



PROGRAM

International Student Conference
“Science and Progress-2016”
October, 17-21
Saint-Petersburg – Peterhof

October, 17 (Monday)

10.00 – 10.45 Registration (Faculty of Physics, hall of the 1st floor)

10.45 – 11.00 Opening Ceremony, aud. B-04

11.00 – 12.00 Lecture I, aud. B-04

“Making sense of the mess: Reconstructing the morphology of noncrystalline solids from NMR of noncovalent interactions”

Dr.Sc. Ilya Shenderovich, University of Regensburg

12.00 – 12.30 Coffee-break (hall nearly aud. B-02)

12.30 – 13.30 Lecture II, aud. B-04

“Ultrafast photochemistry of bromoform: chemical reaction from the inside”

Dr. Andrey Mereshchenko, Institute of Chemistry, Saint-Petersburg State University

13.30 – 15.00 Lunch

15.00 – 16.30 **Oral sections**

C – Mathematics and Mechanics, part I, aud. 227

D – Solid States Physics, part I, aud. B-04

F – Optics and Spectroscopy, aud. 225

I – Resonance Phenomena in Condensed Matter, part I, aud. 229

16.30 – 16.50 Coffee-break (hall nearly aud. B-02)

16.50 – 18.00 **Oral sections**

C – Mathematics and Mechanics, part II, aud. 227

D – Solid States Physics, part II, aud. B-04

16.50 – 17.30 **I – Resonance Phenomena in Condensed Matter**, part II, aud. 229

16.50 – 18.00 **Poster sections, 2nd floor hall**

D – Solid States Physics (after oral section)

F – Optics and Spectroscopy,

17.30 – 18.30 **Poster sections, 2nd floor hall**

I – Resonance Phenomena in Condensed Matter

18.00 – 19.00 Dinner

October, 18 (Tuesday)

09.30 – 14.00 Excursion to the Kunstkamera: Great Gottorp Globe, First Astronomical Observatory of the Academy of Sciences (bus starts from Faculty of Physics)

14.00 – 15.00 Lunch

15.00 – 16.00 Lecture III, aud. B-04

“Label-Free Spectromicroscopy as a Probe for Dermal Drug Delivery”

Prof. Eckart Ruehl, Free University of Berlin, Department of Physical Chemistry

16.00 – 17.00 Lecture IV, aud. B-04

“Experimental and numerical methods for cavitation erosion prediction in hydraulic components”

Dr. Iben Uwe, Head of Research and Technology Office, GmbH “Robert Bosch”

17.00 – 18.00 Dinner

October, 19 (Wednesday)

10.30 – 12.00 **Oral sections**

B – Geo- and Astrophysics, part I, aud. 210

H – Biophysics, aud. 225

12.00 – 12.30 Coffee-break

12.30 – 14.00 **Oral sections**

B – Geo- and Astrophysics, part II, aud. 210

Poster sections, 2nd floor hall

H – Biophysics

14.00 – 15.00 Lunch

15.00 – 17.00 **Poster sections, 2nd floor hall**

B – Geo- and Astrophysics

17.00 – 18.00 Dinner

October, 20 (Thursday)

10.30 – 12.00 **Oral sections**

A – Chemistry, part I, auds. 210, 225, 227

G – Theoretical, Mathematical and Computational Physics, part I, aud. 229

12.00 – 12.30 Coffee-break

12.30 – 14.00 **Oral sections**

A – Chemistry, part II, auds. 210, 225, 227

G – Theoretical, Mathematical and Computational Physics, part II, aud. 229

14.00 – 15.00 Lunch

14.00 – 17.00 **S – First Steps in Science (for secondary school students)**, aud. B-04

14.00 – 15.00 Lecture by Prof. Dr. Sergey Manida “Education in Physics and Mathematics as an element of the universal human culture” (in Russian), Saint Petersburg State University, Faculty of Physics

15.00 – 15.30 Coffee-break

15.30 – 17.00 Oral section S, auds. B-02, B-04

17.00 – 17.30 Coffee-break

17.30 – 18.00 Ceremony of awarding the winners “The best school student’s presentation”

15.00 – 17.00 **Poster sections, 2nd floor hall**

A – Chemistry,

15.00 – 16.30 **G – Theoretical, Mathematical and Computational Physics, part III**

15.00 – 17.00 **ANNUAL MEETING of G-RISC “RESULTS-2016”, aud. 210**

15.00 – 15.10 Welcome speeches, Representative of SPbSU

15.10 – 15.20 Representative of DAAD (Ms. Beate Kolberg)

15.20 – 15.30 Representative Freie University Berlin (Mr. Studemann)

15.30 – 15.40 Representative G-RISC Prof. Dr. Eckart Rühl

15.40 – 15.50 Representative G-RISC Administrative Committee Natalia Kolanovska

15.50 – 16.50 Reports by the Winners of Award “The Best reports 2015”

16.50 – 17.00 Ceremony of the winners awarding

16.30 – 18.00 **Poster sections, 2nd floor hall**

G – Theoretical, Mathematical and Computational Physics

17.30 – 19.30 **SECOND G-RISC’S ALUMNI MEETEING** (Student Canteen)

17.30 – 17.35 Welcome speeches (Prof. Dr. A. Shikin, Prof. Dr. E. Ruehl)

17.35 – 17.45 Speech by Prof. Dr. C. Laubschat

17.45 – 17.55 Presentation from G-RISC Offices (Mrs. N. Kolanovska, J. Egorova)

17.55 – 18.05 Medvedev Oleg (SPbSU)

18.05 – 18.15 SedovMaxim (SPbSU)

18.15 – 18.25 Lopushenko Ivan (MSU)

18.25 – 18.35 Lyashenko Konstantin (SPbSU)

18.35 – 18.45 Ceremony of honor for the best conference talk

18.35 – 19.30 Welcome-drinks

October, 21 (Friday)

11.00 – 12.00 **Lecture V**, aud. B-02

“Magnetism of the heavy lanthanides: equilibrium vs. non-equilibrium phase transitions”

