



PIEZO 2013 conference programme

Programme: Sunday, March 17, 2013	
7:00 pm - 7:00 pm	Cocktail
8:00 pm - 10:30 pm	Dinner
Programme Monday, March 18, 2013	
8:45 am - 8:45 am	Opening of the conference
8:45 am - 10:00 am	Oral session
08:45 - 09:15	› Invited paper: New dual frequency phased array transducer for cardiac imaging. - <i>Nico De Jong, ErasmusMC</i>
09:15 - 09:30	› Piezoelectric resonators for tunable phononic crystals - <i>Tommaso Delpero, ETH Zürich - Centre of Structure Technologies</i>
09:30 - 09:45	› High Temperature Piezoelectric Transducers System for Long Range Ultrasound Structural Health Monitoring of Aging Power Plants - <i>Marko Budimir, INETEC – Institute for nuclear technology Ltd., Zagreb</i>
09:45 - 10:00	› Rapid thermal processing for enhanced functional properties in PZT thick films - <i>Robert Dorey, Cranfield University</i>
10:00 am - 10:30 am	Coffee break
10:30 am - 11:00 am	Industrial presentations
11:00 am - 12:15 pm	Oral session
11:00 - 11:15	› High Performance Screen Printed PZT Thick Film Actuators by In-Plane Mode of Excitation - <i>Dörthe Ernst, Fraunhofer Institute for Ceramic Technologies and Systems</i>
11:15 - 11:30	› Flexible piezoelectric materials for emerging applications - <i>Konstantin Astafiev, MEGGITT A/S</i>
11:30 - 11:45	› Piezoceramic Fibers and Pearls Derived by the Polysulfone Spinning Process - <i>Kai Hohlfeld, TU Dresden, Institute of Materials Science</i>
11:45 - 12:00	› Direct Piezo Ceramic Tester for Comparison of lead free piezoceramic vs PZT - <i>Elsa GULLAUD, Yzatec</i>
12:15 pm - 4:30 pm	Break
4:30 pm - 5:45 pm	Oral session
16:30 - 17:00	› Invited paper: Autonomous Wireless Health Monitoring for Aircrafts - <i>Thomas Becker, EADS IWSICO</i>
17:00 - 17:15	› Piezoelectric miniature robot inspired by Ultrasonic motors - <i>Yves BERNARD, Laboratoire de génie électrique de Paris</i>
17:15 - 17:30	› MEMS sensors for microscale piezoelectric metrology - <i>Jenny Wooldridge, NPL</i>
17:30 - 17:45	› Automotive cylinder pressure sensor based on lead free piezo-electric



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	ceramic - <i>Alain RAMOND, Yzatec</i>
5:45 pm - 6:15 pm	Coffee break
6:15 pm - 7:00 pm	Oral session
18:15 - 18:30	› Piezoelectric evaluation of ultra-thin nano-confined polymeric nanowires - <i>Valentina Cauda, Center for Space Human Robotics, Istituto Italiano di Tecnologia</i>
18:30 - 18:45	› Innovation in the growth of thick and high crystalline quality AlN layer on sapphire by HTCVD - <i>Nicolas Coudurier, Science et Ingénierie des Matériaux et procédés</i>
18:45 - 19:00	› Ultralong ZnO nanowire arrays using a template- assisted approach for piezoelectric - <i>Carminna Ottone, Center for Space Human Robotics, Istituto Italiano di Tecnologia, Dip. Scienza Applicata e Tecnologia, Politecnico di Torino</i>
8:00 pm - 10:30 pm	Gala dinner
Programme : Tuesday, March 19, 2013	
8:30 am - 10:00 am	Oral session
08:30 - 09:00	› Invited paper: Piezoelectric Films for Next Generation Logic Elements - <i>Susan Trolrier Mc Kinstry, Department of Material Science and Engineering</i>
09:00 - 09:15	› BaTiO ₃ doped materials for ultrasonic transducer applications - <i>Gustavo Mata-Osoro, ENSCP-ParisTech, Laboratoire de Chimie de la Matière Condensée</i>
09:15 - 09:30	› Properties of PZT Thick film integrated on Bare Silicon Wafer by Electrophoretic Deposition (EPD) - <i>Carmen Galassi, National Research Council of Italy Institute of Science and Technology for Ceramics</i>
09:30 - 09:45	› Lead Zirconate Titanate coating of Tungsten Carbide-Cobalt to enable smart coatings - <i>Peter Woolliams, National Physical Laboratory - Paul Weaver, National Physical Laboratory - Tatiana Correia, National Physical Laboratory - Markys Cain, National Physical Laboratory - Andrew Pickwell, University of Cranfield - Robert Dorey, University of Cranfield</i>
09:45 - 10:00	› Synthesis, structure and ferroelectric properties of perovskite-like layered structured Pr ₃ Ti ₂ TaO ₁₁ compounds - <i>CHEN CHEN, School of Engineering and Materials Science</i>
10:00 am - 10:30 am	Coffee break
10:30 am - 12:15 pm	Oral session
10:30 - 10:45	› Lead-free and high energy density ceramic for energy storage applications -



