

SAW Sensor & Actuator Symposium 2023. Live in Dresden. Followed from all over the world.

September 21+22, 2023, Hyperion Hotel Dresden am Schloss, Dresden, Germany - organized by Silicon Saxony, SAWLab Saxony, SAW Components

SAW Symposium 2023 topic areas:	
I:	Design, concepts and materials for SAW-based sensors and actuators
II:	SAW sensors for physical, chemical, biological applications and gases
III:	SAW-based actuators, atomizers and microfluidics
IV:	Industrial applications and deployments of SAW



SAW Symposium 2023 Program

Thursday, September 21, 2023

Time >> SAW Symposium schedule is given in Dresden local time which is equal to Berlin time zone = Central European Summer Time (CEST=UTC+2)

08:00 Registration (with Good Morning-coffee)

09:00 Opening

Hagen Schmidt

SAWLab Saxony

09:15 *Session 1: Design, concepts and materials for SAW-based sensors and actuators*

09:15	Temperature and magnetic field dependence of SAW induced spin resonances in SiC	Alberto Hernández-Mínguez	Paul-Drude-Institut, Berlin, Germany	I
09:30	Elastic Constants of Aluminum Scandium Nitride Films Determined by Laser Ultrasound	Pavel Pupyrev	Offenburg University of Applied Sciences, Offenburg, Germany	I
09:45	A dielectric resonator antenna-package for high temperature SAW sensors	Sami Hage-Ali	Université de Lorraine, CNRS, Nancy, France	I
10:00	Piezoelectric generation of GHz guided vibrations	Paulo Santos	Paul-Drude-Institut, Berlin, Germany	I
10:15	Reflector Scattering Characteristics of SAW Tags with SiO ₂ /Pt/LiNbO ₃ Layered Structure for High Temperature Applications	Zhengkai Tang	Shanghai JiaoTong University, Shanghai, China	I

10:30 Coffee break

10:45	Generation and Probing of GHz Surface Acoustic Waves on AlN Layers Grown on SiC by Molecular Beam Epitaxy	Mingyun Yuan	Paul-Drude-Institut, Berlin, Germany	I
11:00	SAW wireless passive Sensor for Disconnecter Condition Monitoring	Dapeng Guo	Shanghai Jiao Tong University, China	I
11:15	Session 2: SAW sensors for physical, chemical, biological applications and gases			
11:15	KEYNOTE: SAW sensors for industrial applications. From demonstrator to final product, a long and difficult road. (part 1)	Pascal Nicolay	Carinthia Institute for Smart Materials	II
12:00	Lunch			
13:15	Session 3: SAW sensors for physical, chemical, biological applications and gases			
13:15	Thin-film surface acoustic modes for magnetoelectric sensing	Jana Marie Meyer	Fraunhofer Institute for Silicon Technology, Itzehoe, Germany	II
13:30	Ultrasonic Lamb Waves Based Water Monitoring System towards Proton Exchange Membrane Fuel Cells Applications	David Weik	Technische Universität Dresden, Germany	II
13:45	Wireless SAW sensors based on AlN/Sapphire operating at 2.45GHz for High temperature applications up to 500°C.	Ulrich Youbi	Université de Lorraine, CNRS, Nancy, France	II
14:00	Wireless strain sensing by SAW resonators in a reinforced concrete beam for SHM applications	Pierre Jeltiri	Université de Lorraine, CNRS, Nancy, France	II
14:15	Surface acoustic wave relative humidity sensor based on GO/TiO ₂ sensitive membrane	Cuiping Li	Tianjin Key Laboratory, Tianjin, P.R. China	II
14:30	Session 4: Flash talks - Exhibitors introduction & Poster presenters <i>Poster sessions on Thursday (15:15-16:15) & Friday (14:45 - 15:45)</i>	(see detailed flash talk schedule at end of program)		
15:15	Session 5: Poster presentations (part 1) <i>(Poster contributions of all topic areas & Industrial Exhibition)</i>	(with Stay strong-coffee)		
16:15	Session 6: SAW sensors for physical, chemical, biological applications and gases			
16:15	KEYNOTE: SAW sensors for industrial applications. From demonstrator to final product, a long and difficult road. (part 2)	Pascal Nicolay	Carinthia Institute for Smart Materials	II
17:15	Social event & Networking dinner (details t.b.a.)			

