

Piezo2021 Conference Agenda

Monday 22	
8:30 to 8:45	Web connection
8:45 to 9:00	Opening – Welcome from Organizers
<u>Lead-Free Ferro-piezoelectrics I - Chair: Barbara Malic</u> (Jožef Stefan Institute)	
9:00 to 9:30	Franz Schubert (Invited) - Current status on lead free materials
9:30 to 9:50	Daniel Bremecker - <i>Morphotropic phase boundary in pure and Zn²⁺-doped lead-free (1-x)Na_{1/2}Bi_{1/2}TiO₃-xBaTiO₃ piezoceramics</i>
9:50 to 10:10	Antonio Iacomini - <i>Processing, sintering study and phase evolution of “lead free” potassium sodium niobate doped with bismuth ferrite (KNN-BF): effect of CuO addition on sintering behaviour and electrical properties</i>
10:10 to 10:30	Paula M. Vilarinho - <i>Electrical characterization of FLASH sintered lead free piezoelectric K_{0.5}Na_{0.5}NbO₃</i>
10:30 to 10:50	Yonatan Calahorra - <i>High Piezoelectricity and Electromechanical Efficiency in Nanoporous GaN</i>
10:50 to 11:10	Break
<u>Lead-Free Ferro-piezoelectrics II – Chair: Pascal Marchet</u> (University of Limoges)	
11:10 to 11:40	Marco Deluca (Invited) - Compositional tuning of lead-free barium titanate solid solutions
11:40 to 12:00	Blessing N. Ezealigo - <i>BaTi_(1-x)Zr_xO₃ ceramics fabricated by self-propagating high-temperature synthesis and spark plasma sintering</i>
12:00 to 12:20	Fernando L. Sà - <i>Microwave-assisted versus conventional oven hydrothermal synthesis of piezoelectric BaTiO₃ nanoparticles</i>
12:20 to 12:40	Tor O. Sunde - <i>Stress considerations for sputtered lead-free (Ba,Ca)(Zr,Ti)O₃ thin films</i>
12:40 to 13:00	Kelly Orlik - <i>Microwave heating: influence of fast sintering on electrical properties of (Ba,Ca)(Ti,Zr)O₃ based lead free piezoelectric ceramics</i>
13:00 to 14:00	Break
14:00 to 14:45	<u>Plenary and Horizon Europe Program – Chair: Guy Feuillard</u> (Piezo Institute Director)

14:45 to 15:15	<p>Susan Trolier-McKinstry (Plenary) - <i>Piezoelectric adjustable optics for X-ray space telescopes</i></p> <p>Luca Polizzi (EU Diplomat International Relations Officer) <i>Opportunities for researchers, companies and entrepreneurs, in Horizon Europe program - The challenges of science diplomacy for the Mediterranean region</i></p>
15:15 to 15:45	<p style="text-align: center;">Sensors, Sonars and Actuators – Chair: Sandy Cochran (University of Glasgow)</p>
15:45 to 16:05	<p>Lalitha Kodumudi Venkataraman (Invited) - <i>Relaxor/Ferroelectric stability in furnace cooled/quenched $Na_{1/2}Bi_{1/2}TiO_3$-BaTiO₃ piezoceramics</i></p>
16:05 to 16:25	<p>Omar Zahhaf - <i>Enhancing dielectric and piezoelectric properties of micro-ZnO/PDMS composite-based dielectrophoresis</i></p>
16:25 to 16:55	<p>Wenxiang Ding - <i>Bonding Delaminations of a Single-element Piezoelectric Transducer: modelling and experimental characterization</i></p>
16:25 to 16:55	<p>Sylvia Gebhardt (Keynote) - <i>Printed Thick Film Transducers for Integrated Piezoelectric Function</i></p>
16:55 to 17:20	<p>Break</p>
17:20 to 17:50	<p style="text-align: center;">Processing, Films, Monocrystalline piezoelectric materials I – Chair: Carmen Galassi (ISTEC)</p>
17:50 to 19:30	<p>Vincenzo Buscaglia (Invited) - <i>Size and scaling effects in barium titanate ceramics</i></p>
17:50 to 19:30	<p style="text-align: center;">Poster Session – Chair: Sebastiano Garroni (UNISS)</p>

