Detailed program of IWMN-2016

Saturday, August 27

11.00 - 13.00	***Excursion to the Yeltsin Center***
15.00 - 18.00	***Visit to the Ural Center for Shared Use "Modern Nanotechnology" UrFU***
19.00 - 21.00	***Welcome party at TransHotel (Gogol str. 15E)***

Sunday, August 28

08.30	***Registration***
09.00	***Opening***
	Session 1. Functional imaging of materials I (chairs Vladimir Shur and Victor Bykov)
09.15	I1. **Vladimir Shur** (Ural Federal University, Ekaterinburg, Russia) Ural Center for Shared Use "Modern Nanotechnology". Achievements and horizons
09.40	I2. **Victor Bykov** (NT-MDT, Moscow, Russia) Modern aspects of technologies of Atomic Force Microscopy and scanning spectroscopy for nano-materials and nano-structures investigations and characterizations
10.05	O1. **Vyacheslav Polyakov** (NT-MDT, Moscow, Russia) Compositional imaging of surface properties using resonant and non-resonant AFM oscillatory modes
10.20	O2. **Vera Neudachina** (Intertech Corporation, Moscow, Russia) Advances in AFM application: novel electric and combined techniques
10.35	O3. **Patrice Belin** (Leica Microsystems, Draillant, France) Digital microscopy as the new solution to go beyond the optical limit
10.50	O4. **Alexander Trifonov** (OPTEC, Moscow, Russia) Carl Zeiss Delta SEM – first aberration corrected scanning electron microscope with atomic resolution
11.05	O5. **Yulia Alekseeva** (SPECS Surface Nano Analysis GmbH, Berlin, Germany) Scanning Probe Microscopy and spectroscopy of graphene on different metal substrates measured with SPM Aarhus - highest productivity in UHV SPM
11.20	***Tea break***

	Session 2. Functional imaging of materials II (chairs Alexander Krylov and Alexey Pugachev)
11.40	I3. **Alexander Krylov** (L.V. Kirensky Institute of Physics SB RAS, Krasnoyarsk, Russia) Structural and magnetic phase transitions in multiferroic rare-earth tetraborate crystals
12.05	I4. **Alexey Pugachev** (Institute of Automation and Electrometry SB RAS, Novosibirsk, Russia) Polar nanoregions in paraelectric phase in $Sr_{0.61}Ba_{0.39}Nb_2O_6$ crystal probed by second harmonic generation
12.30	O6. **Veniamin Abalmassov** (Institute of Automation and Electrometry SB RAS, Novosibirsk, Russia) Calorimetric studies of ferroelectric phase transition in KDP nanocrystals
12.45	O7. **Yulia Karpegina** (Institute of Automation and Electrometry SB RAS, Novosibirsk, Russia) Raman spectroscopy study of cryoprotectant distribution in frozen straws
13.00	O8. **Dmitry Pelegov** (Ural Federal University, Ekaterinburg, Russia) Micro-Raman structural characterization of electrode materials for Li-ion batteries
13.15	***Lunch and group photo***
	Session 3. Relaxor and multiferroic materials (chairs Igor Raevski and Rinat Mamin)
15.00	I5. **Igor Raevski** (Southern Federal University, Rostov-on-Don, Russia) The effect of magnetic and non-magnetic trivalent ions substitutions for Fe in $Pb(Fe_{1/2}Nb_{1/2})O_3$ on its magnetic phase transition temperature
15.25	I6. **Zukhra Gareeva** (Institute of Molecule and Crystal Physics, Ufa, Russia) Magnetoelectricity of domain walls of rare-earth iron garnets
15.50	I7. **Rinat Mamin** (Zavoisky Physical-Technical Institute RAS, Kazan, Russia) Phase separation and locally induced states in manganites
16.15	O9. **Andrei Maksimov** (Cherepovets State University, Cherepovets, Russia) Temperature dependence of the relaxation time in nano-domain structures in relaxor ferroelectrics
16.30	O10. **Svetlana Raevskaya** (Southern Federal University, Rostov-on-Don, Russia) Studies of polarization hysteresis loops in the relaxor-like and non-relaxor Li-doped ceramics of $Pb(Fe_{1/2}Ta_{1/2})O_3$ multiferroic
16.45	***Tea break***

