MSN-2025 program

August 24, Sunday

Time zone: GMT+5 (Moscow time +2 hours)

Youth Conference
"Functional Imaging of Nanomaterials"

11.00-17.00	*Registration, Kuibysheva str. 48, 7th floor*
10.00-12.00	*Visit to Ural Center for Shared Use "Modern Nanotechnology" UrFU, Kuibysheva str. 48, 2nd floor*
13.00	**L1. Shur Vladimir,** *Ural Federal University, Ekaterinburg, Russia* Light-only domain switching in ferroelectrics
13.40	**L2. Kuntsevich Aleksandr**, *Higher School of Economics, Moscow, Russia* Ferroelectricity in 2D materials and Van der Waals heterostructures
14.20	*Tea break*
14.40	**L3. Volegov Aleksey**, *Ural Federal University, Ekaterinburg, Russia* Magnetic functional materials produced by selective laser melting
15.20	**L4. Zhukov Yurii**, *GTK Sintez Ltd., Ekaterinburg, Russia* X-ray photoelectron spectroscopy for surface investigation
16.15-18.00	*Excursion*
19.00-21.00	*Welcome party* *Onegin restaurant, Rozy Luxemburg str. 49*

August 25, Monday

Time zone: GMT+5 (Moscow time +2 hours)

08.30	***Registration, Kuibysheva str. 48, 7th floor***
09.00	*Opening, Kuibysheva str. 48, 7th floor*
	Session 1. Application of ferroic materials I
09.15	**I1. Inogamov Nail**, *Landau Institute for Theoretical Physics RAS, Moscow, Russia* A hybrid of photonics and optoacoustics in the visible part of the spectrum
09.40	**I2. Pavelyev Vladimir**, *Samara University, Samara, Russia* Functional micro- and nanostructures for photonics of optical and terahertz ranges
10.05	**I3. Chouprik Anastasia**, *Moscow Institute of Physics and Technology, Dolgoprudny, Russia* Demonstration of ferroelectric $Hf_{0.5}Zr_{0.5}O_2$-based 1T-1C FeFET integrated with 350 nm CMOS technology
10.30	**O1. Mikushev Sergei**, *Saint-Petersburg State University, Saint Petersburg, Russia* Quantum dots in nanowires for sources of non-classical light
10.45	*Tea break*
	Session 2. Application of ferroic materials II
11.00	**O2. Fadeyev Fedor**, *Institute of Medical Cell Technologies, Ekaterinburg, Russia* Superparamagnetic γ-Fe_2O_3 nanoparticles influence the differentiation of dendritic cells from human blood monocytes
11.15	**O3. Pryakhina Victoria**, *Ural Federal University, Ekaterinburg, Russia* Laser hyperdoping of silicon by transition metals for enhanced NIR absorption
11.30	**O4. Pankratiev Pavel**, *Ioffe Institute, Saint-Petersburg, Russia* Application and tuning of high-temperature $BiScO_3$-$PbTiO_3$ piezoceramics for ITER
11.45	**O5. Sun Min**, *Xi'an Jiaotong University, Xi'an, China* Application of energy-conversion functional crystal fibers
12.00 online	**I4. Zelenovskiy Pavel**, *University of Aveiro, Aveiro, Portugal* 1D and 2D peptide nanostructures for green energy harvesting and storage
12.25	**O6. Lisov Evgeny**, *Ostec, Moscow, Russia* To be announced
12.40	*Group photo and lunch* *Onegin restaurant, Rozy Luxemburg str. 49*

	Session 3. Fundamentals of ferroelectric and magnetic materials I
14.00	**I5. Korotkov Leonid**, *Voronezh State Technical University, Voronezh, Russia* Dielectric relaxation in some ferroelectrics with diffuse phase transition
14.25	**I6. Lushnikov Sergey**, *Ioffe Institute, St.-Petersurg, Russia* Raman scattering in relaxor ferroelectrics with phase charge separation
14.50	**I7. Mishina Elena**, *MIREA - Russian Technological University, Moscow, Russia* The influence of depolarizing field on the polarization modulation in ferroelectric by terahertz pulse
15.15	**O7. Shikhova Vera**, *Ural Federal University, Ekaterinburg, Russia* Influence of humidity on the domain evolution during local switching in strontium-barium niobate single crystals
15.30	*Tea break*
	Session 4. Fundamentals of ferroelectric and magnetic materials II
15.45	**I8. Yudin Petr**, *Institute of Physics CAS, Prague, Czech Republic* Optically charged ferroelectric domain walls
16.10 online	**I9. Gorfman Semyon**, *Tel Aviv University, Tel Aviv, Israel* Twinning relationships in coexisting cubic and tetragonal phases of ferroelectrics
16.35	**O8. Vysokikh Yuri**, *MTEON, Moscow, Russia* Analytical and technological equipment for research and small-scale production
16.50 - 17.40	Short oral talks Chair: Andrei Akhmatkhanov
17.40 - 19.00	Poster session, Kuibysheva str. 48, 5th floor
19.00	*End of sessions*

