



IEEE MTT-S International Conference on Microwave Acoustics & Mechanics

April 20 - 22, 2026, Barcelona, Spain

Technical program ICMAM – 2026

General Overview of the sessions

	Monday April, 20th	Tuesday April, 21th	Wednesday April, 22th
9:00 10:30	M1 Advanced electro-acoustic technologies I (high performance resonators)	T1 Advanced filtering structures	W1 Advanced electro-acoustic technologies III (high performance resonators)
10:30 11:00	Coffee break	Coffee break – TP1 Student award posters	Coffee Break– WP1 Posters
11:00 11:30	OS Opening Session		
11:30 13:00		T2 Non-linear characterization and modelling	W2 Sensors and Interrogation Techniques
14:00 15:30	M3 Simulation and modeling I	T3 Advanced electro-acoustic technologies II (High performance resonators)	W3 Measurement improvements
15:30 16:15	Coffee break	Coffee Break – TP2 Student award posters	Coffee Break – WP2 Posters
16:15 17:45	M4 Filter synthesis and design	T4 Simulation and modeling II	W4 Materials and emerging applications



IEEE MTT-S International Conference on Microwave Acoustics & Mechanics

April 20 - 22, 2026, Barcelona, Spain

Monday 20th April – Morning

M1 – Advanced Electro-acoustic Technologies I (High Performance Resonators)

Chaired by **Christian Huck** (Qorvo, Inc, Germany) and **Luis Guillermo Villanueva** (École Polytechnique Fédérale de Lausanne, Switzerland)

An Overview of SAW Technology as the Industry Transition from TCSAW to Thin Film SAW – R. Goto (Skyworks Solutions, USA) **Invited Talk**.

Multilayer SAW Resonator with Split-Electrode Busbar Topology – V. Yantchev (Huawei Technologies Oy, Technical University of Bulgaria), Y. Ji (Huawei Technologies Oy), T. Daiping, K. Han (Huawei Technologies Shanghai).

Design and Analysis of Solidly Mounted Lamé-Mode MEMS Resonator and Spurious-Mode Mitigation – V. Pashchenko, T. Terzic, H. Streque, D. Solonenko (Silicon Austria Labs).

Multilayer AIN Polarity-Reversed BAW Resonators – N. Suzuki, D. Taniguchi (Waseda University), A. Hanai (Waseda University & ZAIKEN), T. Yanagitani (Waseda University).

Design and Fabrication of New Architectures for Surface Acoustic Wave Filters on Piezoelectric on Insulator Substrates – S. Karmous-Jedaa, B. Aurélie, T. Richard, W. Daniau, V. Soumann and T. Baron (Université Marie et Louis Pasteur, SUPMICROTECH, CNRS), T. Makdissy, E. Courjon and S. Ballandras (SOITEC, SA).

10:30 – 11:00

COFFEE-BREAK

OS – Opening Session (Keynote Talks)

11:00 – 11:15 *Welcome opening* – Organization Board (ICMAM26), Nuno Borges Carvalho (IEEE – MTT), Barcelona City Hall representative.

11:15 – 11:50 *Keynote talk* – A. Shirakawa (Skyworks Solutions, USA).

11:50 – 12:25 *Keynote talk* – M. Loerner (Rhode & Schwarz).

12:25 – 13:00 *Keynote talk* – G. Fattinger (Qorvo, Inc).

13:00 – 14:00

LUNCH



IEEE MTT-S International Conference on Microwave Acoustics & Mechanics

April 20 - 22, 2026, Barcelona, Spain

Monday 20th April – Afternoon

M3 – Simulation and Modelling 1

Chaired by **Daniel A. Kiefer** (*Institut Langevin, ESPCI Paris, Université PSL, CNRS, France*)
and **Rafael Perea** (*Spectron Microsystems, Italy*)

Equivalent Circuit Analysis of Double Mode Surface Acoustic Wave Resonator Filters – K-Y. Hashimoto, Z. Yang, F. Zhang (University of Electronic Science and Technology of China), T. Wu (Chengdu University of Technology, China), B. Jingfu (University of Electronic Science and Technology of China).

Distributed Circuit Modeling and FEM Validation of Thermoelastic Damping in BAW Resonators – A. Valenzuela, E. Navarro-Gessé, J. Mateu, C. Collado (Universitat Politècnica de Catalunya).

Evaluating the Ybus Method Efficiency into the Mason Model for Simulating BAW Resonators – A. Valdivieso, L. Garcia, J. Mesas, R. Loscertales, J. Verdú, P. de Paco (Universitat Autònoma de Barcelona).

