Schedule

22nd International School-Conference

«Magnetic Resonance and its Applications. Spinus-2025»

31 March - 4 April, 2025
St. Petersburg

	MONDAY –31 March, 2025
Chairman	**Professor Denis Markelov (Saint-Petersburg, Russia)**
10:00-10:10	**Opening**
10:10-10:40	**Vladimir Chizhik (Saint Petersburg, Russia)** **Lecture:** A few little-known facts in the history of NMR in Russia and a couple of thoughts on unfortunate terminology in magnetic resonance
10:40-11:20	**Bin Xia (Beijing, China)** **Lecture:** DNA Binding Mechanism of the Virulence Regulator SarA of Staphylococcus aureus
11:20-11:40	**Dmitry Filimonenko (Minsk, Belarus)** **Oral report:** Zero-field cross-relaxation resonances in ensembles of NV centers in diamond and fully optical magnetic field detection
11:40 – 12:10	**'COFFEE' BREAK**
Chairman	
12:10-12:50	**Kumaravel Kaliaperumal (Chennai, India)** **Lecture:** Antiviral metabolite isolation and characterization from Acremonium sp (SIMATS2121) endophytic fungi from medicinal plant
12:50-13:10	**Galina Kupriyanova (Kaliningrad, Russia)** **Oral report:** Study of the influence of Au nanoparticles of various shapes on the dynamics and structure of tyrosine using ^{1}H NMR methods.

13:10 – 13:25	**Mark Smirnov (Kaliningrad, Russia)** **Oral report:** Influence of the shape of gold nanoparticles on the structural and dynamical properties of L-tyrosine
13:25 – 14:05	**Ilya Gridnev (Moscow, Russia)** **Lecture:** Use of various NMR techniques in the study of mechanism of asymmetric hydrogenation
14:05 – 15:10	**LUNCH**
Chairman	
15:10 – 15:50	**Carlos Cabal-Mirabal (Havana, Cuba)** **Lecture:** Wound healing rate and treatment effectiveness determined by MRI
15:50 – 16:10	**Nikolay Anisimov (Moscow, Russia)** **Oral report:** MRI of wildlife
16:10 – 16:25	**Anna Yi (Novosibirsk, Russia)** **Oral report:** Intra- and intermolecular transfer of parahydrogen-induced hyperpolarization via nuclear Overhauser effect induces RASER
16:25 – 16:40	**Manuel Arsenio Lores Guevara (Santiago de Cuba, Cuba)** **Oral report:** Proton MRD profile analysis in Human Serum Albumin solutions: a two site exchange model approach
16:40 – 17:00	**Leonid Grunin (Yoshkar-Ola, Russia)** **Lecture:** NMR Transverse Relaxation as the Tool for Structure and Thermodynamics Analysis
17:00– 17:20	**Cengiz Okay (Istanbul, Turkey)** **Oral report:** Investigation of Relaxation Times of Cotton Oil-Diesel Fuel Mixtures by TD-NMR
17:20 – 17:40	**Ekaterina Boltenkova (Kazan, Russia)** **Oral report:** The hydrothermal treatment effect on the relaxivity of DyF_3 nanoparticles colloidal solution
18-30 – 22:00	**Welcome Party**
	TUESDAY – 1 April, 2025
Chairman	
10:00 – 10:40	**William Price (Sydney, Australia)** **Lecture:** Accurate NMR Diffusion Measurements in Reacting Systems
10:40 – 10:55	**Bulat Mukhamadullin (Kazan, Russia)** **Oral report:** Study of fluoride nanoparticles nucleation processes by NMR in the capillary system
10:55 – 11:10	**Polina Zefirova (Saint-Petersburg, Russia)** **Oral report:** ^{1}H NMR spectroscopy application for assessment catalytic behavior of comb-like polyelectrolytes in Suzuki reaction
11:10 – 11:25	**Naira Gromova (Saint-Petersburg, Russia)** **Oral report:** Cell size dependence of diffusion properties of PAMAM

