

# SCHEDULE

## 23<sup>rd</sup> International School-Conference "Magnetic Resonance and its Applications. Spinus-2026"

30 March – 3 April, 2026

Saint Petersburg



MONDAY – 30 March, 2026	
<b>Chairman</b>	<b>Professor Denis Markelov (Saint Petersburg, Russia)</b>
9:00 – 10:00	Registration
10:00 – 10:10	Opening
10:10 – 10:50	<b>William Price (Sydney, Australia)</b> <b>Lecture:</b> Problems with sample shapes and sizes in NMR experiments
10:50 – 11:10	<b>Sergey Dvinskikh (Stockholm, Sweden)</b> <b>Oral report:</b> Ion transport in liquid crystal electrolytes: molecular insights from NMR spectroscopy
11:10 – 11:25	<b>Adeliya Garaeva (Kazan, Russia)</b> <b>Oral report:</b> Spin kinetics of $^3\text{He}$ in contact with nanosized powder $\text{PrF}_3$
11:25 – 11:40	<b>Alexander Makarchenko (Kazan, Russia)</b> <b>Oral report:</b> Study of the helium-3 nuclear polarization process by the PAMP method at various temperatures and RF plasma frequencies
11:40 – 12:00	<b>COFFEE BREAK</b>

<b>Chairman</b>	<b>Associate Professor Andrey Egorov (Saint Petersburg, Russia)</b>
<b>12:00 – 12:40</b>	<b>Yury Bunkov (Moscow, Russia)</b> <b>Lecture:</b> Magnon laser and its application
<b>12:40 – 13:00</b>	<b>Georgii Bochkin (Chernogolovka, Russia)</b> <b>Oral report:</b> Impact of environment on quantum correlations in two-spin systems with dipole-dipole interactions
<b>13:00 – 13:20</b>	<b>Kirill Tsiberkin (Perm, Russia)</b> <b>Oral report:</b> Nonlinear transition under short transverse pulse in classical dipole simulation
<b>13:20 – 13:35</b>	<b>Razil Ziatdinov (Kazan, Russia)</b> <b>Oral report:</b> Calculation of interaction parameters of Pu <sup>3+</sup> ions with spins of fluorine nuclei in CaF <sub>2</sub>
<b>13:35 – 13:50</b>	<b>Georgii Andreev (Kazan, Russia)</b> <b>Oral report:</b> A magnetocaloric model for the magnetic hysteresis in dysprosium tetrafluoride
<b>13:50 – 14:05</b>	<b>Polina Zefirova (Saint Petersburg, Russia)</b> <b>Oral report:</b> <sup>1</sup> H NMR spectroscopy application for determination of the structure and catalytic behavior of polyelectrolytes
<b>14:05 – 15:00</b>	<b>LUNCH</b>
<b>Chairman</b>	<b>Doctor Sergey Vasil'ev (Chernogolovka, Russia)</b>
<b>15:00 – 15:15</b>	<b>Anna Dyatlovich (Saint Petersburg, Russia)</b> <b>Oral report:</b> Multichannel NMR magnetometer for low-field MRI systems. Schematic design
<b>15:15 – 15:30</b>	<b>Alexander Fedotov (Saint Petersburg, Russia)</b> <b>Oral report:</b> Development and testing of gradient power amplifiers for a low-field MRI system
<b>15:30 – 15:45</b>	<b>Kristina Popova (Saint Petersburg, Russia)</b> <b>Oral report:</b> Cylindrical Metasurface for Efficient Travelling-wave MRI at 7T
<b>15:45 – 16:00</b>	<b>Valeria Raevskaya (Novosibirsk, Russia)</b> <b>Oral report:</b> Effect of isotopic substitution on dalfampridine hyperpolarization via the SABRE technique
<b>16:00 – 16:20</b>	<b>Evelio Rafael Gonzalez Dalmau (Havana, Cuba)</b> <b>Oral report:</b> Quantitative descriptors space: a basic platform for qMRI
<b>16:20 – 16:40</b>	<b>Manuel Arsenio Lores Guevara (Santiago de Cuba, Cuba)</b> <b>Oral report:</b> A multi-model analysis of proton magnetic relaxation in hemoglobin solutions
<b>16:40 – 17:00</b>	<b>Carlos Cabal Mirabal (Havana, Cuba)</b> <b>Oral report:</b> Molecular and magnetic relaxation processes during Hemoglobin S aggregation
<b>17:00 – 17:20</b>	<b>COFFEE BREAK</b>
<b>18:00 – 22:00</b>	<b>Welcome Party</b>