Ms. Andres Beatrice, Free University Berlin, Department of Physics

12.00 – 13.00 Lunch

13.00 – 18.00 Excursion to the Gatchina Palace

18.00 – 19.00 Dinner

Section A – Chemistry

October, 20 (Thursday)

Oral sections 10.30 – 12.00 and 12.30 – 14.00

Aud. 210, Leader – Dr. Alina Manshina

Drozdov Andrey (ITMO University, Saint-Petersburg)

“Bioactive Magnetic Composite Nanomaterials”

Haschke Sandra (Friedrich-Alexander University Erlangen-Nürnberg, Germany)

“Engineering Nanoporous Iron(III) Oxide into an Effective Water Oxidation Electrode”

Eremeeva Elena (ITMO University, Saint-Petersburg)

“Synthesis of High Refractive UV-Hardening Polymers”

Furasova Aleksandra (ITMO University, Saint-Petersburg)

“Hafnia Based Injectable Luminescent Nanocollods”

Kaiumov Mikhail (Saint-Petersburg State University)

“Photoactivity and Catalytic Properties of Electrodes Modified by Metal Complexes with Schiff-Base Ligands”

Khramenkova Elena (ITMO University, Saint-Petersburg)

“A Complementary Theoretical and Experimental Approach to the Development of Metal-Organic Frameworks as a Novel Platform for Targeted Drug Delivery”

Mingabudinova Leila (ITMO University, Saint-Petersburg)

“Second Harmonic Generation in 2d Coordination Polymer”

Oleneva Polina (Saint-Petersburg State University)

“Synthesis of Colloidal CdSe Quantum Dots: Safer, Cheaper and Faster”

Razumtcev Alexandr (Saint-Petersburg State University)

“Optical Properties of Er³⁺ Doped Sulfide Glasses”

Simagina Anna (ITMO University, Saint-Petersburg)

“Computations-Aided Design of Novel Drug Delivery Approaches: Tailoring Stability of Covalent Organic Frameworks as Nanocontainers with a Selective Response to Glucose”

Slabov Vladislav (ITMO University, Saint-Petersburg)

“Heat-Conductive Paste”

Aud. 225, Leader – Dr. Elena Grachova

Chernysheva Anna (Saint-Petersburg State University)

“Synthesis of Complex Amidoboranes $M[M'(NH_2BH_3)_4]$ ($M = \text{alkali metal}, M' = \text{Ga, Al}$) by Metathesis”

Dekina Daria (Saint-Petersburg State University)

“Design of an Optical Sensing Platform for Determination of Physiological Cations in Microliter-Size Biological Samples”

Doinikov Dmitry (Saint-Petersburg State University)

“Automatic Static Tensimeter for Studying Equilibrium and non-Equilibrium Processes”

Frosiniuc Ana (Saint-Petersburg State University)

“Effect of Ionic Association in the Response of Ion-Selective Polymeric Optochemical Sensors”

Gozdanker Yuliya (Saint-Petersburg State University)

“Platinum(II)-Mediated Addition of Thiazol-2-Amines to Isocyanides”

Ivashkov Oleg (Moscow State University)

“Kinetics of Fluorescein Release from Microgel-Liposome Complexes upon Temperature-Induced Collapse of Microgel”

Papina Natalya (Saint-Petersburg State University)

“Synthesis and Characterization of the First Example of Cyclometalated Palladium(II) Complex with ADC-Ligand”

Shakirova Julia (Saint-Petersburg State University)

“Polynuclear Cage-Like Au(I) Phosphane Complexes Based on S2- Template; Observation of Multiple Luminescence in Coordinated Polyaromatic Systems”

Shelyganov Pavel (Saint-Petersburg State University)

“Solid State Structure of Complex of Ammonia Borane with Tetraglyme”

Strelnikov Artem (Saint-Petersburg State University)

“Synthesis of Covalent Porphyrin-Fullerene Dyads with "Face-to-Edge" Orientation of the Chromophores Fixed by N-phenylpyrrolidine Linker”

Kononov Alexander (Saint-Petersburg State University)

“Comparison of Different Sample Preparation Procedures for the Determination Microelements in Tobacco by Arc Emission Spectral Analysis”

Aud. 227, Leader – Dr. Dmitry Kirsanov

Baranauskaite Valeria (Saint-Petersburg State University)

“Study of the Structural-Dynamic Characteristics of the Ternary System CsCl-LiCl-D₂O with NMR Spectroscopy in the Interval from 25° C to the Freezing Temperature”

Davletbaeva Polina (Saint-Petersburg State University)

“Determination of Synthetic Water-Soluble Colorants in Cough-Cold Formulations by Sequential Injection Chromatography”

Fedortsov Andrei (Saint-Petersburg State University)

“Interatomic Interactions and the State of the Iron Atoms in Lanthanum Gallate Doped with Strontium and Magnesium”

Iavid Elizaveta (Saint-Petersburg State University)

“A Gas Chromatographic-Mass Spectrometric Analysis of the Metabolite Composition of Potamogeton perfoliatus L”

Ivanov Mikhail (Saint-Petersburg State University)

“Molecular Simulation Study of Structure-Diffusivity Relationships in Ytria-Stabilized Zirconia”

Kiskina Aleksandra (Saint-Petersburg State University)

“Radiocarbon Dating of the Bronze Age Sites of the North-Western Caucasus”

Pokhvishcheva Nadezhda (Saint-Petersburg State University)

“Towards Optical Sensing of Individual Ion Activity: the Role of Organic Salts in Polymeric Ion-Selective Optodes”

Rostovtseva Valeriia (Saint-Petersburg State University)

“Gas Separation Performance of Novel Mixed Matrix Membranes Based on Star-Shaped Macromolecule”

Samokhvalova Svetlana (Saint-Petersburg State University)

“The Effect of Background Salts on Copolymers of Diallyldimethylammonium Chloride and 2-(diallyl(methyl)ammonio)acetate in Solution”

Stelmashuk Tatyana (Saint-Petersburg State University)

“Oxygen Reduction Catalysts Based on Platinum Nanoparticles Deposited in Transition Metals Polymer Complexes Matrix”