	dendrimers by MD simulations
11:25 – 11:40	**Milosh Ubovich (Saint-Petersburg, Russia)** **Oral report:** "Ionic Liquid EAN/$Al(NO_3)_3/H_2O$" System Studied by NMR and Computational Methods
11:40 – 12:10	**'COFFEE' BREAK**
Chairman	
12:10 – 12:50	**Daniil Kolokolov (Novosibirsk, Russia)** **Lecture:** Hydrogen bonds types, strengths and dynamics in hydroxyl- and carboxyl-functionalized ionic liquids
12:50 – 13:10	**Alexander Khudozhitkov (Novosibirsk, Russia)** **Oral report:** ^2H NMR study of [P444-D][OMs] and [N444-D][OMs] ionic liquids
13:10 – 13:25	**Daria Chetverikova (Saint Petersburg, Russia)** **Oral report:** NMR Diffusometry for Studying Ionic Association in Plasticized Polymers
13:25 – 13:45	**Alexandr Ievlev (Saint Petersburg, Russia)** **Oral report:** Study of complex ionic liquids according to NMR relaxation and diffusion measurements
13:45 – 14:05	**Nikita Slesarenko (Chernogolovka, Russia)** **Oral report:** Competitive ion transport in polymer gel electrolytes studied by NMR
14:05 – 15:10	**LUNCH**
Chairman	**Professor Denis Markelov (Saint Petersburg, Russia)**
15:10– 16:20	Oral blitz reports of young scientists
16:20-16:30	**CONFERENCE PHOTO**
16:30-18:30	Oral blitz reports of young scientists **POSTER SESSION I**
	WEDNESDAY – 2 April, 2025
11:00 – 14:00	**Excursion to the Grand Menshikov Palace**
14:00 – 15:00	**LUNCH**
15:00– 17:00	**Excursion to Magnetic Resonance Research Centre of St. Petersburg State University**

	THURSDAY – 3 April, 2025
Chairman	
10:00 – 10:40	**Elena Charnaya (Saint Petersburg, Russia)** **Lecture:** Metals under nanoconfinement: NMR studies
10:40 – 11:00	**Ilya Yakovlev (Novosibirsk, Russia)** **Oral report:** Silicon-enhanced incorporation of boron into AlPO-11 framework according to ^{11}B solid-state NMR
11:00– 11:15	**Danil Markelov (Novosibirsk, Russia)** **Oral report:** Hyperpolarization of ^{77}Se nuclei using signal amplification by reversible exchange (SABRE) at microtesla fields
11:15– 11:30	**Allisher Vasilev (Saint Petersburg, Russia)** **Oral report:** Directional solidification in gallium under strong magnetic field: NMR studies
11:30– 11:45	**Aliya Galimova (Kazan, Russia)** **Oral report:** Theory of two-stage quantum transduction based on use of magnetic material coupled to erbium-doped crystal
11:45 – 12:10	**'COFFEE' BREAK**
Chairman	
12:10 – 12:40	**Kev Salikhov (Kazan, Russia)** **Lecture:** Further development of the theory of spin exchange in dilute solutions of paramagnetic particles
12:40 – 13:00	**Kocharyan Gaspar (Yerevan, Armenia)** **Oral report:** Determination of anti-peroxyl radical capacity of flavonoids (quercetin, morin and rutin) by the kinetic EPR method with pulse reactant injection.
13:00– 13:15	**Daria Pomogailo (Moscow, Russia)** **Oral report:** Electron Spin Resonance of Fe-doped TiO_2 nanoparticles
13:15 – 13:30	**Anastasia Batueva (Saint Petersburg, Russia)** **Oral report:** Registration of nickel and nitrogen spin centers signals by their interactions with negative NV centers in diamond by photoluminescence
13:30 – 14:10	**Alexandr Trifonov (CIQTEK, Moscow, Russia)** **Lecture:** The development and results of magnetic resonance technology and instruments **EPR Round Table and connected demonstration**
14:10 – 15:10	**LUNCH**
Chairman	**Professor Denis Markelov (Saint Petersburg, Russia)**
15:10– 16:30	Oral blitz reports of young scientists
16:30-18:30	**POSTER SESSION II**
19:00– 23:00	**Conference Dinner**