Material-Device Co-Optimization of Langasite-Family SAW Resonators via Multiscale Modeling – M. Gigauri, R. Desai, J. Hakimi, A. Strachan, D. Weinstein (Purdue University, USA).

BAW TCF Vs Quality Factor in Sputter-Silica Glass Film – N. Shimazaki, T. Yanagitani (Waseda University, Japan).

15:30 – 16:15

COFFEE-BREAK

M4 – Filter Synthesis and Design

Chaired by **Lluís Acosta** (*Qorvo Inc., Spain*) and **Yiliu Wang** (*Skyworks Solutions, Inc., USA*)

Remote-Resonator for Improved Multiplexer Performance – Y. Wang, T. Komatsu (Skyworks Solutions, USA) **Invited Talk**.

Cascading Hybrid BAW-Assisted Filters to Achieve Broadband Responses for 5G Applications – S. Cano (Universitat Autònoma de Barcelona), E. Guerrero (Qorvo, Spain), A. Giménez (Qorvo Inc, USA), M. Faura, L. Garcia, J. Mesas, J. Verdú, P. de Paco (Universitat Autònoma de Barcelona).

Lattice XBAR Filters in Thin-Film Lithium Niobate – T. Anusorn, B. Kim, I. Anderson, Z. Yao, L. Ruo Chen (The University of Texas at Austin, USA).

Acoustic Wave Star-Junction Multiplexers with Complex Terminating Impedances – G. Reixach, M. Faura, J. Verdú, P. de Paco (Universitat Autònoma de Barcelona).

Multilayer Ferroelectric Devices for Programmable Acoustic Wave Filters, A. Hammami, A.K. Hamdan, M. Koochi (Texas AM University, USA).

18:30

WELCOME RECEPTION



IEEE MTT-S International Conference on Microwave Acoustics & Mechanics

April 20 - 22, 2026, Barcelona, Spain

Tuesday 21st April – Morning

T1 – Advanced Filtering Structures

Chaired by **Raafat R. Mansour** (*University of Waterloo, Canada*) and **Andreas Tag** (*Qorvo, Inc*)

Design of Acoustic Wave Multiplexers with Frequency-Dependent Source Impedance: A Synthesis-Based Approach – M. Faura, S. Cano, J. Mesas, L. Garcia, J. Verdú, P. de Paco (Universitat Autònoma de Barcelona).

Tunable Ferroelectric Acoustic Resonators in Monolithic Thin-Film Barium Titanate – I. Anderson (University of Texas at Austin, USA), A. Posadas (La Luce Cristallina, Inc, USA), A. Demkov, L. Ruothen (University of Texas at Austin, USA).

On the way of Systematic Exploration of Novel Hybrid BAW-SMR Filter Topologies – J. Mesas, M. Faura, S. Lopez de Pablo, L. Garcia, A. Valdivieso, S. Cano, J. Verdú, P. de Paco (Universitat Autònoma de Barcelona).

Cascaded CRF SAW Filters. Synthesis and Design – E. Navarro-Gessé, A. Valenzuela, J. Mateu, C. Collado (Universitat Politècnica de Catalunya), M. González-Rodríguez, S. Huebner (Qorvo, Germany).

Resonant Gap Surface Acoustic Wave: A Flexible Architecture Based on POI Suited for RF Integration – L. Rolland du Roscoat, T. Laroche, T. Makdissy, E. Courjon, F. Bernard, A. Clairet, S. NDiaye, G. Aspar, A. Raveski, A. Alami-Idrissi, S. Ballandras (SOITEC, France).

10:30 – 11:30

COFFEE-BREAK – Poster Session I (Best Student Paper)

T2 – Non-Linear Characterization and Modeling

Chaired by **Dave Feld** (*Skyworks Solutions, USA*) and **Marta González Rodríguez** (*Qorvo Inc, Munich*)

Modeling the Broadband Nonlinear Behavior of a Bulk Acoustic Wave (BAW) Resonator – R. Jin, D. Molinero, D. Feld (Skyworks Solutions, USA) **Invited Talk**.

Unique Parameter for in-Band Third-Order Nonlinearities in TC-SAW Resonators and Filters – M. González-Rodríguez (Qorvo Munich), A. Balust, C. Collado, J. Mateu (Universitat Politècnica de Catalunya).