August 26, Tuesday

Time zone: GMT+5 (Moscow time +2 hours)

	Session 5. Characterization of micro- and nano-materials
09.00	**I10. Ankudinov Alexander**, *Ioffe Institute, Saint-Petersburg, Russia* Study of electric charge quantization of Au nanoparticles using Kelvin Probe Force Microscopy
09.25	**O9. Aleksandrov Evgenii**, *Bauman Moscow State Technical University, Moscow, Russia* Digital design of polymeric materials
09.40	**O10. Garaeva Adeliya**, *Kazan Federal University, Kazan, Russia* Study of 3He nuclear relaxation in contact with PrF_3 nanoscale powders
09.55	**O11. Sergienko Elena**, *St. Petersburg University, St. Petersburg, Russia* Magnetic properties of Fe, Ni-doped TiO_2 layers formed on titanium by plasma-electrolytic oxidation: experiment and theoretical modeling
10.10 online	**I11. Pelegov Dmitry**, *Technion Israel Institute of Technology, Haifa, Israel* Insights into ferroelectric ordering in thin film hafnia by advanced STEM techniques
10.35	*Tea break*
	Session 6. Micro- and nano-domain engineering
10.50	**I12. Shur Vladimir**, *Ural Federal University, Ekaterinburg, Russia* Abnormal evolution of the ferroelectric domain structure during in bulk domain nucleation
11.15	**I13. Akhmatkhanov Andrei**, *Ural Federal University, Ekaterinburg, Russia* In-bulk formation of domains obtained by femtosecond laser scanning
11.40	**O12. Sturman Boris**, *Institute of Automation and Electromretry of Russian Academy of Science, Novisibirsk, Russia* Charge compensation model for the lateral expansion of ferroelectric domains during polarization reversal by force-microscope tips
11.55	**I14. Ushakov Andrei**, *Ural Federal University, Ekaterinburg, Russia* Fabrication of electrooptic deflectors and modulators based on domain engineered ferroelectrics
12.20	**O13. Shandarov Stanislav**, *Tomsk State University of Control Systems and Radioelectronics, Tomsk, Russia* Regular domain structures with the symmetrically twisted walls in 5% MgO:$LiNbO_3$
12.35	**O14. Turygin Anton**, *Ural Federal University, Ekaterinburg, Russia* Kinetics of domain structure in layered bismuth titanate $Bi_4Ti_3O_{12}$ single crystals
12.50	*Lunch* *Onegin restaurant, Rozy Luxemburg str. 49, 15th floor*

	Session 7. Ceramics and thin films I
14.00	**I15. Pugachev Alexey**, *Institute of automation and electrometry RAS, Novosibirsk, Russia* Spectroscopic investigations of thin BST films
14.25	**I16. Ivasenko Oleksandr**, *FUNSOM, Soochow University, Suzhou, China* Custom functionalization of monolayers and ultrathin films
14.50	**I17. Jin Li**, *Xi'an Jiaotong University, Xi'an, China* Advanced design and polarization regulation strategies in relaxor ferroelectric ceramics for enhanced energy storage performance
15.15	**I18. Eiras José Antonio**, *São Carlos Federal University, São Carlos, Brazil* Energy storage performance and bandgap tuning in $BaTiO_3$ and $Bi_4Ti_3O_{12}$ based ceramics
15.40	**O15. Fedorova Larisa**, *Saint Petersburg Electrotechnical University "LETI", Saint-Petersburg, Russia* Shungite as a strengthening component of the thin polarizing polymer films
15.55	*Tea break*
	Session 8. Ceramics and thin films II
16.10	**O16. Kalika Elizaveta**, *Moscow Institute of Physics and Technology, Moscow, Russia* Polarization loss in partially switched thin ferroelectric films
16.25	**O17. Kiryakov Arseniy**, *Institute of solid state chemistry UB RAS, Ekaterinburg, Russia* Transparent $MgAl_2O_4$ nanoceramics with carbon quantum dots
16.40	**O18. Liu Gang**, *Southwest University, Chongqing, China* Excellent dielectric energy storage properties of $Bi_{0.5}Na_{0.5}TiO_3$ based relaxor ferroelectric ceramics achieved via phase structure modification
16.55 online	**I19. Araujo Eudes**, *São Paulo State University, Ilha Solteira, Brasil* Improving the stability of halide perovskites by mixed cation substitutions
17.20	**O19. Pronin Igor**, *Ioffe Institute, Saint Petersburg, Russia* Mechanisms of appearance of anomalous lateral polarization in spherulitic PZT films
17.35	**O20. Yakushev Vladislav**, *MIREA - Russian Technological University, Moscow, Russia* Control of mesoporous structure of PZT films prepared via self-assembly techniques
19.00	*Banquet* *Onegin restaurant, Rozy Luxemburg str. 49*