Tuesday 23

8:45 to 9:00	Web Connection
	<u>Piezoelectrics for devices I</u> – Chair: Henrik Raeder (SINTEF)
9:00 to 9:30	Pol Lloveras (Keynote) - <i>Pressure-induced caloric effects in ferroelectrics for cooling applications</i>
9:30 to 9:50	Kevin Nadaud - <i>Effect of mechanical excitation waveform and AC/DC converter topology on the electrical power harvested by a piezoelectric generator</i>
9:50 to 10:10	Hannah L. Rose - <i>Modelling the d_{36} Mode</i>
10:10 to 10:30	Nathan Giles-Donovan - <i>Towards a Method of Quantifying the Higher Energy Density of Piezoelectric Single Crystals</i>
10:30 to 10:50	Gunnar Suchanek - <i>Electrocaloric effect in relaxor ferroelectrics</i>
10:50 to 11:10	Break
	<u>Piezoelectrics for devices II</u> – Chair: Jiri Erhart (Technical University of Liberec)
11:10 to 11:40	Antonio Iula (Invited) - <i>Biometric recognition based on ultrasound images: devices and systems</i>
11:40 to 12:00	Dayana L. Guzmán Sierra - <i>A systematic characterization of chitosan and barium titanate flexible piezoelectric bionanocomposites</i>
12:00 to 12:30	Franck Levassort (Invited) - <i>Lead-free piezoelectric materials for ultrasonic transducers and medical imaging</i>
	<u>Processing, Films, Monocrystalline Piezoelectrics Materials II</u> – Chair: Andris Sternberg (Institute of Solid State Physics, University of Latvia)
12:30 to 13:00	Pascal Marchet (Keynote) - <i>Elaboration of lead-free piezoelectric thick films by Aerosol Deposition Method</i>
13:00 to 14:00	Break
14:00 to 14:20	M. Lourdes Calzada - <i>Low-temperature solution deposition methods of ferroelectric oxide thin films for their direct fabrication on flexible substrates</i>
14:20 to 14:40	Hélène Debeda - <i>Improvement of densification and electromechanical properties of screen printed PZT-LBCu micro-ceramics</i>

14.40 to 15:00	Ahmad Hamieh - <i>Thin film synthesis and micro patterning of lead free piezoelectric ceramic for composite pMUT applications</i>
15:00 to 15:30	Paula Ferreira (Keynote) - <i>Enhancing piezoelectric properties of perovskite- and ferrite- type oxides by nanopatterning porosity</i>
15:30 to 17:00	<u>Round Table</u> – Chair: Erling Ringgaard (Meggitt)
17:00 to 17:20	Break
	<u>Lead-Free Ferro-piezoelectrics III - Chair: Lorena Pardo (Instituto de Ciencia de Materiales de Madrid CSIC)</u>
17:20 to 17:40	Trygve M. Ræder - <i>The How and Why of In-Plane Properties in BaTiO₃ Thin Films</i>
17:40 to 19:30	<u>Poster Session</u> – Chair: Gabriele Mulas (UNISS)

Wednesday 24

8:45 to 9:00	Web Connection
9:00 to 9:30	<u>Advanced Structural Piezoelectric and Mechanical Characterization and modeling</u> – Chair: Amador Gonzalez (Universidad Politecnica de Madrid)
9:30 to 9:50	Francesco Cordero (Invited) - <i>Evaluating the piezoelectric response from the elastic modulus of unpoled ceramics around the ferroelectric transition</i>
9:50 to 10:10	Uroš Prah - <i>Enhanced Relaxor Behavior in Multiferroic $Pb(Fe_{0.5}Nb_{0.5})O_3$-$BiFeO_3$ Ceramics</i>
10:10 to 10:30	Elena Stefan - <i>Additive manufacturing of lead-free piezoelectric ceramics by stereolithography</i>
10:30 to 10:50	Giulia D'ambrogio - <i>Micro-structuration of Piezoelectric Composites Using Dielectrophoresis: Toward Application in Condition Monitoring of Bearings</i>
10:50 to 11:10	Break
11:10 to 11:40	Erling Ringgaard (Keynote) - <i>Obtaining and validating data sets for piezoelectric ceramics</i>
11:40 to 12:00	Lorena Pardo - <i>Key issues for the performance of commercial $Bi_{0.5}Na_{0.5}TiO_3$ based lead-free eco-piezoceramics: beyond a d_{33} coefficient</i>
12:00 to 12:20	Isabelle Monot-Laffez - <i>Microstructural features of spark plasma sintered $(K,Na)(Nb,Ta)O_3$ lead-free piezoelectric ceramics</i>
12:20 to 12:50	<u>Piezoelectrics for devices III</u> – Chair: Frank Levassort (University of Tours)
12:50 to 14:00	Break
14:00 to 14:30	Giosuè Caliano (Keynote) - <i>Non-Destructive Diagnosis of Detachments in the Covers of Ancient Structures</i>

14:30 to 14:50	Markys Cain - <i>Development of instrumented piezoelectric meter for polymer sheet</i>
14:50 to 15:10	Nicola G. Fenu - <i>High-power characterisation of PIC 181 piezoceramic and Mn:PIN-PMN-PT piezocrystal Langevin transducers for robotic minimally invasive surgery</i>
15:10 to 15:30	Linyu Fei - <i>Reducing crosstalk in a multi-element piezoelectric plate using inductive shunts</i>
15:30 to 16:00	Lorenzo Capineri (Keynote) – Piezoelectric transducers for ultrasonic guided waves in structural health monitoring systems
16:00	Farewell