	Session 4. Biocompatible materials and life science I (chairs Andrei Kholkin and Andrei Postnikov)
17.05	I8. **Syed Tofail** (University of Limerick, Limerick, Ireland) Piezoelectric calcium phosphates
17.30	I9. **Joanna Bauer** (Wroclaw University of Science and Technology, Wroclaw, Poland) Electrically active biomaterials
18.00 - 20.00	***Poster Session***

Monday, August 29

	Session 5. Biocompatible materials and life science II (chairs Andrei Kholkin and Andrei Postnikov)
09.00	I10. **Andrei Postnikov** (University of Lorraine, Metz, France) Terahertz imaging technique for cancer diagnostics using frequency conversion by gold nano-objects
09.25	O11. **Vladimir Shur** (Ural Federal University, Ekaterinburg, Russia) Nanotoxicological research in UCSU "Modern Nanotechnology"
09.40	O12. **Larisa Privalova** (Ekaterinburg Medical Research Center for Prophylaxis and Health Protection in Industrial Workers, Ekaterinburg, Russia) A synthesis of the most important inferences from animal experiments assessing adverse health effects of metallic nanoparticles
09.55	I11. **Vladimir Bystrov** (Institute of Mathematical Problems of Biology RAS, Pushchino, Russia) Surface modified hydroxyapatites with various functionalized nanostructures
10.20	O13. **Semen Vasilev** (Ural Federal University, Ekaterinburg, Russia) Growth kinetics, piezoelectric and pyroelectric properties of diphenylalanine microtubes
10.35	O14. **Eugene Mingaliev** (Ural Federal University, Ekaterinburg, Russia) Subpicoliter droplets produced by pyroelectric field
10.50	***Tea break***
	Session 6. Domain engineered ferroelectric crystals (chairs Dmitry Kolker and Alexander Korzhenevskii)
11.10	I12. **Dmitry Kolker** (Novosibirsk State University, Novosibirsk, Russia) Experimental investigation of wide aperture PPLN structures for optical parametric oscillator at MID-IR spectral region

11.35	O15. **Andrey Akhmatkhanov** (Ural Federal University, Ekaterinburg, Russia) Investigation of domain kinetics in KTP single crystals for periodical poling applications
11.50	O16. **Lyudmila Kokhanchik** (Institute of Microelectronics Technology and High Purity Materials RAS, Chernogolovka, Russia) Electron beam domain engineering in optical waveguides in lithium niobate crystals
12.05	O17. **Dmitry Chezganov** (Ural Federal University, Ekaterinburg, Russia) Formation of periodic domain patterns by electron beam irradiation in lithium niobate
12.20	O18. **Mikhail Kosobokov** (Ural Federal University, Ekaterinburg, Russia) Formation of nanodomain structures and snowflake domains during fast cooling of lithium tantalate crystals
12.35	I13. **Alexander Korzhenevskii** (Institute for Problems of Mechanical Engineering RAS, St. Petersburg, Russia) Self-oscillatory motion of extended defects in solid
13.00	***Lunch***
	Session 7. Ferroelectric ceramics and thin films I (chairs Eudes Araujo and Yong Zhang)
14.30	I14. **Andrei Kholkin** (University of Aveiro, Aveiro, Portugal) Piezoelectric properties of 2D-materials: a case of graphene
14.55	I15. **Eudes Araujo** (São Paulo State University, Ilha Solteira, Brazil) Physical properties and reentrant behavior in PLZT thin films
15.20	I16. **Yong Zhang** (Tsinghua University, Beijing, China) Ferroelectric glass ceramics for energy storage application
15.45	O19. **Eran Mishuk** (Weizmann Institute of Science, Rehovot, Israel) Gd-doped ceria-based micro-electro-mechanical devices
16.00	O20. **Denis Alikin** (Ural Federal University, Ekaterinburg, Russia) Characterization of the lead free piezoelectric ceramics by piezoresponse force microscopy
16.15	***Tea break***
	Session 8. Ferroelectric ceramics and thin films II (chairs Eudes Araujo and Yong Zhang)
16.35	I17. **Hiroshi Koibuchi** (National Institute of Technology, Ibaraki College, Hitachinaka, Japan) Finsler geometry modeling for elongation of flexible materials under external magnetic field