August 27, Wednesday

Time zone: GMT+5 (Moscow time +2 hours)

	Session 9. Multiferroic and magnetic materials
09.00	**I20. Gareeva Zukhra**, *Institute of Molecule and Crystal Physics, Ufa, Russia* Magnetogalvanic effects in tetragonal antiferromagnets: CuMnAs, Mn_2Au
09.25	**I21. Krylov Alexander**, *Kirensky Institute of Physics SB RAS, Krasnoyarsk, Russia* Raman spectroscopy to study magnetic transitions in borate crystals
09.50	**I22. Yusupov Roman**, *Kazan Federal University, Kazan, Russia* Long-lived photoinduced nonthermal coercivity reduction of L10-FePt and FePtRh epitaxial thin films
10.15	**O21. Baidak Semyon**, *M.N. Mikheev Institute of Metal Physics UB RAS, Ekaterinburg, Russia* Novel half-metallic ferromagnet Gd_4Sb_3 with anomalous properties
10.30	**O22. Chernov Evgenii**, *M.N. Mikheev Institute of Metal Physics, Ural Branch RAS, Ekaterinburg, Russia* Topological spin semimetal band structure of $Co_{1.5}Mn_{1.5}Al$ compound
10.45	**O23. Gareev Kamil**, *Saint Petersburg Electrotechnical University "LETI", Saint Petersburg, Russia* Hysteresis characteristics and frequency-field dependencies of magnetic susceptibility for Fe75Ga25 alloy
11.00	**O24. Pamyatnykh Sergey**, *Ural Federal University, Ekaterinburg, Russia* Oscillations and drift of domain walls in iron garnet plates in harmonic magnetic field
11.15	*Tea break*
	Session 10. Fundamentals of ferroelectric and magnetic materials III
11.30	**I23. Shnaidshtein Ilya**, *Moscow State University, Moscow, Russia* Specific heat behavior in real ferroelectric crystals
11.55	**I24. Vtyurin Alexander**, *Kirensky Institute of Physics SB RAS, Krasnoyarsk, Russia* Disorder effects and line shapes in Raman spectra of multiferroic crystals
12.20	**O25. Krylova Svetlana**, *Kirensky Institute of Physics FRC KSC SB RAS, Krasnoyarsk, Russia* Optical properties of the tetraborate family crystals: DFT simulations
12.35	**O26. Demin Vitaly**, *Perm State National Research University, Perm, Russia* On the nature of transport phenomena during proton exchange technological process
13.00	*Lunch* *Onegin restaurant, Rozy Luxemburg str. 49*

	Session 11. Fundamentals of ferroelectric and magnetic materials IV
14.00	**O27. Savelyev Evgeny**, *Ural Federal University, Ekaterinburg, Russia* Formation of self-organized domain structure in lithium niobate single crystal with annealing proton exchange planar waveguides
14.15	**O28. Derets Nikita**, *Ioffe Institute, Saint Petersburg, Russia* Raman scattering study of phase transformations in $PbCo_{1/3}Nb_{2/3}O_3$ relaxor ferroelectrics
14.30 online	**O29. Hemaprabha E.**, *Indian Institute of Technology Madras, Chennai, India* Are oxygen vacancies driving ferroelectric domain repeatability?
14.45	**O30. Lebedinskaya Alla**, *Southern Federal University, Rostov on Don, Russia* Modeling of cation disorder and distribution of anion vacancies in non-stoichiometric solid solutions based on lead magnoniobate
15.00	**O31. Bystrov Vladimir**, *Institute of Mathematical Problems of Biology - Branch of Keldysh Institute of Applied Mathematics, RAS, Pushchino, Russia* Features of synthetic hydroxyapatite with substitution of calcium cations by magnetic manganese and iron ions
15.15	**Shur Vladimir**, Chinese tea
15.40	*Closing*

Short oral talks, August 25

SO1/P3. **Meng Anastasiya**, *Ural Federal University, Ekaterinburg, Russia*
Deconvolution of piezoresponse force microscopy measurements

