

# **The 3<sup>rd</sup> China-Russia Workshop on Dielectric and Ferroelectric Materials**

**Oct. 12-14, 2017, Wuhan, China**

Sponsored by State Key Laboratory of Advanced Technology for Materials Synthesis and Processing (Wuhan University of Technology, China), International School of Materials Science and Engineering (Wuhan University of Technology, China), and Key Lab of Ferro & Piezoelectric Materials and Devices of Hubei Province (Hubei University, China), the 3<sup>rd</sup> China-Russia Workshop on Dielectric and Ferroelectric Materials will be held on Oct. 12-14, 2017 in Wuhan.

## **General Chairs:**

Haoshuang Gu (Hubei University, China)

Wen Chen (Wuhan University of Technology, China)

A.S. Sigov (Moscow State Technical University of Radio-engineering, Electronics and Automation, Russia)

## **Organizing Committee:**

Chairs of Organizing Committee:

Yunbin He (Hubei University, China)

Hua Hao (Wuhan University of Technology, China)

Associate Chairs of Organizing Committee:

Yongming Hu (Hubei University, China)

Jing Zhou (Wuhan University of Technology, China)

## **Topics:**

1. High-performance piezo-/ferroelectric materials and devices
2. Thin films, single crystals, interfaces and nanoscale materials
3. Multiferroic materials and devices
4. New Mechanisms/Materials/Devices

<b>Session Chairs</b>	<b>Prof. Zhuo Xu and Prof. Leonid. Korotkov</b>
08:20~09:05	Plenary Session I Complex multiferroicity in $GdMn_2O_5$ <b><u>Prof. Junming Liu</u></b> Nanjing University
09:05~09:50	Plenary Session II “The validity of the Imry-Ma approach in the systems with defects of the “random local field” type” <b><u>Prof. Aleksandre. Sigov</u></b> Moscow Technological University
10:15~11:00	Plenary Session III Understanding the Structural Origins of High Piezo-/ferroelectricity in Complex Perovskite Solid Solutions <b><u>Prof. Zuoguang Ye</u></b> Simon Fraser University
11:00~11:45	Plenary Session IV Studies in thin $LiNbO_3$ films by AFM methods <b><u>Prof. Tatiana. Volk</u></b> Shubnikov Institute of Crystallography of FSRC “Crystallography and Photonics” RAS
<b>Session Chairs</b>	<b>Prof. Junming Liu and Prof. Tatiana. Volk</b>
13:30~14:00	(invited) Soft Mode Condensation in Raman Spectra of (Pb-La)(Zr-Sn-Ti) $O_3$ Ceramic <b><u>Alexander. Vtyurin</u></b> Kirensky Institute of Physics Federal Research Center KSC of the Siberian Branch of the Russian Academy of Sciences
14:00~14:30	(invited) Eletro-optical and nonlinear optical properties of $PbTiO_3$ Based Single Crystals <b><u>Zhuo Xu</u></b> Xi'an Jiaotong University
14:30~15:00	(invited) Grand design of novel functional materials and physical properties <b><u>Xiaolin Wang</u></b> University of Wollongong
15:00~15:30	(invited) Enhanced piezoelectric properties of KNN-based ceramics: from doping to multiphase co-existed <b><u>Jianguo Zhu</u></b> Sichuan University
15:30~16:00	(invited) Mode coupling and formation of the incommensurate structures in $PZr_{1-x}Ti_xO_3$ crystals <b><u>Sergey Vakhrushev</u></b> Ioffe Physical Technical Institute, Russian Academy of Sciences

16:10~16:40	(invited) Investigation of PMN-PT single crystals for medical ultrasonic transducers <b><u>Haosu Luo</u></b> Shanghai Institute of Ceramics, Chinese Academy of Sciences
16:40~17:10	(invited) Progress in piezoelectric micromotors and applications <b><u>Shuxiang Dong</u></b> Beijing University
17:10~17:40	(invited)Field-induced Phase Transition and Domain Configuration in PMN-PT Single Crystals around MPB <b><u>Qiang Li</u></b> Tsinghua University
17:40~18:10	(invited)Multilayered Ceramic Devices Based on Low Temperature Cofired Ceramics (LTCC) Process <b><u>Zhifu Liu</u></b>