	FRIDAY – 4 April, 2025
Chairman	
10:10 – 10:30	**Pavel Yushmanov (Stockholm, Sweden)** **Lecture:** Electrophoretic NMR and its application in studying the electrokinetic transport of water and methanol in Nafion membranes
10:30 – 10:50	**Sergei Bystrov (Saint Petersburg, Russia)** **Oral report:** Unified NMR: towards universally accessible NMR workflow with TQT “Nuclei”
10:50 – 11:10	**Pavel Kupriyanov (Gebze, Turkey)** **Oral report:** RFI suppression system for NQR detection in unshielded conditions
11:10– 11:25	**Alexander Snadin (Novosibirsk, Russia)** **Oral report:** Development of a new class of adiabatic inverting MCA pulses combining constant and offset-independent adiabaticity
11:25 – 11:40	**Gleb Dolgorukov (Kazan, Russia)** **Oral report:** Low field setup for DNP studies in stray field of superconducting magnet
11:40 – 12:10	**‘COFFEE’ BREAK**
Chairman	
12:10 – 12:30	**Sergey Dvinskikh (Stockholm, Sweden)** **Lecture:** Ion dynamics in liquid crystal-electrolyte mixtures
12:30 – 12:50	**Natalia Yevampieva (Saint-Petersburg, Russia)** **Oral report:** Magnetic relaxation properties of metal-carbon heterostructure
12:50 – 13:10	**Sergey Vasil'ev (Chernogolovka, Russia)** **Oral report:** Lindblad dephasing relaxation and quantum entanglement in two-spin systems
13:10 – 13:30	**Georgii Bochkin (Chernogolovka, Russia)** **Oral report:** Quantum entanglement in quasi-equilibrium states in NMR multi-pulse spin locking
13:30 – 14:10	**Yury Bunkov (Moscow, Russia)** **Lecture:** Quantum self-oscillator based on magnon Bose-Einstein condensate
14:10 – 15:10	**LUNCH**
15:10– 15:40	**Awarding, Closing and “Related Phenomena”**

POSTER SESSION I (TUESDAY, 16:30-18:30)			
1	Omar	Alkhuder	Exploring the Ability of the P=O Group to Form Multiple Hydrogen Bonds
2	Anastasiia	Antonenko	^{125}Te NMR spectra in Td-phase WTe_2
3	Ekaterina	Batueva	Multifunctional Heptanuclear Iron Complexes: Magnetic Properties and Potential Applications in MRI
4	Valerii	Bezrodnyi	Molecular dynamics simulation of C_{60}/C_{70} fullerene complexes with peptide dendrimer containing histidine spacers
5	Sergey	Cheremensky	Microstructure and molecular mobility in the ternary LiCl-Cs-Cl-H_2O system. A molucular dynamics simulation study
6	Anastasia	Dmitrieva	Potential of NMR spectroscopy for assessing the hydrophobicity of microsphere cellulose carriers for spiking cancer cells
7	Ekaterina	Dmitrieva	Analysis of hyperfine and quadrupole interactions in the first coordination sphere of ^{14}N in hexagonal boron nitride
8	Albina	Gafarova	Study of conformation of mechanically activated calcium gluconate irradiated with gamma quanta
9	Stepan	Galiakhmetov	Influence of substitutes and chalcogen atom nature on the alkylation of phosphine chalcogenides
10	Kristina	Gorkovaia	NMR control of the synthesis of pharmaceutical intermediates
11	Ilya	Grishanovich	The optimization of the conditions of 2D NMR spectra registration for the analysis of thermoplastic organic compounds in molten state
12	Roman	Haponchyk	Investigation of the magnonic nonlinear phase shifter based on forward volume spin waves
13	Artem	Igonin	Effect of palladium(II) on NMR spectra of coordinated semicarbazones
14	Dmitry	Ivanov	Features of the study of the pore space of the core by the method of nuclear magnetic resonance
15	Natalya	Karmanova	Modelling localization of various statins within a POPC bilayer by molecular dynamics and metadynamcs
16	Daniil	Khroshin	Modeling of spin-wave spectrum for YIG films at sub-THz frequencies
17	Savelii	Levit	NMR analysis of surfactants characteristics based on methacrylic acid.
18	Daria	Malakhova	Study of intramolecular mobility in ionic liquid $[BMIM]_2Cd(SCN)_4$ using NMR relaxation data.
19	Daria	Melnikova	Effect of the disulfide reducing agent TCEP on the translational mobility of α- and κ-casein and their ability to form supramolecular structures
20	Daria	Melnikova	NMR diffusometry and micellar solubilization using biological surfactants
21	Artem	Alexandrov	Generator of arbitrary sequences of commands/pulses
22	Sergey	Andronenko	The FMR/EPR studies of magnetite/maghemite nanoparticles, synthesized by different methods