Zverkov Nikolai (Saint-Petersburg State University)

“Arc Atomic Emission Spectral Analysis of Viscous Organic Liquids”

Poster section 15.00 – 17.00

- A-01. Abdrashidov Georgy (Saint-Petersburg State University)
“Catalytic Activity of Copper Nanostructures Produced by on-Line LCLD Method”
- A-02. Agafonova Anastasiya (Saint-Petersburg State University)
“Synthesis of Apoptosis-Inducing 2,3-Dihydroazetes”
- A-03. Baranauskaite Valeria (Saint-Petersburg State University)
“Laser Induced Liquid-Phase Molybdenum Oxide Deposition”
- A-04. Bykova Anna (Saint-Petersburg State University)
“Langmuir-Blodgett Films Based on Nickel Stearate as New Metal Affinity Sorbents”
- A-05. Dmitriev Victor (Saint-Petersburg State University)
“Modeling of Co-Distribution of Sodium Asparaginate and Isoleucine in Aqueous Solution of Ionic Liquid Surfactant”
- A-06. Dolbich Vladimir (Saint-Petersburg State University)
“Arc Atomic Emission Spectral Analysis of Potato without Sample Mineralization”
- A-07. Eremina Anzhelika (Saint-Petersburg State University)
“Synthesis and Photophysical Properties of Isocyanide Iridium(III) Complexes”
- A-08. Gitlina Anastasia (Saint-Petersburg State University)
“Synthesis of Novel Alkynyl-Phosphine Cluster Complexes with {Ag₆Cu_x} Metal Core (x = 1, 4)”
- A-09. Golikova Alexandra, Trofimova Maya (Saint-Petersburg State University)
“Experimental Investigation of Chemical Equilibrium in the System with Reaction of Ethyl acetate Synthesis under Ppolythermal Conditions”
- A-10. Gugin Nikita (Saint-Petersburg State University)
“Complexes of AlBr₃ with Bifunctional N-donors: New Structural Type for 1:1 Composition”
- A-11. Hüppe Henrika (Aachen University, Germany)
“Antenna Effect” of {Au} Acetylene Complexes towards LnIII Ions”
- A-12. Ilyasova Julia (Saint-Petersburg State University)
“Solution Properties of Hyperbranched Poly(Methyl Methacrylates)”
- A-13. Ivanova Elena (Saint-Petersburg State University)
“Molecular Simulation of Gas Adsorption in CMK-5 in the Presence of Acetonitrile”
- A-14. Katernuk Yuliya (Saint-Petersburg State University)
“Synthesis and Characterization of Alginate Nanogels as a Drug Delivery System”

- A-15. Khairullina Evgeniia (Saint-Petersburg State University)
“Non-Enzymatic Electrochemical Sensors Based on Metal Microwires Produced by Laser-Induced Ddeposition”
- A-16. Khistyayeva Viktoriia (Saint-Petersburg State University)
“Synthesis and Luminescent Properties of Lanthanide Complexes on the Base of N4-Heterocyclic Politopic Ligand”
- A-17. Kisel Kristina (Saint-Petersburg State University)
“A New Generation of Polynuclear Homo- and Heterometallic Re-Based Species”
- A-18. Koronotov Aleksandr (Saint-Petersburg State University)
“An Effective Two-Step Synthesis of 1,2-dihydropyrimidine-2-carboxylates from azirine-2-carbaldehydes and Diazo Carbonyl Compounds”
- A-19. Kotelnikova Sofya (Saint-Petersburg State University)
“Synthesis and Catalytic Properties of Individual and HAP-Supported Ni Nanoparticles”
- A-20. Krivoshey Ilya (Saint-Petersburg State University)
“Synthesis and Structure of Hypervalent Antimony Trichloride Complexes with Pyridine”
- A-21. Krylova Mariia (Saint-Petersburg State University)
“Formation of Hydrogel Supermacroporous Matrices for Biomedical Application”
- A-22. Kuzmenko Peter (Saint-Petersburg State University)
“Peculiarities of Biodiesel Synthesis on the Base of the Model System: Oleic Acid – Ethanol/Methanol- Ethyl Oleate/Methyl Oleate - Water”
- A-23. Mezenov Yury (Saint-Petersburg State University)
“Influence of Two Type of Nucleating Agents on Morphology and Optical Properties of Vanadium Dioxide Nanoparticles”
- A-24. Mikhailova Aleksandra (Saint-Petersburg State University)
“Synthesis of Amphiphilic Block-Copolymers with Terminal Fluorescent Labels”
- A-25. Minich Iana (Saint-Petersburg State University)
“A Study of the Protonation and Hydration of Layered Perovskite Bismuth Titanates”
- A-26. Mitrofanov Andrey (Saint-Petersburg State University)
“Application of Green Chemical Principles to the Synthesis of CdSe Quantum Dots”
- A-27. Mosiagin Ivan (Saint-Petersburg State University)
“From Easily Available Hetarylpyrroles to Novel Heterocyclic Frameworks”