<b>TUESDAY – 31 March, 2026</b>	
<b>Chairman</b>	<b>Doctor of Science Daniil Kolokolov (Novosibirsk, Russia)</b>
<b>10:00 – 10:40</b>	<b>Elena Charnaya (Saint Petersburg, Russia)</b> <b>Lecture:</b> Recent applications of NMR for studies of nanostructured and bulk metals and alloys
<b>10:40 – 11:00</b>	<b>Anastasiia Antonenko (Saint Petersburg, Russia)</b> <b>Oral report:</b> Influence of nontrivial topology on $^{125}\text{Te}$ NMR spectra in the $Td\text{-WTe}_2$ single crystal
<b>11:00 – 11:15</b>	<b>Ekaterina Kovycheva (Perm, Russia)</b> <b>Oral report:</b> Simulation of Rabi oscillations in low-scale spin models
<b>11:15 – 11:40</b>	<b>Ke Xu (Siegen, Germany)</b> <b>Lecture:</b> Low cost and low maintenance solid-state nuclear magnetic resonance applied to paramagnetic Lithium detection
<b>11:40 – 12:00</b>	<b>COFFEE BREAK</b>
<b>Chairman</b>	<b>Professor Elena Charnaya (Saint Petersburg, Russia)</b>
<b>12:00 – 12:40</b>	<b>Daniil Kolokolov (Novosibirsk, Russia)</b> <b>Lecture:</b> Guest mobility and molecular sieving mechanism of C3-C4 hydrocarbons in porous metal-organic frameworks probed by solid state $^2\text{H}$ NMR and Molecular Dynamics
<b>12:40 – 12:55</b>	<b>Nikita Slesarenko (Chernogolovka, Russia)</b> <b>Oral report:</b> Studying the mechanism of lithium cation transfer in solvate-ion electrolyte systems based on tetraglyme and lithium salt by NMR
<b>12:55 – 13:10</b>	<b>Ilya Yakovlev (Novosibirsk, Russia)</b> <b>Oral report:</b> Increased acidity of silicoaluminophosphate BSAPO-11 according to multinuclear solid-state NMR
<b>13:10 – 13:25</b>	<b>Nikolay Platonov (Kazan, Russia)</b> <b>Oral report:</b> NMR $^{133}\text{Cs}$ in $\text{CsPbBr}_3 + \text{Ag}$ perovskites crystals
<b>13:25 – 13:40</b>	<b>Olga Babanova (Ekaterinburg, Russia)</b> <b>Oral report:</b> NMR study of fast anion reorientations in $\text{Y}(\text{BH}_4)_3 \cdot x\text{NH}_3$ ( $x = 3$ and $7$ )
<b>13:40 – 14:00</b>	<b>Georgy Mozzhukhin (Gebze-Kocaeli, Turkey)</b> <b>Oral report:</b> Detection of concealed energetic materials by nuclear quadrupole resonance
<b>14:00 – 15:00</b>	<b>LUNCH</b>
<b>Chairman</b>	<b>Professor Yury Bunkov (Moscow, Russia)</b>
<b>15:00 – 15:40</b>	<b>Kev Salikhov (Kazan, Russia)</b> <b>Lecture:</b> Alternative Calculation of EPR Spectra: Collective Modes in Spectral Diffusion
<b>15:40 – 16:00</b>	<b>Daria Pomogailo (Moscow, Russia)</b> <b>Oral report:</b> EPR monitoring of the catalytic Michael addition reaction
<b>16:00 – 16:20</b>	<b>Gaspar Kocharyan (Yerevan, Armenia)</b> <b>Oral report:</b> Antiradical activity of catecholamines: insights from kinetic EPR measurements