Friday, September 22, 2023

08:00 Registration (with Good Morning-coffee)

09:00 Session 7: SAW-based actuators, atomizers and microfluidics

09:00	KEYNOTE: Surface acoustic waves and interdigital transducers for acoustical tweezers and surface cleaning (part 1)	Michaël Baudoin	Université de Lille	III
09:30	Blood Plasma Separation using SAW-based Microfluidics	Melanie Colditz	Leibniz IFW Dresden, Germany	III
09:45	Effect of acoustic torque on the orientation of prolate spheroids in a standing surface acoustic wave field	Sebastian Sachs	TU Ilmenau, Germany	III
10:00	Fully Microfabricated Surface Acoustic Waves Tweezers	Armaghan Fakhfour	Leibniz IFW Dresden, Germany	III
10:15	Acoustic Thruster	Amihai Horesh	University of California San Diego, La Jolla, CA, USA	III

10:30 Coffee break

10:45	Surface Acoustic Waves for Active Deicing of Surfaces	Kiana Khodakarami	Leibniz IFW Dresden, Germany	III
11:00	Using SAWs to break an oil/water mixture in a drop by extracting the micron-thick oil film assembling at the drop surface	Ofer Manor	Technion-Israel Institute of Technology, Haifa, Israel	III
11:15	2.87 GHz SAW delay lines for efficient spin control of NV- centers	Bin Luo	Northeastern University, Boston, USA	III
11:30	Sorting of polydisperse droplet emulsions	Andreas Link	University of Glasgow, Glasgow, United Kingdom	III
11:45	Acoustic Resonance Effects and Cavitation in SAW Aerosol Generation	Mehrzad Roudini	Leibniz IFW Dresden, Germany	III

12:00 Lunch

13:30 Session 8: SAW-based actuators, atomizers and microfluidics

13:30	KEYNOTE: Surface acoustic waves and interdigital transducers for acoustical tweezers and surface cleaning (part 2)	Michaël Baudoin	Université de Lille	III
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14:00	Session 9: Industrial applications and deployments of SAW			
14:00	SAW Sensor Systems Within Industrial Heating Chambers	René Fachberger	sensideon GmbH	IV
14:15	SAW temperature measurement for continuous-rotating package machine	Hannes Funke	SAW Components GmbH	IV
14:30	Lithium tantalate reflective delay line as passive sensor for detection of BTEX in subsurface water	Frederic Cherioux	FEMTO-ST Time & Frequency, Besancon, France	IV
14:45	Session 10: Poster presentations (part 2) <i>(Poster contributions of all topic areas & Industrial Exhibition)</i>		(with Stay strong-coffee)	
15:45	Closing session			

Thursday, Sept. 21	Flash talk schedule for Poster Presentations and Exhibitor Introduction			Thursday, September 21 (14:30 - 15:15)
	<i>(2 min per presentation)</i>			
	High-temperature test system for microacoustic devices and materials: New insights into in-situ data acquisition during temperature cycling of SAW sensors	Thomas Windisch	Leibniz IFW Dresden, Germany	I
	GSG Probe survivability verification over multitouch measurements on hard gold structures.	Paulius Sakalas	MPI Corporation & ATV Systems, Germany	I
	Elastic properties of biomineralized structures measured by microacoustic techniques	Andrei Sotnikov	Leibniz IFW Dresden, Germany	I
	Magnetostrictive sensor for non-contact monitoring of steel ropes	Immanuel Rossteutscher	ISAT - Institut für Sensor- und Aktortechnik, Coburg, Germany	I
	Conversion of single-port SAW sensors into two-port transmission sensors using substrate integrated waveguides – the concept	Valentin Buiculescu	IMT Bucharest, Romania	I
	Ice Detection for Wind Turbine Rotor Blades Using Surface Acoustic Waves	Philipp Schulmeyer	Leibniz IFW Dresden, Germany	II

SAW induced ion resonance in electrical double layers translates to dynamic surface electrical properties and fingerprints of electrolytes	Ofer Manor	Technion-Israel Institute of Technology, Haifa, Israel	III
Time-Independent Torque Generated by Guided Acoustic Waves	Pavel Pupyrev	Offenburg University of Applied Sciences, Offenburg, Germany	III
Multi-Step trimming of compound wafers for a better control of layer thickness uniformity	Alexander Schweren	scia systems	IV
Industrial exhibition SAW Components		SAW Components GmbH, Germany	
Industrial exhibition POLYTEC		Polytec GmbH, Germany	
Industrial exhibition atv AutomatisierungsTechnik Voigt		atv AutomatisierungsTechnik Voigt, Germany	
Industrial exhibition Startup project MicroAcoustiX		IFW Dresden / SAW Lab Saxony, Germany	

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