyuk Y. <i>Charge separated state of phenothiazine upon adsorption on crystal of laponite.</i> Institute of Physics, NASU (Ukraine)	
17.00-17.15		Shton I. <i>Nanocomposite of colloid gold with photosensitizer Fotolon as a potent drug in two-step cancer therapy.</i> R.E.Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology, NASU (Ukraine)	
17.15-17.30		Smola S. <i>Sol-gel organic-inorganic hybrid materials, containing lanthanide complexes with polydentate acyclic and cyclic ligands: synthesis and spectral-luminescent properties.</i> A.V. Bogatsky Physico-Chemical Institute, NASU (Ukraine)	
17.30-17.45		Tomylo S. <i>Liquid Crystal Dispersions of Carbon Nanotubes Assisted by Organically Modified Laponite Platelets.</i> Institute of Physics, NASU (Ukraine)	
17.45-18.00		Zobnina V. <i>Study of nanocomposites of amino acids and organic polyethers by means of mass spectrometry and molecular dynamics simulation.</i> ILTPE - B.Verkin Institute for Low Temperature Physics and Engineering, NASU (Ukraine)	
18.00-19.00		Dinner	
19.00-21.00		Culture program	

Tuesday, 28th of August 2012,

Conference hall, hotel Patkovski, Bukovel

Session 2.1: Nanoplasmonics and enhanced vibrational spectroscopy – Lectures

Moderator: Prof. Dovbeshko Galina

10.00-11.00	Lecture	Dr. Alessandro Damin. <i>Surface enhance Raman spectroscopy.</i> University of Torino, Department of Chemistry (Italy)
11.00-12.00	Lecture	Prof. Kamnev Alexandr. <i>Infrared spectroscopy in studying biofunctionalised gold nanoparticles.</i> Institute of Bio-chemistry and Physiology of Plants and Microorganisms, RAS (Russia)
12.00-13.00	Lecture	Prof. Thomas A. Klar. <i>Metal Nanostructures and Active Materials.</i> Institute of Applied Physics, Johannes Kepler University of Linz (Austria)
13.00-14.00	Lunch	
15.00-16.00	Lecture	Dr. Dolgov Leonid. <i>Introduction to surface plasmon coupled fluorescence.</i> Institute of Physics, University of Tartu (Estonia)

Session 2.2: Nanoplasmonics and enhanced vibrational spectroscopy – Presentations

Moderator: Prof. Thomas A. Klar

16.00-16.15	Round table meetings, young scientist presentation	Butenko D. <i>The nanoparticle shape effect on the light scattering cross-section.</i> Institute for Physics, NASU (Ukraine)
16.15-16.30		Loot A. <i>Automatized setup for plasmonic measurements based on prism coupling technique.</i> Institute of Physics, University of Tartu (Estonia)
16.30-16.45		Mishakova T. <i>Sensitivity of the optical sensor based on the local plasmons in the layers of nanoparticles depending on size and shape of the particles.</i> Taras Shevchenko National University of Kyiv (Ukraine)
16.45-17.00		Repän T. <i>Numerical simulations of planar metal-dielectric plasmonactive systems.</i> University of Tartu, Institute of Physics (Estonia)
17.00-17.15		Saroka V. <i>Surface plasmon retardation in graphene bilayer.</i> Research Institute for Nuclear Problems of Belarus State University (Belarus)
17.15-17.30		Voronovich S. <i>Stimulated Cherenkov emission in carbon nanotubes.</i> Research Institute for Nuclear Problems of Belarus State University (Belarus)
17.30-17.45		Rynder A. <i>Enhancement of IR Signals of Biomolecules Adsorbed on the Single Wall Carbon Nanotubes and Graphene Nanoplates.</i> Institute of Physics, NASU (Ukraine)
18.00-19.00	Dinner	
19.00-21.00	Culture program	

Wednesday, 29th of August 2012,

Conference hall, hotel Patkovski, Bukovel

Session 3.1: Nanostructured Interfaces and Surfaces

Moderator: Prof. Tetyana Konstantinova

10.00-11.00	Lecture	Prof. Gianmario Martra. <i>Surface sites of nanomaterials: investigation at molecular level by combining spectroscopic and theoretical studies.</i> University of Torino, Department of Chemistry & Interdipartimental Centre (Italy)
11.00-12.00	Lecture	Dr. Posudievsky Oleg. <i>Chemical preparation of graphenes.</i> L.V. Pisarzhevsky Institute of Physical Chemistry, NASU (Ukraine)
12.00-13.00	Lecture	Prof. Konstantinova Tetyana. <i>Surface and interface effects in oxide nanoparticles systems.</i> Donetsk Institute for Physics and Engineering named after O.O.Galkin (Ukraine)
13.00-15.00	Lunch	