16:20 – 16:35	<b>Anelia Kadikova (Kazan, Russia)</b> <b>Oral report:</b> Ferromagnetic resonance and inverse spin-Hall effect in $\text{Ni}_{80}\text{Fe}_{20}/\text{Mn}_x\text{Pt}_{1-x}$ bilayer
16:35 – 16:50	<b>Allisher Vasilev (Saint Petersburg, Russia)</b> <b>Oral report:</b> Influence of different magnetic fields on gallium texture
16:50 – 17:00	<b>CONFERENCE PHOTO</b>
17:00 – 17:30	Oral blitz reports of young scientists
17:30 – 19:30	<b>POSTER SESSION I</b>
<b>WEDNESDAY – 1 April, 2026</b>	
<b>Excursion</b>	
<b>THURSDAY – 2 April, 2026</b>	
<b>Chairman</b>	<b>Professor Galina Kupriyanova (Kaliningrad, Russia)</b>
10:00 – 10:40	<b>Vladimir Polshakov (Moscow, Russia)</b> <b>Lecture:</b> NMR guided strategies for target oriented drug discovery
10:40 – 10:55	<b>Sergey Sviyazov (Novosibirsk, Russia)</b> <b>Oral report:</b> $^{13}\text{C}$ hyperpolarization of acetoacetate using PHIP-SAH
10:55 – 11:10	<b>Nazim Mustafin (Novosibirsk, Russia)</b> <b>Oral report:</b> Hyperpolarization of nitrate by PHIP-SAH
11:10 – 11:25	<b>Alexey Vopilovskiy (Novosibirsk, Russia)</b> <b>Oral report:</b> Theoretical study of long-lived state relaxation in trans-azobenzene with two $^{15}\text{N}$ nuclear isotopes
11:25 – 11:40	<b>Anna Yi (Novosibirsk, Russia)</b> <b>Oral report:</b> Efficient $^{15}\text{N}$ hyperpolarization at millitesla magnetic fields by reversible exchange
11:40 – 12:00	<b>COFFEE BREAK</b>
<b>Chairman</b>	<b>Professor Vladimir Polshakov (Moscow, Russia)</b>
12:00 – 12:40	<b>Ilya Gridnev (Moscow, Russia)</b> <b>Lecture:</b> Mechanism of asymmetric autoamplifying Soai Reaction studied by combination of NMR experiments and DFT computations
12:40 – 12:55	<b>Savelii Levit (Saint Petersburg, Russia)</b> <b>Oral report:</b> NMR analysis of surfactants characteristics based on methacrylic acid
12:55 – 13:10	<b>Edem Chakalov (Saint Petersburg, Russia)</b> <b>Oral report:</b> Proton dynamics in the coupled OHO(–) and OHN(+) bonds in complexes of phosphinic acid with pyridines
13:10 – 13:25	<b>Mark Smirnov (Kaliningrad, Russia)</b> <b>Oral report:</b> Study of the effects of gold nanoparticles of different shapes on the structure of L-tryptophan using NOESY