SO2/P4. **Umylin Vladislav**, *NUST MISIS, Moscow, Russia*
Features of the conduct of near-electrode processes in lithium niobate crystals $LiNbO_3$ with different domain structures

SO3/P12. **Bayankina Antonina**, *Ural Federal University, Ekaterinburg, Russia*
Hatched domain wall in KTP

SO4/P15. **Kipenko Ilya**, *Ural Federal University, Ekaterinburg, Russia*
Forward domain growth studied at tilted cuts of congruent lithium niobate single crystals

SO5/P16. **Melnikov Semyon**, *Ural Federal University, Ekaterinburg, Russia*
Simulations of the charge transport along the domain walls in ferroelectrics

SO6/P19. **Yuzhakov Vladimir**, *Ural Federal University, Ekaterinburg, Russia*
Evolution of as-grown domain structure in calcium orthovanadate crystals

SO7/P28. **Ilyev Sergey**, *Moscow Institute of Physics and Technology, Dolgoprudny, Russia*
Effect of top electrode grain size on the remanent polarization of ferroelectric capacitors

SO8/P29. **Kadikova Anelya**, *Institute of Physics, Kazan Federal University, Kazan, Russia*
Magnetic inhomogeneities in Fe_3Al epitaxial thin films probed by FMR and time-resolved magnetooptics

SO9/P31. **Safina Violetta**, *Ural Federal University, Ekaterinburg, Russia*
Charge transport and resistive switching in $BiFeO_3$ thin films

SO10/P32. **Shcherbakov Artyom**, *Moscow Institute of Physics and Technology, Dolgoprudny, Russia*
Time dependence of coercive voltages of FeRAM cell based on $Hf_{0.5}Zr_{0.5}O_2$

Poster session, August 25

Section 1. Fundamentals of ferroelectric and magnetic materials

P1. Panov Yury, *Ural Federal University, Ekaterinburg, Russia*
Pseudo-transitions in one-dimensional anisotropic spin models

P2. Solovyev Nikita, *Ural Federal University, Ekaterinburg, Russia*
First-principles study of magnetic and half-metallic properties of $Mn_2Co_{1-x}Ni_xSn$ alloys with spin polarization

P3. Meng Anastasiya, *Ural Federal University, Ekaterinburg, Russia*
Deconvolution of piezoresponse force microscopy measurements

P4. Umylin Vladislav, *NUST MISIS, Moscow, Russia*
Features of the conduct of near-electrode processes in lithium niobate crystals $LiNbO_3$ with different domain structures

Section 2. Characterization of micro- and nano-materials

P5. Buntov Evgenii, *Ural Federal University, Ekaterinburg, Russia*
Modeling of Raman activity of rare-earth oxide phases in high-enthropy powders

P6. Sergeeva Olga, *Tver State University, Tver, Russia*
Temperature-stress phase diagram of spherulitic PZT films on morphotropic phase boundary

P7. Yatsyk Ivan, *Zavoisky Physical-Technical Institute, Kazan, Russia*
Magnetic properties of $Ca_{0.3}Sr_{0.3}La_{0.3}Mn_{0.5}Ti_{0.5}O_3$

P8. Pelegova Elena, *Tel Aviv University, Tel Aviv, Israel*
Investigation of phase transitions in PMN-PT using Birefringence Microscopy

P9. Shnaidshtein Gregory, *Tver State University, Tver, Russia*
Features of pyroelectric and dielectric properties of PVDF-based composites obtained by crystallization in a corona discharge field

P10. Tkachuk Daria, *Ural Federal University, Ekaterinburg, Russia*
Obtaining of hyperdoped Si surface layer via pulsed laser melting

P11. Paletskikh Polina, *Ural Federal University, Ekaterinburg, Russia*
Visible-blind near-infrared photodiode based on hyperdoped Si

Section 3. Micro- and nano-domain engineering

P12. Bayankina Antonina, *Ural Federal University, Ekaterinburg, Russia*
Hatched domain walls in potassium titanyl phosphate crystals

P13. Brekhov Kirill, *MIREA - Russian Technological University, Moscow, Russia*
Ferroelectric polarization switching by a strong THz field in $BaTiO_3$ crystal

P14. Chuvakova Maria, *Ural Federal University, Ekaterinburg, Russia*
Periodical domain poling in KTP single crystals

P15. Kipenko Ilya, *Ural Federal University, Ekaterinburg, Russia*
Forward domain growth studied at tilted cuts of congruent lithium niobate single crystals