Oct.14, 2017

Topic	Lead-free Ferro/Piezoelectrics	New Mechanism/Materials/ Devices
Session Chairs	Prof. Wei Huang and Prof. Aleksandre. Krylov	Prof. Haosu Luo and Prof. Vladimir. Shur
08:00~08:30	(invited) Ferroelectric Transition in $Ba_4R_2Zr_4Nb_6O_{30}$ (R=La, Nd, Sm) Tetragonal Tungsten Bronze New Systems <b><u>Xiangming Chen</u></b> Zhejiang University	(invited) Ferroelectric-Graphene Heterostructures and Field-Effect Transistors <b><u>Jianhua Hao</u></b> The Hong Kong Polytechnic University
08:30~09:00	(invited) Processing and characterization of lead-free ceramics on the base of sodium-bismuth titanate and sodium-potassium niobate <b><u>Ekaterina. Politova</u></b> Karpov Institute of Physical Chemistry	(invited) Tailoring strains and physical properties of epitaxial thin films on vicinal substrates <b><u>Yuan Lin</u></b> University of Electronic Science and Technology of China
09:00~09:30	(invited) Duplex structure in $K_{0.5}Na_{0.5}NbO_3$ based ferroelectric ceramics with wide temperature-stable dielectric properties <b><u>Huiqing Fan</u></b> Northwestern Polytechnical University	(invited) Dielectric Relaxation and Photoluminescence of Lanthanide-Doped Bismuth Titanate Pyrochlore Thin Films <b><u>Dinghua Bao</u></b> Sun Yat-sen University
09:30~10:00	(invited) Large Electrocaloric Effect in Relaxor Ferroelectrics, Antiferroelectrics and Multilayer Ceramic Capacitors <b><u>Shengguo Lu</u></b> Guangdong University of Technology	(invited) From “material” to “device”----LTCC and millimeter wave antenna <b><u>Wenzhong Lv</u></b> Huazhong University of Science and Technology

10:10~10:40	(invited) Ionic Liquid gating control of Magnetism <b><u>Ming Liu</u></b> Xi'an Jiaotong University	(invited) Optical properties of mesoporous photonic crystals, filled by dielectrics, ferroelectrics and piezoelectrics <b><u>Vladimir. Gorelik</u></b> Lebedev Institute for General Physics of the Russian Academy of Sciences
10:40~11:10	(invited) Dielectric properties of $Ba_{1-x}Ca_xZr_yTi_{1-y}O_3$ ceramics under strong electric field <b><u>Qing Xu</u></b> Wuhan University of Technology	(invited) Mechanism of High Performance Piezoelectrics of Pb-Based Perovskites <b><u>Jun Chen</u></b> University of Science & Technology Beijing
11:10~11:40	(invited) A Comparative Study of High Temperature Performance and Depolarization of Piezoceramics <b><u>Dong Guo</u></b> Beihang University	(invited) Dielectrics in AlGaIn/GaN HEMTs <b><u>Xingzhao Liu</u></b> University of Electronic Science and Technology of China
11:40~12:10	(invited) Giant Electrostrictive Effects and Defects in Lead-Free $Fe^{3+}$ -doped $0.5Ba(Zr_{0.2}Ti_{0.8})O_3-0.5(Ba_{0.7}Ca_{0.3})TiO_3$ Ferroelectric Ceramics <b><u>Li Jin</u></b> Xi'an Jiaotong University	(invited) 2D electronic and photoelectronic devices driven by ferroelectrics <b><u>Minghua Tang</u></b> Xiangtan University
<b>Topic</b>	<b>Multiferroics/Single Crystal/Ceramic</b>	<b>Nanomaterials</b>
<b>Session Chairs</b>	<b>Prof. Xiangming Chen and Prof. Alexander. Vtyurin</b>	<b>Prof. Yuan Lin and Prof. Vladimir. Gorelik</b>
13:30~14:00	(invited) Micro-structure and Diffuse Phase Transition of $xP(Zn_{0.5}Te_{0.5})O_3-(1-x)PZT$ Ferroelectric Ceramics <b><u>Guorong Li</u></b> Shanghai Institute of Ceramics, Chinese Academy of Sciences	(invited) Electrophysical properties of nanocrystalline $BaTiO_3$ <b><u>Leonid. Korotkov</u></b> Voronezh State Technical University
14:00~14:30	(invited) Raman Scattering Study of Phase Transitions in Multiferroics with Huntite Structures <b><u>Aleksandre. Krylov</u></b> Kirensky Institute of Physics Federal Research Center KSC of the Siberian Branch of the Russian Academy of sciences	(invited) Creating crystallographically engineered hierarchical polydomain nanostructures in perovskite ferroelectric films with improved electrical performance <b><u>Jinbin Wang</u></b> Xiangtan University