17.00	O21. **Andrey Nasedkin** (Southern Federal University, Rostov-on-Don, Russia) Finite element simulation of effective properties of microporous piezoceramic material with metallized pore surfaces
17.15	O22. **Irina Zaytseva** (Institute of Automation and Electrometry SB RAS, Novosibirsk, Russia) Investigations of residual stresses in barium titanate pressed powder and their effects to the properties of the ferroelectric phase transition
17.30	O23. **Aleksandr Vakulenko** (Peter the Great Saint-Petersburg Polytechnic University, St. Petersburg, Russia) Domain wall motion in $PbZr_{0.3}Ti_{0.7}O_3$ epitaxial thin film in temperature range from 4 to 295 K: experimental study and theoretical modeling
17.45	***Closing***

Tuesday, August 30

10.00 - 12.00	***Excursion to the Yeltsin Center***

Poster session

Sunday, August 28

Topic 1. Domain engineered ferroelectric crystals

P1. Lyudmila Kokhanchik, Chernogolovka, Russia
Voltage imaging of ferroelectric domain structures created by electron beam technique in lithium niobate crystals

P2. Evgeniy Vlasov, Ekaterinburg, Russia
Shape of isolated domains created by focused ion beam in lithium niobate and lithium tantalate single crystals

P3. Victoria Pryakhina, Ekaterinburg, Russia
Morphology of charged domain walls in lithium niobate with inhomogeneous bulk conductivity

P4. Anton Turygin, Ekaterinburg, Russia
Local polarization reversal in injected charge by the grounded tip on the non-polar cuts of lithium niobate crystal

P5. Alexander Esin, Ekaterinburg, Russia
Investigation of electric conductivity in single crystals of lithium niobate and lithium tantalate family at elevated temperatures

P6. Artur Udalov, Ekaterinburg, Russia
Field distribution in the vicinity of the perturbations at the moving plane domain wall

P7. Maria Chuvakova, Ekaterinburg, Russia
Self-organized domain kinetics in lithium niobate single crystals at elevated temperatures

P8. Maxim Neradovskiy, Ekaterinburg, Russia
Highly efficient nonlinear waveguides in $LiNbO_3$ fabricated by a combination of Soft Proton Exchange and electron beam periodic domains writing

P9. Andrei Kholkin, Aveiro, Portugal
Effect of the processing conditions on vertical piezoresponse of PZT nanotubes prepared by electrophoretic method

P10. Ekaterina Panteley, Samara, Russia
Determination of +Z and –Z surfaces of a lithium niobate crystal using the method of reflectance spectroscopy

P11. Arkady Mandel, Tomsk, Russia
Isotropic and anisotropic diffraction of laser beam on periodically poled domain structures in lithium niobate

P12. Boris Prasolov, Voronezh, Russia
On expansion coefficients of the free energy in polarization revealed by harmonic analysis method in crystals of A_2BX_4 group

P13. Sergey Mushinsky, Perm, Russia
Structural phase transformations of proton-exchanged layers of lithium niobate during annealing

P14. Sergey Kostritskii, Moscow, Russia
Micro-Raman study of phase composition and electro-optical properties of channel proton-exchanged $LiNbO_3$ waveguides

P15. Nikolay Sidorov, Apatity, Russia
Complex research of concentration structure rearrangement in $LiNbO_3$:Zn (0.04÷5.84 mol. %) single crystals

Topic 2. Relaxor, magnetic, and multiferroic materials

P16. Igor Raevski, Rostov-on-Don, Russia
Comparative Raman studies of $Pb(Fe_{1/2}Nb_{1/2})O_3$ single crystal, ceramics and epitaxial nanofilm

P17. Svetlana Raevskaya, Rostov-on-Don, Russia
The effect of quenching on semiconductive properties and magnetic phase transition temperature of multiferroic $Pb(Fe_{1/2}Nb_{1/2})O_3$ ceramics

P18. Andrey Nasedkin, Rostov-on-Don, Russia
Size-dependent models of multiferroic materials with surface effects

P19. Zukhra Gareeva, Ufa, Russia
Electric polarization in bilayered ferromagnetic film

P20. Natalia Urusova, Ekaterinburg, Russia
Magnetic properties of $LiMPO_4$ multiferroics

P21. Mikhail Semkin, Ekaterinburg, Russia
Crystal structure of the $(MFe_2O_4)_x+(BaTiO_3)_{1-x}$ multiferroic materials