<b>13:25 – 13:45</b>	<b>Natalia Yevlampieva (Saint Petersburg, Russia)</b> <b>Oral report:</b> Relaxivities of metallofullerenols and their complexes with nanodiamonds in aqueous dispersions
<b>13:45 – 14:05</b>	<b>Roman Skoryunov (Ekaterinburg, Russia)</b> <b>Oral report:</b> Lithium diffusion in intercalated titanium diselenides: NMR study
<b>14:05 – 15:00</b>	<b>LUNCH</b>
<b>Chairman</b>	<b>Professor Vladimir Chizhik (Saint Petersburg, Russia)</b>
<b>15:00 – 15:20</b>	<b>Leonid Grunin (Yoshkar-Ola, Russia)</b> <b>Oral report:</b> NMR relaxation time $T_2$ as a measure of entropy
<b>15:20 – 15:40</b>	<b>Cengiz Okay (Istanbul, Turkey)</b> <b>Oral report:</b> Time-domain NMR detection of apple juice adulteration
<b>15:40 – 16:00</b>	<b>Pavel Kupriyanov (Gebze, Turkey)</b> <b>Oral report:</b> Proposal for detection of axion-induced spin precession by Earth's field continuous NMR technique
<b>16:00 – 16:15</b>	<b>Nikita Litovskikh (Novosibirsk, Russia)</b> <b>Oral report:</b> Precise calibration of the $180^\circ$ pulse based on the free induction decay shape under strong radiation damping conditions
<b>16:15 – 17:00</b>	Oral blitz reports of young scientists
<b>17:00 – 18:45</b>	<b>POSTER SESSION II</b>
<b>19:15 – 22:00</b>	<b>Conference Dinner</b>
<b>FRIDAY – 3 April, 2026</b>	
<b>Chairman</b>	<b>Associate Professor Andrei Komolkin (Saint Petersburg, Russia)</b>
<b>10:00 – 10:30</b>	<b>Anton Cherkasov (Ekaterinburg, Russia)</b> <b>Lecture:</b> The development and results of magnetic resonance technology and instruments
<b>10:30 – 10:50</b>	<b>Oleg Shavykin (Saint Petersburg, Russia)</b> <b>Oral report:</b> Investigation of complexation of fullerenols with Lys2Gly peptide dendrimer provided via MD simulation
<b>10:50 – 11:05</b>	<b>Vladimir Bazaikin (Dresden, Germany)</b> <b>Oral report:</b> Features of dendrimer diffusion in melt: Full-atomistic simulation
<b>11:05 – 11:20</b>	<b>Naira Gromova (Saint Petersburg, Russia)</b> <b>Oral report:</b> Diffusion properties of melt of poly(propylene imine) dendrimers
<b>11:20 – 11:40</b>	<b>Galina Kupriyanova (Kaliningrad, Russia)</b> <b>Oral report:</b> Use of the Hückel method for calculating carbon structures and problems of predicting NMR chemical shifts
<b>11:40 – 12:00</b>	<b>COFFEE BREAK</b>
<b>Chairman</b>	<b>Professor Denis Markelov (Saint Petersburg, Russia)</b>

<b>12:00 – 12:30</b>	<b>Peter Tolstoy (Saint Petersburg, Russia)</b> <b>Lecture:</b> Bridging proton delocalization in short hydrogen bonds: effects in $^1\text{H}$ NMR spectra
<b>12:30 – 12:50</b>	<b>Olga Pestova (Saint Petersburg, Russia)</b> <b>Oral report:</b> Effect of paramagnetic additive on chemical shifts of NMR spectral lines ( $^1\text{H}$ , $^{13}\text{C}$ , $^{14}\text{N}$ ) and ion mobility in the system $\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}-\text{BmimNO}_3$
<b>12:50 – 13:05</b>	<b>Petr Fetin (Saint Petersburg, Russia)</b> <b>Oral report:</b> NMR spectroscopy in the study of comb-like polyelectrolytes
<b>13:05 – 13:20</b>	<b>Tatiana Zhalnina (Novosibirsk, Russia)</b> <b>Oral report:</b> Phase behavior and ionic mobility of the $[\text{C}_8\text{C}_2\text{C}_2\text{-ND}][\text{TFSI}]$ ionic liquid, neat and impregnated into the MIL-100(Al) metal-organic framework studied by $^2\text{H}$ NMR spectroscopy
<b>13:20 – 13:35</b>	<b>Yana Denisova (Novosibirsk, Russia)</b> <b>Oral report:</b> Probing anion basicity effects on cation dynamics and hydrogen bonding in phosphonium ionic liquids via $^2\text{H}$ NMR
<b>13:35 – 13:50</b>	<b>Fakhriyya Abdullayeva (Baku, Azerbaijan)</b> <b>Oral report:</b> Synthesis and properties of cationic ionic liquid monomer
<b>13:50 – 14:10</b>	<b>Sergey Vasil'ev (Chernogolovka, Russia)</b> <b>Oral report:</b> Interrelation of dipolar spin dynamics and multiple quantum dynamics of two-spin system with dephasing relaxation
<b>14:10 – 15:00</b>	<b>LUNCH</b>
<b>Chairman</b>	<b>Professor Denis Markelov (Saint Petersburg, Russia)</b>
<b>15:00 – 15:40</b>	<b>Yury Bunkov (Moscow, Russia)</b> <b>Lecture:</b> Elasticity of the magnon Bose-Einstein condensate
<b>15:40 – 16:20</b>	<b>Awarding, Closing and "Related Phenomena"</b>