Experimental Investigation of Nonlinearity in Longitudinal Leaky SAW Resonators on LiNbO₃/SiO₂/SiC Substrate – X. Guo, P. Zheng, X. Fang, J. He, M. Sun, D. Sui, D. Ling, K. Huang, S. Zhang, X. Ou (Shanghai Institute of Microsystems and Information).

Thevenin Theorem Application for a One-Nonlinear Source Model Accounting for Distributed Nonlinearities of SAW Devices – M. Carmona-López, C. Collado, V. García-Martínez, J. Mateu (Universitat Politècnica de Catalunya), M. González-Rodríguez, S. Huebner (Qorvo Munich).

Wavelet Analysis of Nonlinear Second-Order Harmonic Responses in RF-SAW Resonators, T. Omori, N. Tsutsui (Chiba University, Japan).

13:00 – 14:00

LUNCH



IEEE MTT-S International Conference on Microwave Acoustics & Mechanics

April 20 - 22, 2026, Barcelona, Spain

Tuesday 21st April – Afternoon

T3 – Advanced Electro-acoustic Technologies II (High Performance Resonators)

Chaired by **Songbin Gong** (*University of Illinois at Urbana-Champaign, USA*) and **Tetsuya Kimura** (*Resonant/Murata, Japan*)

Spurious Signal Control for SAW Devices on POI Substrates – L. Rolland du Roscoat, S. J. Ballandras, E. Courjon, T. Laroche, F. Bernard, T. Makdissy, Al. Clairet, S. NDiaye, G. Aspar, A. Alami-Idrissi, T. Hilt (SOITEC SA, France); G. Martin, R. Salut (FEMTO ST, France), L. Capello (Soitec, France).

Thin-Film Lithium Niobate on Insulator SH-SAW Ladder Filter with Fractional Bandwidth > 35% – Z.-Q. Lee (National Tsing Hua University, Taiwan); T.-H. Hsu, L. Ruo Chen (University of Texas Austin, USA), M.-H. Li (National Tsing Hua Univ, Taiwan).

Investigation of Polarization-Inverted Double-Layer BAW Resonators Fabricated by MOCVD and Sputtering Deposition – Y. Hidaka, N. Shimazaki (University of Waseda, Japan); N. Shimoji, T. Kimura (ROHM, Japan); T. Yanagitani (Waseda University, Japan).

Line-Type Orthogonal-Shear Bulk Acoustic Wave Resonator (LiBAR) on Thin Film LiNbO₃ – D. Sui, S. Shao, K. Dai, J. He, Y. Li (Shanghai Institute of Microsystem and Information Technology, China); X. Ke (Shanghai Novel Si Integration Technology, China), K. Huang, P. Zheng, S. Zhang, X. Ou (Shanghai Institute of Microsystem and Information Technology).

Experimental Realization of Sub-Mm Wavelength Hybrid SAW/BAW for RF and Sensing Applications – T. Terzic, D. Solonenko, V. Pashchenko, H. Campanella (Silicon Austria Labs GmbH), F. Hörich, A. Dadgar, A. Strittmatter (Otto-Von-Guericke University Magdeburg, Germany).

15:30 – 16:15

COFFEE-BREAK – Poster Session I (Best Student Paper)

T4 – Simulation and Modelling II

Chaired by **Ken-Ya Hashimoto** (*University of Electronic Science and Technology of China, China*) and **Yansong Yang** (*Hong Kong University of Science and Technology, Hong Kong*)

Dispersion Computation of Microwave Acoustic Resonators with Spectral Elements – D. A. Kiefer (Institut Langevin, ESPCI Paris, Université PSL, CNRS, France), C. Grünsteidl (RECENDT GmbH, Austria).

Spurious-Resistant Parameter Estimation for mBVD Modeling of SAW/BAW Resonators – F. Zhang, Z. Yang (University of Electronic Science and Technology of China, China), T. Wu (Chengdu University of Technology, China), B. Jingfu, K.-Y. Hashimoto (University of Electronic Science and Technology of China, China).

Identification of Electromagnetic Layout Effects by Recovering a Distorted Acoustic Wave Filter Response – L. Garcia, J. Mesas, S. Cano, A. Valdivieso, M. Faura, J. Verdú, P. de Paco (Universitat Autònoma de Barcelona).

A General WLP Platform for BAW and TF-SAW Filters with TSV on Device Wafer – D. Feng, W. Hu, J. Liang, C. Han, J. Zou (Shenzhen Newsonic Technologies Co. Ltd, China).