P22. Gulshakhar Kudaibergen, Karaganda, Kazakhstan
Sonochemical method for magnetic powder production

P23. Oxana Arnt, Karaganda, Kazakhstan
Study of ferrite on the basis of nickel with the help of electronic microscopy

P24. Robert Vakhitov, Ufa, Russia
Peculiarities of inhomogeneous magnetoelectric effect in rare earth magnets

P25. Robert Vakhitov, Ufa, Russia
Magnetic phase and inhomogeneous micromagnetic structure in (210) - oriented film of iron garnets

P26. Yuri Kabirov, Rostov-on-Don, Russia
Percolation $La_{0.7}Sr_{0.3}MnO_3$/C composites

P27. Liu Xin, Xian, China
Piezoelectric and electro-optic properties of relaxor ferroelectric $Pb(In_{1/2}Nb_{1/2})O_3$–$Pb(Mg_{1/3}Nb_{2/3})O_3$–$PbTiO_3$

P28. Rinat Mamin, Kazan, Russia
Phenomenological model of relaxors for PMN-PT

P29. Stanislav Migachev, Kazan, Russia
Photoconductivity and photostimulated currency in PMN-PT

P30. Galina Akbaeva, Rostov-on-Don, Russia
Dielectric spectrum of a ferroelectric-soft PZT-based material in a relaxor phase

P31. Elizaveta Neradovskaya, Ekaterinburg, Russia
Nanoscale piezoelectric properties of PLZT ceramics: effect of surface disorder

P32. Vasily Trotsenko, Rostov-on-Don, Russia
Band-like electrical transport in $Pr_{1-x}Ca_xMnO_3$ manganites

P33. Vasily Trotsenko, Rostov-on-Don, Russia
Structural characterization of $La_{0.25}Ca_{0.75}MnO_3$ thin films grown by pulsed laser deposition

P34. Andrey Anokhin, Rostov-on-Don, Russia
Strain effects in multiferroic superlattices

P35. Daniil Striukov, Rostov-on-Don, Russia
Lattice distortions and lattice dynamics of the multiferroic heterostructures

P36. Nikita Boldyrev, Rostov-on-Don, Russia
Dielectric spectroscopy of the binary system solid solutions $(1-x)BiFeO_3$-$_xBaTiO_3$

P37. Nikita Boldyrev, Rostov-on-Don, Russia
Dielectric spectroscopy of the binary system solid solutions $(1-x)BiFeO_3$-$xCdTiO_3$ in the low-frequency region

P38. Anzhela Rudskaya, Rostov-on-Don, Russia
Comparison of the structures of Y–Mn–O system ($YMnO_3$, YMn_2O_5 and $Y_2Mn_2O_7$)

P39. Mikhail Talanov, Rostov-on-Don, Russia
Effect of $PbNi_{1/3}Nb_{2/3}O_3$ on the structure, dielectric and piezoelectric properties of multicomponent solid solutions based on PMN-PT

P40. Aleksey Pavelko, Rostov-on-Don, Russia
The dielectric dispersion of the $PbTiO_3$-$PbZrO_3$-$PbNb_{2/3}Mg_{1/3}O_3$-$PbGeO_3$ solid solutions: the evolution of the response in the transition from the classical to the relaxor ferroelectric state

P41. Anatoly Pavlenko, Rostov-on-Don, Russia
Optical and dielectric properties of the $(Ba_{0.5}Sr_{0.5})Nb_2O_6$/Pt(111)/Si(001)

P42. Abu Abubakarov, Rostov-on-Don, Russia
The method of experimental determination of microwave-absorbing characteristics of composite materials

P43. Ilya Verbenko, Rostov-on-Don, Russia
Formation of the crystalline structure and properties of complex heterogeneous system «$BiFeO_3$» by solid phase synthesis

Topic 3. Ferroelectric ceramics and thin films

P44. Galina Akbaeva, Rostov-on-Don, Russia
Relaxation of polarization in $(K_{0.5}Na_{0.5})(Nb_{0.93}Sb_{0.07})O_3$ ferroelectric ceramics modified by $BaTiO_3$

P45. Vladislav Krutov, Moscow, Russia
Formation of nanodomain structures in ferroelectric films by interfering hypersound beams