Session 3.2: Nanostructured Interfaces and Surfaces

Moderator: Prof. Gianmario Martra

15.00-15.15	Round table meetings, young scientist presentation	Aina V. <i>Novel smart bio-nanomaterials for dental and orthopaedic applications: bioactive glasses containing metal nano-particles (Nps).</i> University of Torino (Italy)
15.15-15.30		Boyko V. <i>Luminescent imaging of biological molecules and cells on the photonic crystal surface.</i> Institute of Physics NASU (Ukraine)
15.30-15.45		Ilkiv B. <i>Electronic structure of graphene nanosheets.</i> Frantsevich Institute for Problems of Materials Science, NASU (Ukraine)
15.45-16.00		Kopanchuk S. <i>Application of baculovirus technology for systems biology studies of G Protein-Coupled receptors.</i> University of Tartu (Italy)
16.00-16.15		Korobeinyk A. <i>Single-layer graphene oxide architecture.</i> Chuiko Institute of Surface Chemistry, NASU (Ukraine)
16.15-16.30		Liapina K. <i>Method to produce suspensions using encapsulated metal nanopowders.</i> E.O. Paton Electric Welding Institute (Ukraine)
16.30-16.45		Nosenko V. <i>Synthesis and EPR study of manganese-doped CdS nanoparticles.</i> V. Lashkaryov Institute of Semiconductor Physics, NASU (Ukraine)
16.45-17.00		Sheremet N. <i>Photoinduced Anchoring of Liquid Crystal on Nano-layers of Chalcogenide Glasses.</i> Institute of Physics, NASU (Ukraine)
17.00-17.15		Yashchishyn I. <i>The influence of chromium on thermal evolution of stabilized zirconia nanoparticles and their surface state.</i> Donetsk Institute for Physics and Engineering named after A.A. Galkin, NASU (Ukraine)
17.20-18.00		Nanotwinning Project Partners working meeting
18.00-19.00	Dinner	
19.00-21.00	Culture program	

Thursday, 30th of August 2012,

Conference hall, hotel Patkovski, Bukovel

Session 4.1: Nanooptics – Lectures

Moderator: NASU corresponding member, Prof. Yatsenko Leonid

10.00-11.00	Lecture	NASU corresponding member, Prof. Yatsenko Leonid. <i>Optical manipulation of small objects: from atoms and molecules to subwavelength particles.</i> Institute of Physics, NASU (Ukraine)
11.00-12.00	Lecture	NASU corresponding member, Prof. Negriyko Anatoliy. <i>Laser nanometrology.</i> Institute of Physics, NASU (Ukraine)
12.00-13.00	Lecture	Prof. Dovbeshko Galina. <i>Surface enhanced spectroscopy for study of biomolecules and cells.</i> Institute of Physics, NASU (Ukraine)
13.00-15.00	Lunch	