P16. Melnikov Semyon, *Ural Federal University, Ekaterinburg, Russia*
Simulations of the charge transport along the domain walls in ferroelectrics

P17. Turygin Anton, *Ural Federal University, Ekaterinburg, Russia*
Formation of domain structure during phase transition in layered bismuth titanate $Bi_4Ti_3O_{12}$ single crystals

P18. Vasuipulin Vladimir, *Ural Federal University, Ekaterinburg, Russia*
Charge dynamics at the non-polar surfaces of lithium niobate

P19. Yuzhakov Vladimir, *Ural Federal University, Ekaterinburg, Russia*
Evolution of as-grown domain structure in calcium orthovanadate crystals

Section 4. Multiferroic and magnetic materials

P20. Alikhanov Nariman, *Dagestan State University, Makhachkala, Russia*
Effect of Gd substitution on the structure, dielectric and magnetic properties of $BiFeO_3$

P21. Perevozchikova Yuliya, *M. N. Mikheev Institute of Metal Physics UB RAS, Ekaterinburg, Russia*
Comparison of electron transport properties of bulk and rapid melt quenched $(Cu_{1-x}Co_x)_2MnAl$ $(0 \leq x \leq 1)$ Heusler alloys

P22. Platonov Sergey, *M. N. Mikheev Institute of Metal Physics UB RAS, Ekaterinburg, Russia*
Enhancement of the magnetocaloric effect in the room temperature region in alloys of the GdTSi type

Section 5. Ceramics and thin films

P23. Al-Saedi Sfaih Sabih Rahim, *Volgograd State Technical University, Volgograd, Russia*
Dielectric and acoustic response of KNN-based ceramics with $BaTiO_3$ additive

P24. Al-Saedi Sfaih Sabih Rahim, *Volgograd State Technical University, Volgograd, Russia*
Effect of barium titanate addition on the photoelectric response of KNN-based ceramics

P25. Baraishuk Siarhei, *Belarusian State Agrarian Technical University, Minsk, Belarus*
Control of wettability of contacts of sensor elements obtained by deposition of Mo by the SAID method

P26. Chouprik Anastasia, *Moscow Institute of Physics and Technology, Dolgoprudny, Russia*
Electromechanical effects in freestanding piezoelectric membranes

P27. Dikov Roman, *Volgograd State Technical University, Volgograd, Russia*
Influence of prehistory on the character of reversing dielectric permittivity in cobalt-containing ferroelectric ceramics $(1-x)Ba_{0.95}Pb_{0.05}TiO_3 + xCo_2O_3$

P28. Ilyev Sergey, *Moscow Institute of Physics and Technology, Dolgoprudny, Russia*
Effect of top electrode grain size on the remanent polarization of ferroelectric capacitors

P29. Kadikova Anelya, *Institute of Physics, Kazan Federal University, Kazan, Russia*
Magnetic inhomogeneities in Fe_3Al epitaxial thin films probed by FMR and time-resolved magnetooptics

P30. Pugachev Alexey, *Institute of Automation and Electrometry RAS, Novosibirsk, Russia*
The abnormally high thermoelectric response in thin-film structures based on Strontium-Barium Niobate

P31. Safina Violetta, *Ural Federal University, Ekaterinburg, Russia*
Charge transport and resistive switching in $BiFeO_3$ thin films

P32. Shcherbakov Artyom, *Moscow Institute of Physics and Technology, Dolgoprudny, Russia*
Time dependence of coercive voltages of FeRAM cell based on $Hf_{0.5}Zr_{0.5}O_2$

P33. Shubin Vitaliy, *Ural Federal University, Ekaterinburg, Russia*
Micro-structure and polarization reversal in PVDF-TrFE films

P34. Soliman Tarek, *Benha University, Benha, Egypt*
Effect of Er_2O_3 ceramic nanoparticles on the optical properties of PVDF membranes

P35. Yakushev Vladislav, *MIREA - Russian Technological University (RTU MIREA), Moscow, Russia*
Atomic layer deposition of Ni thin films: effect of annealing

Section 6. Bioinspired materials

P36. Bystrov Vladimir, *Institute of Mathematical Problems of Biology RAS, Pushchino, Russia*
Diphenylalanine peptide nanotubes for bio-based optical and photonic applications

Section 7. Application of ferroic materials

P37. Petukhov Igor, *Perm State University, Perm, Russia*
Effect of oxygen plasma pretreatment on surface properties of lithium niobate and the proton exchange process

P38. Masalkin Dmitriy, *Perm State University, Perm, Russia*
Oxygen plasma surface-activated lithium niobate for controlling protons diffusion rate