- A-28. Nechaeva Darya (Saint-Petersburg State University)
“Automated Electrochemical Determination of Hydrogen Sulfide, Methanethiol and Ethanethiol in Crude Oil and Biodiesel with On-Line Chromato-Membrane Extraction”
- A-29. Nevskaya Alisa (Peoples’ Friendship University of Russia, Moscow)
“Development of a Conjugate for 5-hydroxy-8H-chromeno[2',3':4,5]imidazo[2,1-a]isoquinoline”
- A-30. Nikitina Anna (Saint-Petersburg State University)
“Preparation and Properties Investigation of Flow-through Heterogeneous Biocatalysts based on Macroporous Monolithic Materials”
- A-31. Orekhov Jevgeni (Saint-Petersburg State University)
“Preparation of Titanium Oxide and Calcium Phosphate Based Coatings by Sol-Gel Method and Investigation of their Structural Characteristics”
- A-32. Osipova Olga (Saint-Petersburg State University)
“The Influence of Different Stabilizers on the Formation of Alginate Nanoparticles”
- A-33. Petukhova Yulia (Saint-Petersburg State University)
“Organic Acids as Morphology and Functional Properties Regulation Agents for VO₂ Nanoparticles”
- A-34. Prokudina Yana (Saint-Petersburg State University)
“Synthesis and Structure of Complexes of Antimony Tribromide with Pyridine”
- A-35. Razzhivin Alexander (Saint-Petersburg State University)
“Atomic Emission Spectral Determination of Micro- and Macro Elements in Commercial Fruit Juices”
- A-36. Ruvinskaya Julia (Saint-Petersburg State University)
“Rh(II)-Catalyzed Reactions of 1-~~isobutyl~~ ^{2-Triazole}”
- A-37. Sadaeva Anna. (Saint-Petersburg State University)
“Simultaneous Phase and Chemical Equilibrium in Systems with Liquid Phase Splitting under Polythermal Conditions”
- A-38. Shabanova Emiliya (ITMO University, Saint-Petersburg)
“Magnetic Proteolytic Nanocomposite”
- A-39. Shvets Nataliya (Saint-Petersburg State University)
“Surface Modification, Characterization and in vitro and in vivo MRI Studies of Fe₃O₄ Nanoparticles”

- A-40. Solomatina Anastasia (Saint-Petersburg State University)
“Selective Protein Labeling with Cyclometallated Platinum(II) Complex via Histidine Imidazole Function”
- A-41. Solovyev Igor (Saint-Petersburg State University)
“Mononuclear Au(I) Complexes as Potential Sensitizer for Lanthanide Luminescence”
- A-42. Solovyeva Natalia (Tver State University)
“The Research of the Qualitative Composition and Antioxidant Activity of Yarrow Phenolic Compounds in Conditions of Industrial Pollution”
- A-43. Strashkov Daniil (Saint-Petersburg State University)
“Synthesis of Pyrrolo[1,2-C][1,3]Oxazine Derivatives via Rhodium Carbenoid Induced Annulation of 2-Aroylpyrroles”
- A-44. Svirskiy Gleb (Saint-Petersburg State University)
“Partial Oxidation of Propylene by Ozone in a gas Phase Reaction”
- A-45. Trofimova Dariya (Saint-Petersburg State University)
“Peculiarities of Critical Phenomena in the System with n-butyl Propionate Synthesis Reaction”
- A-46. Vasileva Anna (Saint-Petersburg State University)
“Novel Liquid Electrolytes with High Ionic Conductivity”
- A-47. Vernadskaya Victoria (Saint-Petersburg State University)
“Critical Phenomena for the Quaternary System Acetic Acid – Ethanol – Ethyl Acetate – Water at 333.15 K”
- A-48. Vlasova Anna (Saint-Petersburg State University)
“Synthesis of Fe₃O₄@Cu Nanoparticles and their Functional Properties”
- A-49. Zavgorodnii Artem (Saint-Petersburg State University)
“Thermal Decomposition of Gaseous Borazine: Diffusion-Controlled Reaction on the Surface”
- A-50. Zhukovskaya Margarita (Saint-Petersburg State University)
“Synthesis and Photophysical Properties of a New Dinuclear Platinum(II) Complex That Features Unusual Low-Energy Emission”

Section B – Geo- and Astrophysics October, 19(Wednesday)

Oral sections 10.30 – 12.00 and 12.30 – 14.00

Aud. 210, Leader – Prof. Dr. Vladimir Troyan

Arabadzhian Dina, Foka Stefani (Saint-Petersburg State University)

“Nocturnal Emission of CO₂ and CH₄ in Boundary Layer at the Peterhof Station for 2014 and 2015”

Burmakina Tatiana (Saint-Petersburg State University)

“Implementation of the IRI Model into the Software for HF Radio-Paths Simulation”

Ivanova Olga (Saint-Petersburg State University)

“The Study of Cloud Condensation Nuclei Properties of Background and Anthropogenic Aerosol Particles for Season 2014”

Karagodin Arseniy (Saint-Petersburg State University)

“Impact of Solar Proton Events on Dynamics of Chemical Composition of the Polar Atmosphere”

Krivoshein Sergey (Saint-Petersburg State University)

“Kinematic Calibration of Distance Scales for Planetary Nebulae”

Medvedev Sergei (Saint-Petersburg State University)

“Influence of a Starting Model on the Travel-Time Tomography Solution”

Shablovinskaya Elena (Saint-Petersburg State University)

“Photometric Interpretation of Blazar AO 0235+164 Behaviour”

Smirnov-Pinchukov Grigorii (Moscow State University)

“Interstellar Medium and HII Bubbles in Dwarf Galaxies: Observations”

Sultangaleev Ruslan (Saint-Petersburg State University)

“Velocity Determination of Seismic Waves by Fenetic Algorithm”

Poster section 15.00 – 17.00

- B-01. Biriukov Egor (Saint-Petersburg State University)
“The Analysis of Temporal Variations and Distributions of Cloud Liquid Water Path Based on Satellite and Ground-Based Measurements near Peterhof”
- B-02. Boronina Sophia (Saint-Petersburg State University)
“The Investigation of the space Distribution of Magnetic Stars”
- B-03. Egorova Nataliia (Saint-Petersburg State University)
“Application of Seismoacoustic Profiling for Study Geological Structure of the Upper Part of Lake Ladoga Section”
- B-04. Iiudina Sofia (Saint-Petersburg State University)
“Properties of Inhomogeneous Viscous Waves”
- B-05. Kalinin Iliia (Saint-Petersburg State University)
“Own Rotation of Single Dust Particle in Complex Plasma”
- B-06. Kolmakova Natalia (Saint-Petersburg State University)
“Analysis of Local and Remote Measurements of Ozone”
- B-07. Kondakova Veronika (Saint-Petersburg State University)
“Assess of Pit Slope Sability in Case of Changes of Mechanical Properties of Rocks due to Field Development in Permafrost”
- B-08. Smirnova-Pinchukova Irina (Moscow State University)
“Spectra Analysis of Galaxies with Known Super Massive Black Hole Masses”
- B-09. Tlatova Kseniya (Saint-Petersburg State University)
“Comparative Properties Prominences in the 16th Cycle of Activity”
- B-10. Volkova Kristina (Saint-Petersburg State University)
“Analysis of Abnormal Aerosol Optical Depth near Saint-Petersburg in February 2014”