14:30~15:00	(invited) Multi-state and Magnetolectric Coupling Effects in Multiferroic Tunnel Junctions <b><u>Yuewei Yin</u></b> University of Science and Technology of China	(invited) Formation of dendrite micro- and nano-domain structures in uniaxial ferroelectrics <b><u>Vladimir. Shur</u></b> Ural Federal University
15:00~15:30	(invited) The exploration on the origin of enhanced piezoelectric properties in metal-ion doped (K, Na)NbO <sub>3</sub> based lead-free ceramics <b><u>Yunbin He</u></b> Hubei University	(invited) Hydrothermal Synthesis of Nd doped Barium Titanate Fine Particles <b><u>Kongjun Zhu</u></b> Nanjing University of Aeronautics and Astronautics
<b>Topic</b>	<b>Multiferroics/Single Crystal/Ceramic</b>	<b>Energy</b>
15:40~16:10	(invited) Energy storage properties in ferroelectric & antiferroelectric ceramics <b><u>Genshui Wang</u></b> Shanghai Institute of Ceramics, Chinese Academy of Sciences	(invited) Ferroelectrics for Energy-Related Applications <b><u>Haitao Huang</u></b> The Hong Kong Polytechnic University
16:10~16:40	(invited) The Dielectric Constant of CaCu <sub>3</sub> Ti <sub>4</sub> O <sub>12</sub> Ceramics <b><u>Changping Yang</u></b> Hubei University	(invited) Controllable Preparation and Energy Storage Properties of Barium Titanate-based Polyvinylidene fluoride Composites <b><u>Jiwei Zhai</u></b> Tongji University
16:40~17:10	(invited) Domain structure kinetics in single crystals of potassium titanyl-phosphate <b><u>Andrey. Akhmatkhanov</u></b> Ural Federal University	(invited) Perovskite dielectric materials for high temperature capacitor application <b><u>Hua Hao</u></b> Wuhan University of Technology
17:10~17:40	(invited) Ferroelectric domain in multiferroic hexagonal manganites <b><u>Xueyun Wang</u></b> Beijing Institute of Technology	(invited) Atomic Layer Engineering of High- $\kappa$ Dielectric Response in 2D Perovskite Nanosheets <b><u>Baowen Li</u></b> Wuhan University of Technology
17:40~18:00	High performance piezoelectric ceramics and their composites for high-power application <b><u>Jie Shen</u></b> Wuhan University of Technology	Highly Flexible Electrocaloric Ceramic Nanowire Array <b><u>Guangzu Zhang</u></b> Huazhong University of Science and Technology
18:00~18:20	Voltage Control of Magnetism in Multiferroic Heterostructures <b><u>Zhongqiang Hu</u></b> Xi'an Jiaotong University	Giant Energy Density of Polymer Nanocomposites Dielectrics Induced by Interfaces-Engineering <b><u>Xin Zhang</u></b> Wuhan University of Technology