**POSTER SESSION I (TUESDAY, 17:30-19:30)**

<b>1</b>	Veronica Achintseva	Features of solid-phase synthesis of $Gd_{2-x}Re_xTi_2O_7$ and $Gd_{1-x}Re_xTiO_3$ titanates
<b>2</b>	Omar Alkhuder	Phosphine oxides as probes for hydrogen bonding: A solid-state study of complexes with substituted phenols using XRD and $^{31}P$ NMR
<b>3</b>	Alina Araslanova	Application of NMR methods to control the synthesis and optimization of the structure of sorbents based on magnetic nanoparticles modified with ionic liquids
<b>4</b>	Anastasia Batueva	Observation of twinning in $YAlO_3$ crystals by EPR using transition ion and rare-earth $Dy^{3+}$ ion signals
<b>5</b>	Anton Burovikhin	Calculation of the amplitude–frequency response of gradient magnonic crystals
<b>6</b>	Sergey Cheremensky	The effect of solution dilution on the microstructure and molecular mobility in $LiCl-CsCl-H_2O$ ternary system by molecular dynamics simulations
<b>7</b>	Danil Dubeshko	Study of a multicomponent magnetic system at different timescales: ESR, $^{57}Fe$ Mössbauer spectroscopy, magnetometry
<b>8</b>	Anastasiia Elizarova	Investigation of the dynamic properties of gradient copolymers by brownian dynamics simulations
<b>9</b>	Anastasiia Elizarova	Computer simulation by brownian dynamics of the structural characteristics of gradient copolymers
<b>10</b>	Ilya Grishanovich	Optimization of the delay time between pulses on $^{31}P$ cores to study the functional composition of lignin
<b>11</b>	Roman Haponchyk	Induced nonlinear phase shift in the gradient magnonic crystal
<b>12</b>	Timur Ivanenko	Probing the water dynamics in wheat grains by relaxation and diffusion NMR
<b>13</b>	Arina Kalmykova	Phase diagram of the Ga-In alloy under nanoconfinement
<b>14</b>	Irina Karpushkina	Computer simulation of interaction of GED and AED peptide molecules with KRH or KHR dendrimer in water
<b>15</b>	Daniil Khroshin	Numerical modeling of spin-wave dispersion in a rectangular ferromagnetic waveguide
<b>16</b>	Zlata Korovina	Benchmarking of magnonic reservoir computing with NARMA10
<b>17</b>	Maksim Menshikov	Capacitive dilatometer for measuring magnetostriction
<b>18</b>	Anna Menshova	NMR study of stimuli-responsive ionic liquids exhibiting chromism
<b>19</b>	Dmitriy Mizyulin	The effect of hydrogen-deuterium isotopic substitution on the molecular mobility in aqueous solutions of europium nitrate by molecular dynamics simulations
<b>20</b>	Dmitriy Mizyulin	$T_1$ – $T_2$ correlation for probing acidity of microporous and micro-/mesoporous zeolites
<b>21</b>	Andrei Komolkin	Cylindrical distribution function for studying the structure of polymer melts
<b>22</b>	Nikolay Anisimov	Real-time MRI of the articulatory organs and lungs during speech production
<b>23</b>	Denis Nefedov	$^{31}P$ NMR studies of blood serum taken from patients with multiple myeloma
<b>24</b>	Dmitry Cheshkov	The origin of mirror symmetry in high-resolution NMR spectra
<b>25</b>	Nina Djapic	Dihydroxylation of the lateral vinyl group in a tetrapyrrole from the perspective of a proton spectra