Section C – Mathematics and Mechanics **October, 17 (Monday)**

Oral sections 15.00 – 16.30 and 16.50 – 18.00

Aud. 227, Leader – Prof. Dr. Volker Reitmann

Anikushin Mikhail (Saint-Petersburg State University)

“Badly Approximable Numbers and the Growth Rate of the Inclusion Length of an almost Periodic Function”

Gayshun Artem (Saint-Petersburg State University)

“The Use of Differential Inclusions in the Investigation of an Elasto-Plastic Oscillator”

Golubenets Vyacheslav (Yaroslavl State University)

“Nonlocal Analysis of Equation with State-Dependent Delay”

Gorbushin Nikolai (Aberystwyth University, United Kingdom)

“Steady-State Crack Propagation in a Brittle Periodic Structure under a Moving Load”

Ivanovsky Leonid (Yaroslavl State University)

“Stable Regimes and Toruses of One Class of Impulsive Systems”

Izvarina Natalia (Peoples' Friendship University of Russia, Moscow)

“On the Symbol of Nonlocal Operators Associated with Actions of Discrete Groups of Diffeomorphisms”

Kuksenok Ilya (Yaroslavl State University)

“Divergence of the Wing in the Supersonic Gas Flow Non-zero Equilibrium State and Local Dynamics”

Maltseva Anastasia (Saint-Petersburg State University)

“Existence and Structure of Global B-pullback Attractors for Discrete-Time Cocycles Generated by a Class of Nonautonomous Control Systems with”

Ragimov Andrey (Yaroslavl State University)

“Applying Machine Learning for DDoS Attacks Filtering. Analysis of CSIC 2010 Dataset”

Reitmann Stefan (Dresden University of Technology)

“Pattern Recognition and Prediction of Multivariate Time Series with Long Short-Term Memory (LSTM)”

Voynov Dmitriy (Saint-Petersburg State University)

“The Nonholonomic Bicycle Model as a Differential Inclusion”

Satko Daria (Saint-Petersburg State University)

“Generation and Removing of Apparent Singularities in Linear Ordinary Differential Equations with Polynomial Coefficients”

Section D – Solid State Physics October, 17 (Monday)

Oral sections 15.00 – 16.30 and 16.50 – 18.00

Aud. B-04, Leader – Prof. Dr. Alexander Baraban

Barinov Dmitrii (Saint-Petersburg State University)

“Photoinduced Adsorbo-Luminescence of Cr-doped $MgAl_2O_4$ Spinel”

Estyunin Dmitry (Saint-Petersburg State University)

“Intercalation of Pb Atoms under Graphene on Ir(111) Monocrystal and Thin Ir (111) Film”

Grebenyuk Georgy (Ioffe Institute, Saint-Petersburg)

“Formation and Magnetic Properties of Graphene-Capped Iron Silicide”

Grishina Anastasiia (Saint-Petersburg State University)

“Photoinduced Hydrophilic Behavior of Hydrated Surfaces of Composite Films based on TiO_2 and ZnO ”

Jelken Joachim (Potsdam University, Germany)

“Near Field Induced Structuring of Photosensitive Polymer Films: SNOM and AFM Measurements”

Khabibrakhmanov Ruslan (Saint-Petersburg State University)

“Synthesis, Characterization and Upconversion Properties of ZrO_2 Doped with Rare Earth Ions”

Komissarov Artem (Saint-Petersburg State University)

“Optical Properties of CdSe Quantum Dots Coated with Layer of ZnS”

Oparicheva Uliana (Saint-Petersburg State University)

“Photo-Induced Alteration of Hydroxyl-Hydrate Layer on TiO_2 and ZnO Surfaces”

Safiulina Irina (Saint-Petersburg State University)

“XMCD-Study of Shiral Magnets”

Sakhonenkov Sergei (Saint-Petersburg State University)

“Study of Chemical Phase Composition of Multilayered Structures $Si/TiN/(Al_2O_3)TiO_2/HfO_2$ Using Hard X-ray Photoelectron Spectroscopy”

Samoilenko Dmitrii (Saint-Petersburg State University)

“Local Electronic Structure and Nanolevel Hierarchical Organization of Bone Tissue”

Sboev Mikhail (Saint-Petersburg State University)

“Ab initio Insight into O₂ Adsorption on TiO₂ Surface under Dark and UV Irradiation Conditions”

Vanina Polina (Saint-Petersburg Polytechnic University)

“Evolution of Diffuse Scattering of Single Crystals Sr_{0.6}Ba_{0.4}Nb₂O₆”

Zharovov Dmitrii (Saint-Petersburg State University)

“Spectral Investigation of Fluorine-Doped TiO₂”

Poster section (after oral)

D-01. Bdoyan Karina (Southern Federal University, Rostov-on-Don)

“Local Atomic Structure of Copper Sites in Cu-MOR Synthesized by Solid-State Ion Exchange”

D-02. Bulat Natalia (Southern Federal University, Rostov-on-Don)

“Structural Changes of Carbon-Supported Bimetallic PtCu Nanoparticles After Thermal Treatment by Means of SAXS and ASAXS”

D-03. Danshin Sergei (Saint-Petersburg State University)

“Excitons in Low-Q Microcavities with Quantum Wells”

D-04. Dolgakov Ivan (Saint-Petersburg Polytechnic University)

“An Analysis of the High-Temperature Phase Structure of Multiferroic Solid Solutions of the PFW-PT”

D-05. Dolgova Maria (Saint-Petersburg State University)

“Vortex Dynamics in Nanocomposites with Embedded Superconducting BiSn Particles”

D-06. Drozd Arsenii (Saint-Petersburg State University)

“Conductivity of ZnO Nanolayers Grown by ALD in MCP”

D-07. Galdina Kristina, Egorova Yulia (Saint-Petersburg State University)