IEEE MTT-S International Conference on Microwave Acoustics & Mechanics

April 20 - 22, 2026, Barcelona, Spain

Comparative Study of Optimization Algorithms for mBVD Fitting of SAW/BAW Resonators – Z. Yang, F. Zhang (University of Electronic Science and Technology of China, China), T. Wu (Chengdu University of Technology, China), B. Jingfu, K.-Y. Hashimoto (University of Electronic Science and Technology of China, China).

20:00

GALA DINNER

Wednesday 22nd April – Morning

W1 – Advanced electro-acoustic Technologies III (High Performance Resonators)

Chaired by **Robert Aigner** (Qorvo, USA) and **Andreas Link** (Qorvo, Germany)

XBAR Technology: Methods for Development and Mass Production – T. Kimura (Resonant Inc.)
Invited Talk.

Transversal Rayleigh Type SAW Filter Using Periodically Polarization Inverted ScAlN Films – Y. Hidaka, N. Shimazaki, T. Yanagitani (Waseda University, Japan).

AlScN-on-SiC Surface Acoustic Wave Resonators and Filters Above 4 GHz – S. Stettler, M. Liffredo, L. G. Villanueva (Ecole Polytechnique Federale de Lausanne, Switzerland).

Influence of Geometric Parameters on the Performance of Lamé Mode Resonators – T. Terzic, V. Pashchenko, D. Solonenko, J. Streque (Silicon Austria Labs GmbH, Austria).

High-Frequency Fundamental Operation in Fin-Type Quartz Resonators Fabricated by HF Gas-Phase Catalyst Etching – K.-H. Sano (Waseda University, Japan & AGC Inc., Japan), Y. Kataoka, Y. Ono, Y. Hayashi (AGC Inc., Japan), T. Yanagitani (Waseda University, Japan).

10:30 – 11:30

COFFEE-BREAK – Poster Session II

W2 – Sensors & Interrogation Techniques

Chaired by **Omar Elmazria** (Université de Lorraine & CNRS, France) and **Milad Koohi** (Texas AM University, USA)

SAW sensors and their applications for multi-parameters sensing: gas, icing, magnetic field, and temperature – W. Weng (Institute of Acoustics, Chinese Academy of Sciences) **Invited Talk.**

Monolithically Integrated Frequency Modulated Acoustic Sensors via Piezoelectric Layer Transfer – A. Ansari (Georgia Institute of Technology, USA) **Invited Talk.**

Automated Reconstruction of Dispersion Relations and Bandgap Optimization in Topological Devices – A. Marella, N. Scalise, T. Maggioli, C. Cassella, L. Colombo, and M. Rinaldi (Northeastern University, USA).

High Sensitivity Magnetic Field SAW Sensors Based on Love Waves and Operating in the GHz Range – L. Meistersheim, Y. Yang, C. Floer, I. Cinar, S. Hage-Ali, S. Petit-Watelot, D. Ba, M. Hehn, O. Elmazria (Université de Lorraine, CNRS, France).



IEEE MTT-S International Conference on Microwave Acoustics & Mechanics

April 20 - 22, 2026, Barcelona, Spain

Wireless SAW Delay Line Resonance Sensor – V. Yantchev, P. Z. Petkov (Technical University of Sofia, Bulgaria).

13:00 – 14:00

LUNCH

Wednesday 22nd April – Afternoon

W3 – Measurement Improvements.

Chaired by **Kimmo Kokkonen** (Qualcomm, USA) and **James Booth** (NIST, Boulder, USA)

Linear Response of BAW Resonators by Vibrometer Measurements – D. Molinero (Skyworks Solutions, USA).

Characterization of Temperature Coefficients in Piezoelectric Film Using Substrate-Supported-Film Resonators – N. Shimazaki, Y. Wada, W. Oda, T. Yanagitani (Waseda University, Japan).

Air-Coupled Through-Transmission Characterization of Porous Membranes Using a Dual-Frequency PMUT Array – T. Xu, Z. Da (Silicon Austria Labs), G. Alvarez-Arenas, E. Tomás (Spanish National Research Council, Spain).

KNN Thick Film Transducer with High kt^2 and Q_m and KNN Thin Film Self-Standing Resonator – N. Suzuki, T. Yanagitani, C. Zhang, Y. Shimano, C. Mita, H. Uchida (Waseda University, Japan).

Benchmarking Low-Cost Vector Network Analyzers for FBAR Sensing – A. Rodríguez Alhambra, T. Mirea, E. Jaldo Serrano, R. García-Francisco (Academia, Spain), R. Hervás, J. Olivares, M. Clement (Universidad Politécnica de Madrid, Spain).