**POSTER SESSION II (THURSDAY, 17:00-18:45)**

<b>1</b>	Artemiy Nichugovskiy	Facilitating total lineshape analysis: FOMA & ANATOLIA-X
<b>2</b>	Ilya Pilipenko	The application of NMR spectroscopy for identification of the structures of 6-methyl-2-nitro-3-(trichloromethyl)-2,3-dihydro-4H-furo[3,2-c]pyran-4-one and its dehydrochlorination product
<b>3</b>	Anastasia Rakova	Interaction of lovastatin with transition metal ions by NMR spectroscopy and molecular dynamics simulations
<b>4</b>	Andrej Rochev	Nature of <sup>75</sup> As spin-lattice relaxation in a GaAs semi-insulator single crystal
<b>5</b>	David Rozin	Spectral features of substituted 2-(nitromethyl)pentanones containing an asymmetric carbon atom
<b>6</b>	Yulia Shilova	Low-field Bench-top NMR study of PEI-coated magnetic iron oxide nanoparticles
<b>7</b>	Elnara Makhmudova	Determination of the structure of esters based on dicyclopentadiene by spectral methods
<b>8</b>	Lilian Somoano Delgado	Blood viscosity: a predictive factor for preeclampsia
<b>9</b>	Anna Stepanova	Determination of the 1-(2-nitrovinyl)-3-phenylpyrrolidine structure using NMR spectroscopy
<b>10</b>	Makar Syrenkov	Evaluation of the degree of dearomatization of transformer oil by NMR spectroscopy
<b>11</b>	Artyom Tarasov	Comparison of gadolinium effect on statins by NMR spectroscopy
<b>12</b>	Anastasia Troshkina	Study of the complexation of Gd <sup>3+</sup> , Ni <sup>2+</sup> , and Zn <sup>2+</sup> ions with pravastatin by NMR Spectroscopy
<b>13</b>	Daria Tsukhlova	Features of self-diffusion and nuclear magnetic relaxation in aqueous sugar solution systems
<b>14</b>	Milosh Ubovich	The influence of presence of concomitant water on microstructure and molecular mobility in mixtures of ethylammonium and aluminum nitrates by molecular dynamics simulation data
<b>15</b>	Maxim Uchaev	Optically detected magnetic resonance of erbium ions in yttrium-aluminum garnet
<b>16</b>	Maxim Yefimov	NMR identification of furan/pyran heterocycles in polymeric chains of different nature
<b>17</b>	Alina Zaitseva	Molecular dynamics of interaction of EDL/ED oligopeptide molecules with LysArgHis/LysHisArg peptide dendrimers
<b>18</b>	Elvira Ziangirova	The use of NMR magnetometry to detect the remains of foundations of demolished buildings and technical underground utilities.
<b>19</b>	Anton Mazur	Using solid-state NMR spectroscopy to study of an unknown vessel fragment recovered from the bottom of the Baltic bay
<b>20</b>	Ivan Mershiev	<sup>14</sup> N NQR study of urea citrate and urea succinate cocrystals
<b>21</b>	Kirill Nerinovski	Application of <sup>1</sup> H and <sup>17</sup> O NMRD to hydration of metalloproteins
<b>22</b>	Anastasia Nikitina	EPR of magnetic iron oxide nanoparticles for biomedical diagnostics
<b>23</b>	Sabina Seidova	Extraction purification of transformer oil using a deep eutectic solvent: FTIR evaluation of process efficiency
<b>24</b>	Konstantin Tyutyukin	Oriental mobility of ions in a solution of lithium salt TFSI in the ionic liquid BMPyrrTFSI according to NMR data