“NEXAFS Study of Cathode Material for Li-Ion Batteries During Charge and Discharge Processes”

D-08. Evdokimov Artem (Saint-Petersburg State University)

“Magneto-Optical Faraday Effect in Microcavities”

D-09. Kasatkov Sergey (Saint-Petersburg State University)

“Effect of Non-Stoichiometry of the Ta₂O₅ on the Band Gap and Oxygen Vacancies Formation”

- D-10. Samoilenko Dmitrii (Saint-Petersburg State University)
“Local Electronic Structure and Hierarchical Organization of Bone Tissue: Theory and NEXAFS Study”
- D-11. Shapiro Dmitrii (Saint-Petersburg State University)
“Search for a New Short-Range Interaction by Neutron Scattering Technique”
- D-12. Shemet Darya (Southern Federal University, Rostov-on-Don)
“EXAFS Study of Atomic Structure of Bimetallic Nanoparticles in PtCu/C Electrocatalysts before and after Thermal Treatment”
- D-13. Spitsyn Valerii (Saint-Petersburg State University)
“Application of the Method of Hydrogen Permeability to Determine the Terminal Solid Solubility of Hydrogen in Ti-Alloys”
- D-14. Stulin Victor (Saint-Petersburg State University)
“A Change of the Charge State of the MIM Structures Due to Resistive Switching”
- D-15. Svirskiy Gleb (Saint-Petersburg State University)
“Comparative Study of NEXAFS Spectra of NiTPP and CoTPP Complexes: Role of Exchange 3d-3d Electron Interaction”
- D-16. Varlamov Artem (Saint-Petersburg State University)
“Combined Investigations of Optical and Electrical Properties of Regular Dislocation Networks in Silicon”
- D-17. Varygin Georgii (Saint-Petersburg State University)
“Electrical Characterization of Semiconducting Nanowires”
- D-18. Alekseeva Olga (Saint-Petersburg Polytechnic University)
“Dielectric and Crystal Structure Study of the Ferroelectric Composites $(1-x)\text{NaNO}_2+(x)\text{BaTiO}_3$ ”
- D-19. Anikeva Anastasiya (Saint-Petersburg State University)
“Secondary Electron Emission from Si_3N_4 and PMMA in Helium Ion Microscope”
- D-20. Bakiev Tair (Saint-Petersburg State University)
“Plasmon-Induced Electrochemical Properties of Titanium Dioxide”

Section F – Optics and Spectroscopy October, 17 (Monday)

Oral sections 10.30 – 12.00 and 12.30 – 14.00

Aud. 225, Leader – Prof. Dr. Nikolay Timofeev

Koshevarnikov Aleksei (Saint-Petersburg State University)

“Quantum-Mechanical Calculations of the Formaldehyde Dimer and its Complex with Hydrogen Fluoride”

Loebner Sarah (Potsdam University, Germany)

“New Insights in Photosensitive Materials”

Mingaleva Alena (Komi Science Center, Syktyvkar)

“Modeling of Thickness Effect in NEXAFS C1s- Spectra of C60”

Pestsov Oleg (Saint-Petersburg State University)

“Infrared Study of RDD Interaction between Coadsorbed Molecules”

Petrova Olga (Komi Science Center, Syktyvkar)

“NEXAFS Study of Antarctic Ice Fishes Bones and Mineralized Formation”

Song Mingzhao (ITMO University, Saint-Petersburg)

“Wireless Power Transfer System Based on Dielectric Resonators”

Zograf Georgii (ITMO University, Saint-Petersburg)

“Resonant Optical Heating of Silicon Nanoparticles”

Poster section 16.50 – 18.00

F-01. Andreeva Julia (ITMO University, Saint-Petersburg)

“Magnetite Spherical Nanoballs: towards Magnetic Photonic Crystals”

F-02. Elmurzaev Ruslan (Saint-Petersburg State University)

“Excited Xenon Clusters and their Relaxation Processes”

F-03. Glukhov Vladimir (Saint-Petersburg State University)

“Methane Spectrum Interference Filter Based on the Fresnel Lens”

F-04 Ivanov Danila (Saint-Petersburg State University)

“Effect of Visible-Spectrum Light on the Breakdown in a Long Discharge Tube”

F-05. Kapustyan Mikhail (Saint-Petersburg State University)

“Pump-probe Reflection Spectroscopy of Excitons in Single GaAs/AlGaAs Quantum Well”

- F-06. Kataeva Tatyana (Saint-Petersburg State University)
“Manifestation of the Resonance Dipole-Dipole Interaction in IR Spectra of A-Crystalline C₂F₆ Thin Films in Spectral Regions of the N₅ and N₁₀ Vibration Modes”
- F-07. Kiselev Fedor (Saint-Petersburg State University)
“Parametric Nonadiabatic Excitation of Collective Resonances in a Dense resonant Extended Medium”
- F-08. Lanchuk Yulia (Saint-Petersburg State University)
“SERS Study of Methyl Groups Rotation: 2,9-dimethyl-1,10-Phenanthroline Adsorbed on a Silver Electrode Surface”
- F-09. Latypova Nazilya (Saint-Petersburg State University)
“Influence of Active Electrode Shape on Streamers”
- F-10. Lepeshov Sergey (ITMO University, Saint-Petersburg)
“Precise Tuning of Fano Resonance in Hybrid Oligomers via Femtosecond Laser Melting of Plasmonic Nanoparticles”
- F-11. Li Sergei (ITMO University, Saint-Petersburg)
“Chiral Near-Field Formation with All-Dielectric Nanoantennas”
- F-12. Marin Aleksandr (Saint-Petersburg State University)
“Simulations of Glow-to-Arc Transition in Noble Gases”
- F-13. Mironova Irina (Saint-Petersburg State University)
“Modification of Polymer Particles in the Complex Plasma”
- F-14. Olevskaia Victoria (Saint-Petersburg State University)
“Trajectories of Charged Particles in Dusty Plasmas”
- F-15. Platunov Dmitriy (Saint-Petersburg State University)
“Comparison of Electron Beam and Photolithography Methods”
- F-16. Signevich Anton (Saint-Petersburg State University)
“Automated Investigation Method of Polymer Solutions and Mesogen Melts Electrooptical Properties in Strong Electric Fields”
- F-17. Terekhov Pavel (ITMO University, Saint-Petersburg)
“Destructive Mode Interference in TiO₂ Cylinders with Coaxial Void”
- F-18. Trofimov Igor (Saint-Petersburg State University)
“Investigation of the Parameters of Microplasma Detectors PLES in Helium Using Diagnostic Scheme Plasma Probe Analyzer”