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	<i>Tatiana Correia, National Physical Laboratory</i>
10:45 - 11:00	› Evolution of MEMS based piezoelectric thick film technology for energy harvesting applications - <i>Tomasz Zawada, Meggitt Sensing Systems</i>
11:00 - 11:15	› Zinc Oxide Nanorod P-N Junction-Based Piezoelectric Energy Generators - <i>Markys Cain, National Physical Laboratory, Queen Mary, University of London</i>
11:15 - 11:30	› A Novel Thermomechanical Energy Conversion Cycle: Demonstration - <i>Ian McKinley, University of California Los Angeles</i>
11:30 - 11:45	› Electro-optic effects in high temperature, bulk, piezoelectric ceramics
11:45 - 12:00	› Sodium potassium niobate-strontium titanate ceramics: environment friendly alternative to lead-based electrocaloric materials - <i>Barbara Malic, Jožef Stefan Institute</i>
12:00 - 12:15	
12:15 pm - 4:30 pm	Break
4:30 pm - 5:45 pm	Oral session
16:30 - 17:00	› Invited paper: A semiconductor perspective of ferroelectric materials - <i>Andreas Klein, Technische Universität Darmstadt</i>
17:00 - 17:15	› Uniaxial pressure induced phase switching in the piezoelectric KBT-NBT - <i>Tim Comyn, University of Leeds</i>
17:15 - 17:30	› Synthesis and functional properties of piezoelectric lead free $K_{0.5}Na_{0.5}NbO_3$ ceramics and single crystals. - <i>Micka BAH, Research group on materials, microelectronics, acoustics & nanotechnology</i>
17:30 - 17:45	› Ternary system of piezoelectric single crystals and its applications - <i>Sang-Goo Lee, iBULe Photonics</i>
17:45 - 18:15	Coffee break
6:15 pm - 7:15 pm	Poster session
18:15 - 19:15	› Ultrasound medical applications of electrophoretically deposited PZT thick films - <i>Franck Levassort, Université François Rabelais de Tours</i>
18:15 - 19:15	› Different scale confinements of PDVF-TrFE as functional material for piezoelectric tactile sensors - <i>giancarlo canavese, Italian Institute of Technology</i>
18:15 - 19:15	› Analysis of Frequency and Voltage variation for effective modulation of piezoelectric fan speed - <i>Tushar Chitrakar, NITK Surathkal</i>
18:15 - 19:15	› High aspect-ratio vertically aligned ZnO nanowires: electric and piezoelectric evaluation for energy nanogenerators - <i>Stefano Stassi, Center for Space Human Robotics, Istituto Italiano di Tecnologia, Dip. Scienza Applicata e Tecnologia, Politecnico di Torino</i>
18:15 - 19:15	› Analysis of the contribution of elastic anisotropy to internal stresses in ferroelectric materials using a multiscale modelling approach - <i>Laurent</i>



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	<i>DANIEL, School of Materials, University of Manchester, Laboratoire de Génie Electrique de Paris</i>
18:15 - 19:15	› Autonomous aeronautical structural health monitoring system based on piezoelectric power harvesting devices for on- production line use. - <i>christophe Delebarre, Institute of Electronics, Microelectronics and Nanotechnology.</i>
18:15 - 19:15	› Characterisation of soft and hard piezoceramic materials using genetic algorithm based optimisation - <i>Julien Bustillo, Université François Rabelais de Tours</i>
18:15 - 19:15	› Design and fabrication of a piezo-electric transducer array for intravascular ultrasound - <i>Gerrit J. van Dijk, Laboratory of Acoustical Wavefield Imaging - Erwin J. Alles, Institute of Cancer Research and Royal Marsden NHS Foundation Trust, Laboratory of Acoustical Wavefield Imaging - Koen W. A. van Dongen, Laboratory of Acoustical Wavefield Imaging</i>
18:15 - 19:15	› Electric field control of magnetic domains in patterned multiferroic thin film composites - <i>Rui Lopes, National Physical Laboratory</i>
18:15 - 19:15	› Electro-thermal coupling and new functional materials technology - <i>Paul Weaver, National Physical Laboratory - Tatiana Correia, National Physical Laboratory - Peter Woolliams, National Physical Laboratory - Guido Bartl, Physikalisch-Technische Bundesanstalt (PTB) - Tatjana Quast, Physikalisch-Technische Bundesanstalt - Tim Stevenson, University of Leeds - Jacques Hameury, Laboratoire national de métrologie et d'essais - Petr Klapetek, Czech Metrology Institute - Maksim Shpak, CENTRE FOR METROLOGY AND ACCREDITATION - Thorsten Schmitz-Kempen, aixACCT Systems GmbH</i>
18:15 - 19:15	› Fluid droplet monitoring using surface waves inductively generated by RF EMUS transducer - <i>Nicolas Wilkie-Chancellor, Systèmes et Applications des Technologies de l'Information et de l'Energie</i>
18:15 - 19:15	› Indirect Measurement of Electrocaloric Effect in Nonlinear Dielectrics - <i>Tatiana Correia, National Physical Laboratory</i>
18:15 - 19:15	› K _{0.5} Na _{0.5} NbO ₃ thick films with potassium-sodium germanate sintering aid - <i>Tadej Rojac, Jožef Stefan Institute, Centre of Excellence NAMASTE</i>
18:15 - 19:15	› Li diffusion and electrochemical activity in commercial battery materials - <i>Sergey Luchkin, Department of Materials and Ceramics Engineering & CICECO, University of Aveiro - Andrei Kholkin, Department of Materials and Ceramics Engineering & CICECO, University of Aveiro</i>