23	Nikolay	Anisimov	Simultaneous detection of nuclei ^{13}C, ^{23}Na, ^{27}Al and ^{55}Mn at 0.5 Tesla
24	Nikolay	Anisimov	Construction of sensitivity maps for wireless coils using ^{19}F MRI
25	Konstantin	Bozhenko	Quantum-Chemical study of Interactions of Fe_2O_n (n=7, 9) Clusters with H_2 and O_2 Molecules
26	Nina	Djapic	Proton attached to nitrogen in porphyrins and tetrapyrroles
27	Alexey	Kiryutin	Determination of Rotational Correlation Time of and Iridium Dihydride Complex in Aqueous Medium by Means of NMR Relaxometry with High-resolution
28	Andrei	Komolkin	NMR $^{1}H/^{13}C$ study of biocompatible copolymer of divinyl ether and maleic anhydride

POSTER SESSION II (THURSDAY, 16:30-18:30)			
1	Olga	Mikhailovskaya	Modification approaches to the development of pervaporation sodium alginate-based membranes with enhanced properties
2	Marina	Mikhalap	Determination of the spirocyclopropanoxindole fine structure using NMR spectroscopy
3	Anna	Mikulan	Novel blend cellulose nitrate/cellulose acetate ultrafiltration membranes for enhanced water treatment
4	Veronika	Minaeva	Determination of the structure of regioisomeric furan-containing naphthofuranes based on 1D and 2D NMR spectroscopy experiments
5	Guzel	Minnullina	Conformational behavior of cyclic peptides cyclosporin C and alisporivir in acetonitrile and their interaction with Dy^{3+} ions
6	Dmitriy	Mizyulin	Hydrogen/deuterium isotope effects on the microstructure and molecular mobility in the aqueous solution of europium nitrate. A molecular dynamics simulation study
7	Ilya	Pilipenko	Application of ^{1}H-^{13}C HMBC NMR spectroscopy for identification of regioisomeric polycyclic dihydrofurans
8	Julia	Pronina	The spiro[1-azabicyclo[3.2.0]heptane] frameworks: structures determination using NMR methods
9	Julia	Pronina	The spiro[1-azabicyclo[3.3.0]octane] frameworks: structures determination using NMR methods
10	Andrej	Rochev	Different mechanisms of spin-lattice relaxation of gallium in semi-insulator GaAs
11	Margarita	Sadovnikova	Effect of rare earth impurities on structural properties of calcium phosphate-based materials by EPR spectroscopy
12	Azamat	Samadov	Effect of alkaline treatment on structure, morphology, CO2 sorption of mesoporous ZSM-5 zeolites
13	Aleksandra	Sashina	Phase structure and molecular mobility of drug delivery systems based on liposomes with Pluronics by nuclear magnetic resonance method
14	Georgiy	Shonin	Synthesis of 4,5-diethynyl-1,2,3-triazoles and structure analysis by NMR spectroscopy
15	Artyom	Tarasov	Spectral characteristics of cyclosporin G and L in deuterated acetonitrile with water solution determined by NMR spectroscopy
16	Anastasia	Troshkina	The structural features of the fibril-forming peptide SEM2(49-107) by NMR spectroscopy and its role in enhancing HIV activity
17	Vyacheslav	Gonyalin	NMR assignment of eucaryotic initiation translation factor 5A of Candida albicans
18	Valentina	Yakovleva	Study of NV- centers in natural diamonds (carbonado) by micron scale scanning spectroscopy
19	Ekaterina	Zaitseva	NMR Study of the fibrile-forming peptide SEM1(86-107)
20	Aleksandr	Kozhevnikov	The optimization of the conditions of 2D NMR spectra registration for the analysis of thermoplastic organic compounds in molten state
21	Yulianela	Mengana	Evaluation of plasma viscosity in patients with hyperviscosity syndrome using Proton Magnetic

			Relaxation.
22	Igor	Neelov	Computer simulation of interaction of fullerenes C_{60} with short amyloid peptides
23	Igor	Neelov	Investigation of interaction of cyclic peptide with short amyloid peptides by computer simulation
24	Anastasia	Nikitina	Investigation of magnetic characteristics of magnetite nanoparticles in various organic shells
25	Daria	Novikova	Study on isomerization kinetics of some 3-alkenyl oxindoles by NMR
26	Konstantin	Tyutyukin	Study of slow molecular motions by NMR relaxation
27	Yamirka	Alonso	Physicochemical characterization of carbon-coated magnetic cobalt nanoparticles