Session 4.2: Nanooptics – Presentation

Moderator: NASU corresponding member, Prof. Negriyko Anatoliy

15.00-15.15	Round table meetings, young scientist presentation	Grigorova A. <i>Optical properties of colloidal ReVO₄:Eu³⁺ (Re=La, Gd, Y) Nanophosphors.</i> Institute for Scintillation Materials, NASU (Ukraine)
15.15-15.30		Gunko G. <i>Synthesis and properties of composites based on polymers and multiwalled carbon nanotubes.</i> Chiko Institute of Surface Chemistry of NASU (Ukraine)
15.30-15.45		Kopylovsky M. <i>Impact of the embedded TiO₂ nanoparticles on the second harmonic generation in the KDP single crystals.</i> Institute of Physics, NASU (Ukraine)
15.45-16.00		Leonenko E. <i>Optical manifold of spatial localization of dyes molecules self-organized in the body of silica thin films.</i> Institute of Physical Chemistry, NASU (Ukraine)
16.00-16.15		Melnik D. <i>Spectral properties of semiconductor quantum dots synthesized in ionic liquid crystals of cadmium alkanoates.</i> Institute of Physics, NASU (Ukraine)
16.15-16.30		Lyashchova A. <i>Nonlinear Optical Properties of New Nanocomposites: Metal Alkanoate Glasses with Semiconductor Quantum Dots.</i> Institute of Physics, NASU (Ukraine)
16.30-16.45		Seminko V. <i>Doped ion redistribution in Y₂SiO₅:Pr³⁺ nanocrystals detected by spectroscopic techniques.</i> Institute for Scintillation Materials, NASU (Ukraine)
16.45-17.00		Shynkarenko Y. <i>Nanocluster production by pulsed laser ablation in liquids.</i> Institute of Physics, NASU (Ukraine)
17.00-17.15		Yevchik A. <i>Raman spectroscopy of nanocomposites on basis of synthetic opals and active dielectrics.</i> Oles Honchar Dnipropetrovsk National University (Ukraine)
17.30-21.00		Lecturers offsite meeting
18.00-19.00	Dinner	
19.00-21.00	Culture program	

Friday, 31th of August 2012,

Conference hall, hotel Patkovski, Bukovel

Session 5.1: Microscopy of nanostructures

Moderator: Prof. Lacaze Emmanuelle

10.00-11.00	Lecture	NASU corresponding member, Dr. Marchenko. <i>Scanning Tunneling Microscopy of Organic Molecules.</i> Institute of Physics, NASU (Ukraine)
11.00-12.00	Lecture	Prof. Dr. habil. Emmanuelle Lacaze. <i>Atomic Force Microscopy and Spectroscopy.</i> Institute of Nano-Science of Paris (France)
12.00-13.00	Lecture	Dr. Katarzyna Matczyszyn. <i>Multiphoton imaging.</i> Wroclaw University of Technology (Poland)
13.00-15.00	Lunch	

Session 5.2: Microscopy of nanostructures

Moderator: Dr. Katarzyna Matczyszyn

15.00-15.15	Round table meetings, young scientist presentation	Bibikova O. <i>Plasmon-resonance gold nanoparticles as drug carriers and optical labels for cytological investigations.</i> Saratov State University named after N.G. Chernyshevsky (Russia)
15.15-15.30		Chepyga L. <i>Graphene-like autointercalated Niobium Diselenide nanoparticles: new possibility of 2D nanomaterials design.</i> Frantsevich Institute for Problems of Materials Science, NASU (Ukraine)
15.30-15.45		Kleshchonok A. <i>2D electron interferometer: interaction and temperature effects.</i> Commissariat à l'Energie Atomique (France)
15.45-16.00		Kovalska E. <i>Deagglomeration of carbon nanotubes in aqueous solutions of variety compounds.</i> O.O. Chuiko Institute of Surface Chemistry (Ukraine)
16.00-16.15		Pelliser L. <i>Deposition and self-alignment of CdSe nanorods on defects of a layer of liquid crystal.</i> Université Pierre et Marie Curie (France)
16.15-16.30		Senenko A. <i>STM-investigation of adsorption of long chain aliphatic compounds on atomically flat surfaces.</i> Institute of Physics, NASU (Ukraine)
16.30-16.45		Sleczkowski P. <i>Control of anchoring of discotic liquid crystals for understanding of organic electronic devices.</i> Universite Pierre et Marie Curie (France)
18.00-19.00		Dinner
19.00-21.00	Culture program	

Saturday, 1st of September 2012,

Conference hall, hotel Patkovski, Bukovel

Session 6: EU Framework programme opportunities for young researchers

10.00-11.00	Lecture	Dr. Arkhangelski Vladimir. <i>EU Framework Programme Opportunities for Young Researchers.</i>
11.00-13.00	Practice lessons	European Profiles SA (Greece)
13.00-14.00	Closing ceremony, awarding of diploma, winner announcement	NASU corresponding member, Prof. Yatsenko Leonid, IOP Director
13.00-15.00	Lunch	
15.00-18.00	Excursion to the geographical centre of Europe	
18.00-19.00	Dinner	
19.00-21.00	Culture program	

Sunday, 2nd of September 2012,

hotel Patkovski, Bukovel

11.00 | Moving out from hotel

Contact person: Summer School Secretary, Nanotwinning Project manager
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