**Section G – Theoretical, Mathematical and Computational
Physics
October, 20 (Tuesday)**

Oral sections 10.30 – 12.00, 12.30 – 14.00 and 15.00 – 16.30

Aud. 229, Leader – Prof. Dr. Yuri Pismak

Belokurova Svetlana (Saint-Petersburg State University)

“Correlation Coefficients in The Model with String Fusion on Transverse Lattice”

Dyakova Oksana (Saint-Petersburg State University)

“The Rainbow Tables to Invert Cryptographic Hash Functions”

Ievlev Evgenii (Saint-Petersburg State University)

“Confinement and Abrikosov Strings”

Ivanov Aleksandr (Saint-Petersburg State University)

“Specifics of Renormalization for the Quantum Yang – Mills Theory in the Four Dimensional Space – Time”

Kharuk Natalia (Saint-Petersburg State University)

“Description of Gravity in the Model with Independent Nonsymmetric Connection”

Kosmakov Maxim (Saint-Petersburg State University)

“Functional Determinant beyond the One-Loop Approximation”

Kravtsov Pavel (Saint-Petersburg State University)

“Two-Particle Correlations Arising in Decay of a Single String”

Kuznetsova Anna (Yaroslavl State University)

“Rare Annihilation Semileptonic B-Meson Decays”

Lebedev Nikita (Saint-Petersburg State University)

“Critical Behavior of $U(n)$ - χ^4 -Model with Antisymmetric Tensor Order Parameter Coupled with Magnetic Field”

Lopushenko Ivan (Moscow State University)

“Substrate Influence on the Scattering Properties of Metal Nanoparticles Accounting for the Non-local Effect”

Meshkova Yulia (Saint-Petersburg State University)

“Homogenization of Elliptic and Parabolic Dirichlet Problems in a Bounded Domain”

Nelson Aleksandra (Saint-Petersburg State University)

“Normal Casimir Forces for 2d Gratings”

Oskirko Anton (Saint-Petersburg State University)

“The Influence of Flexoelectric Effect on the Fréedericksz Transition in Twisted Nematic”

Popov Roman (Saint-Petersburg State University)

“Calculations of Probabilities of Electron-Positron Pair Creation in Collisions of Highly Charged Ions”

Reznikova Marina (Saint-Petersburg State University)

“Experimental Verification of the Modified Phase Function Method for Calculating the Electrocoalescence Processes in Electrical Dehydrators”

Rusov Alexander (Yaroslavl State University)

“Semi-Inclusive Eta- and Eta-prime Meson Production in Bottomonium Decays”

Satko Daria (Saint-Petersburg State University)

“Semiclassical Theory of the Landau-Teller Model”

Timoshenko Vladimir (Saint-Petersburg State University)

“Quantum Few-Body Problem”

Varentsova Anastasiia (ITMO University, Saint-Petersburg)

“Linear and Nonlinear Contributions to the Zeeman Splitting in Highly Charged Ions”

Poster section 17.50 – 18.00

G-01. Boyko Oksana (Saint-Petersburg State University)

“Influence of Ion-Dipole Interactions between Polyaspartatic Acid and Calcium Ions on Organo-Mineral Complex Formation”

G-02. Boytsov Alexander (Saint-Petersburg State University)

“Primary and Secondary Vertices Reconstruction in the BM@N Experiment”

G-03. Dmitrenko Daniil (Saint-Petersburg State University)

“Molecular Dynamics Simulation Study of Polylactide and Polyhydroxybutyrate”

G-04. Dobrovskiy Aleksey (Saint-Petersburg State University)

“Investigation of Relaxation Processes of Thermoplastic Polyimides”

G-05. Izmailov Sergei (Saint-Petersburg State University)

“MD Modeling of Disulfide Bond Formation in Peptides and Proteins”

G-06. Kostenko Mariia (Saint-Petersburg State University)

“Statistical Restoration of Broken Symmetry in Fully Developed Turbulence”

G-07. Matviyuk Aleksandr (Saint-Petersburg State University)

“Vibration of a Droplet in Alternating Electric Field”

G-08. Satko Daria (Saint-Petersburg State University)
“Dielectric Permittivities of Gold and Silicon. Calculation of Casimir energy”

G-09. Shakhova Vera (Saint-Petersburg State University)
“Modeling and Analysis of the Electronic Structure of Ytterbium Fluoride”

G-10. Tenishchev Semen (ITMO University, Saint-Petersburg)
“Non-Diagonal Green Functions for Disordered Systems”

G-11. Vasileva Daria (Saint-Petersburg State University)
“Nonperturbative Treatment of the Zeeman Effect in Highly Charged Ions with Nonzero Nuclear Spin”

G-12. Volchkova Anna (Saint-Petersburg State Uni)
“Nonperturbative Treatment of the Zeeman Effect in Highly Charged Ions with Nonzero Nuclear Spin”

Section H – Biophysics October, 19 (Wednesday)

Oral sections 10.30 – 12.00

Aud. 225, Leader – Prof. Dr. Nikolay Tsvetkov

Kazakov Alexander (Saint-Petersburg State University)
“Coil-to-Flower Transition in a Linear Polymer Chain Inserted into a Brush Made of Starlike Macromolecules”

Kitaeva Alina (Saint-Petersburg State University)
“Electro-Optics of Comb-Like Polymers in Organic Solvent”

Prokacheva Varvara (Saint-Petersburg State University)
“Theoretical Study Polymer Brushes Structure Made of Arm-Grafted Polyelectrolyte Stars”