15:30 – 16:15

COFFEE-BREAK – Poster Session II

W4 – Materials and Emerging Applications

Chaired by **Manuel Domínguez** (Technical University of Catalonia (UPC), Spain) and **Xu Zhu** (Menlo Micro, USA)

RF MEMS Switch for AI Chip Testing – X. Zhu, S. Yang, N. Yost (Menlo Microsystems, USA).

High-Strength, Low-Damage Direct Bonding of LiNbO₃/Glass Wafers for the Fabrication of Glass-Based SAW Resonators – S. Nagai, K. Nakao, Y. Hayashi (AGC Inc., Japan).

Small Mode-Volume Lateral Field Excited Bulk Acoustic Wave Resonators as a Potential Platform for Quantum Microwave to Optical Photon Transduction – E. Shokati, K. C. Balram (University of Bristol, United Kingdom).

Panel-Level Chip Scale Packaging for SAW Filters Using Sealing Adhesive Based Cavity Structure – D. Feng (Shenzhen Newsonic Technologies Co. Ltd, China).

Implementing Microwave Interferometry Using Piezoelectric Phononic Integrated Circuits – M. Bicer, A. F. Malik, K. C. Balram (University of Bristol, United Kingdom).



IEEE MTT-S International Conference on Microwave Acoustics & Mechanics

April 20 - 22, 2026, Barcelona, Spain

Wednesday 22nd April

WP- Poster Session

10:30-11:30 and 15:30-16:15

- 1.** *BALUN-Free Transversal Acoustic Filter Using Electroacoustic Resonators* – E. Navarro-Gessé, J. Mateu, C. Collado (Universitat Politècnica de Catalunya).
- 2.** *Compact SAW Resonators on POI Using Etched Side-Wall Reflectors* – B. Aurélie, T. Richard, V. Soumann, S. Karmous Jedaa, W. Daniau, T. Baron, D. Belharet (Université Marie et Louis Pasteur, CNRS, FEMTO-ST), S. J. Ballandras (SOITEC SA, France).
- 3.** *Impact of Lithography Resolution and Edge Roughness on Lithium Niobate Based Acoustic Resonators* – N. Xu, L.G. Villanueva (EPFL, Switzerland).
- 4.** *13 GHz Periodically Poled AlN Lamb Wave Resonators with Enhanced Temperature and Power Stability* – L. Chen, R. Qin, W. Dou, C. Huo, B. J., X. Huang, Z. Mu, W. Yu (Shanghai Institute of Microsystem and Information Technology, China).
- 5.** *Structure Design Analysis of Tilted Electrode for Transverse Mode Suppression in POI-SAW* – J. He, P. Zheng, (Shanghai Institute of Microsystem and Information Technology, China), C. Song, K. Liu (Maxscend Microelectronics Company Limited, China), D. Ling, X. Fang, D. Sui, M. Sun, J. Xiao, X. Guo (Shanghai Institute of Microsystem and Information Technology, China), Y. Yao (Maxscend Microelectronics Company Limited, China), S. Zhang, X. Ou (Shanghai Institute of Microsystem and Information Technology, China).
- 6.** *Physics-Informed Neural Network--Enhanced Modeling of a 923 MHz Thin-Film Acoustic Resonator Using Scikit-Rf* – T. Deeka, B. Deeka (Ubon Ratchathani Rajabhat University, Thailand).
- 7.** *Phononic Crystal Sensor for Ethanol Detection in Gasoline* – K. Fares (Research Unit in Optics and Photonics, Center for Development of Advanced Technologies, Algeria), M. Daamouche, M D (Center for the Development of Advanced Technologies & UROP-CDTA, Algeria), G. Djamal Eddine (Photonic Crystals Team, Research Unit in Optics and Photonics UROP, Algeria).
- 8.** *Towards Broadband AlScN PMUTs Arrays* – A. Shabeer, Y. Wang, Z. Hui, A. Uranga, F. Torres, N. Barniol (Universitat Autònoma de Barcelona, Spain).
- 9.** *Series Resistance Modeling of Arbitrary Shaped Electrodes in Capacitive Structures for BAW-Oriented Design* – X. Mir, L. Garcia, A. Valdivieso, J. Verdú, P. de Paco (Universitat Autònoma de Barcelona, Spain).
- 10.** *A Unified Synthesis and Physical Modeling Framework for Double-Mode SAW Filters* – A. Romero, R. Pampliega, J. Verdú, P. de Paco (Universitat Autònoma de Barcelona, Spain).