P46. Mikhail Kamenshchikov, Tver, Russia
Dielectric response of thin film structures based on PZT

P47. Tatiana Petrova, Rostov-on-Don, Russia
The theoretical investigation of the structural transitions in thin ferroelectric films

P48. Mikhail Bunin, Rostov-on-Don, Russia
Piezoresponse force microscopy studies of domains in $PbFe_{1/2}Nb_{1/2}O_3$ ceramics

P49. Yuri Tikhonov, Rostov-on-Don, Russia,
A comparative x-ray diffraction study of ferroelectric thin films and superlattices

P50. Kristina Baklanova, Tver, Russia
Electric response of lithium niobate thin film structures

P51. Andrei Ushakov, Ekaterinburg, Russia
Electromechanical properties of Gd-doped ceria ceramics and thin films measured by laser interferometry

P52. Alexei Arkhipov, Ekaterinburg, Russia
Application of tip enhanced Raman scattering on various nanostructural objects

P53. Roman Gerasimov, Cherepovets, Russia
Study of mechanical properties of ferroelectric metamaterials using computer modeling

P54. Anna Razumnaya, Rostov-on-Don, Russia
Tricolor ferroelectric superlattice

P55. Pavel Bakulin, Volgograd, Russia
Destruction of CPM and simulation time dependences currents in CPM at simultaneous action of an electric field and mechanical load.

P56. Yuriy Yurasov, Rostov-on-Don, Russia
Specialties of low-frequency relaxation of ferroelectric ceramics (PZT)

P57. Jaroslav Zubarev, Rostov-on-Don, Russia
Correlations structure, prehistory of thermodynamic, crystal structure, landscape of grain, and the macroscopic properties in ferroelectric ceramics with alkali and alkaline earth metal niobates

P58. Inna Andryushina, Rostov-on-Don, Russia
Piezo ferroelectric ceramics based on high sensitivity functional composition

P59. Sidek Khasbulatov, Rostov-on-Don, Russia
Maxwell-Wagner effects in barium-strontium titanates and bismuth ferrite ferroelectric ceramics

P60. Konstantin Andryushin, Rostov-on-Don, Russia
Composition, structure, electrophysical and thermofrequency properties sodium solutions of sodium- potassium-cadmium

P61. Dmitrii Redka, St. Petersburg, Russia
Surface modification of ZnO by plasma and laser treatment

Topic 4. Biocompatible materials and life science

P62. Vladimir Bystrov, Pushchino, Russia
Graphene and polyvinylidene fluoride polymer ferroelectric composites for multifunctional applications

P63. Ekaterina Paramonova, Pushchino, Russia
Polarization switching in ultrathin polyvinylidene fluoride homopolymer ferroelectric films

P64. Anna Bystrova, Riga, Latvia
Electron work function of the modified HAP: Synchrotron actions

P65. Anna Bystrova, Riga, Latvia
Electron work function of the modified HAP: Actions of HAP treatments

P66. Syed Tofail, Limerick, Ireland
Infrared imaging for label-free non-invasive and minimally invasive disease diagnostics

P67. Syed Tofail, Limerick, Ireland
PVDF-TrFE /BNNT: Piezoelectric system for mediating tendon repair through activation of voltage and stretch sensitive transmembrane receptors

P68. Syed Tofail, Limerick, Ireland
Piezoelectric, pyroelectric and ferroelectric behavior of non-fibrous proteins

P69. Syed Tofail, Limerick, Ireland
Decoding electroactive organic materials using solid state physics approach

P70. Evgeny Greshnyakov, Ekaterinburg, Russia
Synthesis of water suspension of metal oxide nanoparticles for nanotoxicological research

P71. Pavel Zelenovskiy, Ekaterinburg, Russia
Elastic and thermal properties of diphenylalanine nanotubes: a micro-Raman study

P72. Daria Vasileva, Ekaterinburg, Russia
Domain structure of single crystal β – glycine

P73. Alla Nuraeva, Ekaterinburg, Russia
Piezoelectric properties of thin films and microcrystals derived from carboranyl-(*S*)-glutamine and carboranyl-(*S*)-asparagine

P74. Andrey Akhmatkhanov, Ekaterinburg, Russia
Polarization reversal and domain kinetics in PMN-30PT single crystal