Tankovskaya Svetlana (Saint-Petersburg State University)
“Secondary Structure of Proteins Revealed by FTIR Spectroscopy”

Unksov Ivan (Saint-Petersburg State University)
“Small interfering RNA and DNA Interaction with Azobenzene Containing Surfactant”

Poster section 12.30 – 14.00

H-01. Anufriev Ilia (Saint-Petersburg State University)
“Conformational and Optical Properties of Novel Linear Cationic Polymers”

H-02. Lezova Irina (Saint-Petersburg State University)

“Electro-Optical Properties of Metallomesogen Complexes”

H-03. Batalova Anastasia (Saint-Petersburg State University)

“Molecular Dynamics Simulation of the Structural Properties of P3HT Chain in a Helical Conformation”

H-04. Batalova Anastasia (Saint-Petersburg State University)

“IR-spectroscopy of DNA with cis- and trans- DDP”

H-05. Markizov Leonid (Saint-Petersburg State University)

“Study of DNA Interaction with Short Peptides AEDG and EDR by Spectral Methods”

H-06. Osolodkov Mikhail (Saint-Petersburg State University)

“DNA Complexes with Silver Compound Containing Phenanthroline”

H-07. Senchukova Anna (Saint-Petersburg State University)

“Study of the Hydrodynamic Properties of Cross-Linked Polymers Based on Polyn-Acrylic-11- Amidoundecanoic Acid”

H-08. Slyusarenko Maria (Saint-Petersburg State University)

“Poly (methacrylamido-D-glucose) Copolymer Modified by Cyclodextrin”

Section I – Resonance Phenomena in Condensed Matter October, 17 (Monday)

Oral sections 15.00 – 16.30 and 16.50 – 17.30

Aud. 210, Leader – Prof. Dr. Vladimir Chizhik

Bogdanov Ivan (Saint-Petersburg State University)

“Visualizing of Acoustic Standing Waves by Cavitation”

Bystrov Sergei (Saint-Petersburg State University)

*“Molecular Dynamics of Ionic Liquid (Methyl-Octyl Imidazolium Chloride) in Mixture
“Water – Glycerol”*

Giba John (Saint-Petersburg State University)

*“Hydrogen Bonding Between Phosphinic Acids and Pyridines: Theoretical Study of CSA
Tensor Dependence on Proton Position”*

Kargin Timofey (Saint-Petersburg State University)

“Charged Particles Identification by Time of Flight in the BM@N Experiment”

Kazarinov Aleksey (Saint-Petersburg State University)
“Research of the Structure of Micelles in Ionic Liquid Aqua Solution”

Luzhetckaia Nadezhda (Saint-Petersburg State University)
“Magnetic Resonance Measurements of Self-Diffusion Tensor in Ultra-Low Magnetic Field”

Potekhin Roman (Saint-Petersburg State University)
“Interferometric Detection of the Electron g-Factor in Semiconductors”

Rabdano Sevastyan (Saint-Petersburg State University)
“Implications of the Oxidative Stress for Structure and Stability of Second RNA-Recognition Motif of TDP-43 protein”

Shaban Ali (Saint-Petersburg State University)
“Autocorrelation Analysis of ¹H NMR Spectra of RRM2 Domain of TDP-43 Protein Undergoing Temperature Denaturation”

Sokratilin Sergey (Saint-Petersburg State University)
“Relaxation Efficiency of Gd and Fe Paramagnetic Ions in Aqueous Solutions of Fullerenols”

Poster section 17.30 – 18.30

I-01. Adelson Veronika (Saint-Petersburg State University)
“Magnetic Resonance Susceptibility Weighted Imaging”

I-02. Bogdanov Dmitriy (Saint-Petersburg State University)
“Effect of Preparation Method on Local Structure of Copper-Exchanged Mordenites: ¹H, ²⁷Al, ²⁹Si MAS NMR Study”

I-03. Efimova Alexandra (Saint-Petersburg State University)
“Quantum-Chemical Calculations of Substituted Ethylenes as CH Proton Donors in Hydrogen-bonded Complexes”

I-04. Gilmiyarov Marat (Saint-Petersburg State University)
“Indexing Layered Perovskite-Like Structures”

I-05. Ievleva Svetlana (Saint-Petersburg State University)
“Diffusion Weighted Imaging in Ultra-Low Magnetic Field”

I-06. Khasanov Magomed (Saint-Petersburg State University)
“Development of Software for Operate of the Sample Temperature Control Unit”

I-07. Kostin Mikhail (Saint-Petersburg State University)
“³¹P NMR Study of Self-Association of Phosphinic Acids in Polar Aprotic Solvents”

I-08. Lysenko Roman, Reveguk Zakhar (Saint-Petersburg State University)
“Excitation Energy Transfer between DNA and Ag Clusters”

I-09. Nesterova Olga (Saint-Petersburg State University)
“Molecular Dynamics Simulation Study of the Microstructure of Ethylammonium Nitrate. The Effect of the Model Nitrate-Anion Geometry”

I-10. Rabdano Sevastyan (Saint-Petersburg State University)
“Loss of Protein Stability due to Formation of Intermolecular Disulfide Bonds under the Effect of Oxidative Stress: Case Study of the RRM2 Domain from Neuropathological Protein TDP-43”

I-11. Salikov Vladislav (Saint-Petersburg State University)
“Interpretation of 1H and ^{13}C NMR Spectra of Alizarin”

I-12. Shvyrkov Zhenya (Saint-Petersburg State University)
“Molecular Mobility of Ionic Liquid [BMIM]BF₄ in Silica Dispersions by Nuclear Magnetic Resonance”

Table of Contents

PROGRAM.....	1
Section A – Chemistry.....	4
Section B – Geo- and Astrophysics	9
Section C – Mathematics and Mechanics.....	13
Section D – Solid States Physics.....	14
Section F – Optics and Spectroscopy.....	15
Section G – Theoretical, Mathematical and Computational Physics.....	17
Section H – Biophysics.....	19
Section I – Resonance Phenomena in Condensed Matter.....	21