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18:15 - 19:15	› Measurement of the effective d_{33} coefficient on PZT film integrated structures using laser interferometry. - <i>Guy Feuillard, École Nationale d'Ingénieurs du Val de Loire</i>
18:15 - 19:15	› Modeling and study of hysteretic behaviour of piezoceramic materials under external electrical and mechanical stress - <i>mathieu Domenjoud, Université François-Rabelais de Tours</i> - <i>Guy Feuillard, École Nationale d'Ingénieurs du Val de Loire</i>
18:15 - 19:15	› Piezoelectric energy harvester for bicycle - <i>Dejan Vasic, SATIE ENS Cachan</i>
18:15 - 19:15	› Quantification of electromechanical coupling measured with Piezoresponse Force Microscopy - <i>Serban Lepadatu, National Physical Laboratory</i>
18:15 - 19:15	› Surface Functionalization of Zinc Oxide Transducers for Multiplexed Detection of Liver Diseases - <i>Azatuhi Ayrikyan, Boston University</i> - <i>Hang Su, Boston University</i> - <i>william tsang, Boston University</i>
18:15 - 19:15	› The new approach to the determination of the material constants of solid materials - <i>Boris Zaitsev, Saratov Branch of Institute of Radio Engineering and Electronics of RAS, 38 Zelyonaya str., Saratov, 410019, Russia</i>
18:15 - 19:15	› Thermostability of glycine piezoelectrical phases - <i>Ensieh Seyedhosseini, CICECO & Department of Materials and Ceramics Engineering, University of Aveiro, Aveiro, Portugal</i>
8:00 pm - 10:30 pm	Dinner
Programme : Wednesday, March 20, 2013	
8:30 am - 12:30 pm	Oral session
08:30 - 09:00	› Invited paper: Piezoelectric materials and their applications in radio frequency domain and telecommunications - <i>Philippe Benech, Institut de Microelectronique, Electromagnetisme et Photonique</i>
09:00 - 09:15	› Effect of the metallization and electrode size on the electrical admittance of piezoelectric ceramic parallelepipeds - <i>Oumar Diallo, Université François Rabelais de Tours</i>
09:15 - 09:30	› Texturation of lead-free BaTiO ₃ -based piezoelectric ceramics - <i>A Ngueteu Kamlo, Laboratoire de Science des Procédés Céramiques et de Traitements de Surface</i>
09:30 - 09:45	› Langasite, lead-free piezoelectric thin layer synthesized through a “Chimie douce” route - <i>Mehdi MEVEL, Institut Néel, Laboratoire SYstèmes et Matériaux pour la MEcatronique</i>
09:45 - 10:00	› Defect-mediated phase stability in ferroelectric oxides - <i>Anna Kimmel, University College London, National Physical Laboratory</i>
10:00 am - 10:30 am	Coffee break



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10:30 am - 12:15 pm	Oral session
10:30 - 10:45	› Role of oxygen octahedra tilting and defects on the electrical and electro-mechanical response of rhombohedral Pb(Zr,Ti)O ₃ ceramics - <i>Tadej Rojac, Jozef Stefan Institute</i>
10:45 - 11:00	› Evaluation of the polarization state of light metal embedded piezoelectrics - <i>Agnes Eydam, Solid State Electronics Lab, TU Dresden</i>
11:00 - 11:15	› Oxygen vacancies induced two-dimensional electron gas near SiO ₂ /BaTiO ₃ interfaces - <i>Anna Kimmel, University College London, National Physical Laboratory</i>
11:15 - 11:30	› Frequency and temperature stability of high electric field-induced strain in K _{0.5} Bi _{0.5} TiO ₃ – BiFeO ₃ ceramics - <i>Maxim Morozov, Norwegian University of Science and Technology</i>
11:30 - 11:45	› Exceptionally large piezoelectric strains in high temperature BiFeO ₃ -(K _{0.5} Bi _{0.5})TiO ₃ –PbTiO ₃ ceramics - <i>James Bennett, Institute for Materials Research</i>
11:45 - 12:00	› BNT-based Lead-free materials - Alternativ for PZT-based materials - <i>Antje Kynast, PI Ceramic GmbH</i>
12:15 pm - 12:30 pm	Closing of the conference