



**Anglo-French Physical Acoustic Conference**  
**22-24 January 2025**  
 La Saulaie, Chédigny, France



**Programme**

**Wednesday 22 January 2025**

11:30 **BUS TRANSFERT** from Saint Pierre des Corps (TGV train station)

12:00 **WELCOME** at La Saulaie (Registration / Badges)

12:30 **LUNCH**

		Title	Authors	Laboratory / University	
<b>SESSION I</b>	13:50	Welcome	Welcome at AFPAC 2025 and details	AFPAC'25 Team	
	14:00	Invited talk	Acoustic Imaging of the Structural and Compositional Properties of Underwater Objects	Alan HUNTER University of Bath (United Kingdom)	
	14:25	S1 : Talk 1	Ultrasonic analysis of moisture content effect on the mechanical characterization of wood properties	Andres Arciniegas Laboratoire SATIE UMR CNRS 8029 (France)	
	14:37	S1 : Talk 2	Curved modal pencils for waveguides with continuously variable properties	Jordan Barras Département Imagerie et Simulation pour le Contrôle (France)	
	14:49	S1 : Talk 3	Quantitative Measurement of Defects in Pipes using Guided Wave-based Full Waveform Inversion	Elias Rabbat Imperial College London (United Kingdom)	
	15:01	S1 : Talk 4	Ultrasonic characterization of porous materials using an inverse problem algorithm	Yassine Moradi GREMAN Laboratory (France)	
	15:13	S1 : Talk 5	Statistical study of defect anisotropy effect on defect imaging accuracy	Omar Bouchakour UPHF (France)	
	15:25	S1 : Talk 6	In-situ mapping of the annealing process using Spatially Resolved Acoustic Spectroscopy	Carolina Guerra University of Nottingham (United Kingdom)	
	15:37	S1 : Talk 7	Identification of Lamb Modes on a Sensor Network for a Multimodal Tomographic Approach for Structural Health Monitoring	Garance Sauderais CY Cergy Paris Université (France)	
	15:49	S1 : Talk 8	Ultrasonic imaging of local acoustical nonlinearities in NDT: instrumentation limits and upgrades	Thomas Poisson Univ. Bordeaux (France)	
	16:01	S1 : Talk 9	Estimating Green's functions to enhance leak localisation in buried water pipes	Joshua Hoope Institute of Sound and Vibration Research (United Kingdom)	
	16:13	<b>COFFEE / TEA BREAK</b>			
	16:35	S1 : Talk 10	Diffraction of Ultrasound From the Tips of Cracks: a Comparison of Analytical and Numerical Methods	Christopher Ashworth University of Liverpool (United Kingdom)	
	16:47	S1 : Talk 11	Real-time Fouling Tomography in Pipes with Ultrasonic Guided Waves	Denys Iablonskyi University of Helsinki (Finland)	
	16:59	S1 : Talk 12	Topological Energy method for imaging delamination damage in rubber-metal assembly using 3D laser vibrometry	Aziz Bouzzit CY Cergy Paris Université (France)	
	17:11	S1 : Talk 13	High frequency diffuse acoustic field correlation for defect detection in Silicon wafers	Nada Ben Jafela Université Polytechnique Hauts-de-France (France)	
	17:23	S1 : Talk 14	Non-destructive characterisation of 316L stainless steel porosity defects in metal laser powder bed fusion using ultrasonics and X-ray computed tomography	Antonio Brozicevic Imperial College London (United Kingdom)	
	17:35	S1 : Talk 15	Linking Elastic Constants to Microstructure: A Resonant Ultrasound Spectroscopy Analysis of a 316L Textured Polycrystal	Florian Le Bourdais Université Paris-Saclay, CEA, List (France)	
	17:47	S1 : Talk 16	1D-CNN method for estimation of crack characteristics for ultrasonic non-destructive evaluation inspections	Thomas Beckingham University of Liverpool (United Kingdom)	
17:59	S1 : Talk 17	Finite Element Modelling for Machine Learning with Applications to Surface Breaking Crack Analysis	James Gaffney University of Liverpool (United Kingdom)		
18:11	S1 : Talk 18	Polymer viscosity monitoring with temperature using in situ ultrasonic method in a rheometer chamber	Nesrine Houhat GREMAN Laboratory (France)		
18:23	S1 : Talk 19	Attenuation and polarization of longitudinal critically refracted ultrasonic waves for residual stress assessment	Salah-Eddine Hebaz CY Cergy Paris Université (France)		

19:00 **DINNER**

Thursday 23 January 2025

		Title	Authors	University	
SESSION II	08:30	Invited talk	Coherent elastic waves in multiple scattering media: influence of resonances and positional correlations of scatterers	Tony Valier BRASIER	Institut Jean Le Rond d'Alembert, Sorbonne University (France)
	08:55	S2: Talk 1	Investigation of Secondary Radiation Forces Near Boundaries: Interaction Dynamics with Primary Radiation Forces	M. Riaz Pervez	University of Bristol (United Kingdom)
	09:07	S2: Talk 2	Subwavelength pulse focusing and perfect absorption in the Maxwell fish-eye	Gautier Lefebvre	Roberval Laboratory (France)
	09:19	S2: Talk 3	Unexpected interaction between acoustic and weak shock waves	Ronan Delalande	Institut Jean Le Rond d'Alembert (France)
	09:31	S2: Talk 4	Complex wavenumber band structure calculations with FEM for characterizing fluid-solid phononic crystals	Juliette Kessler	IEMN (France)
	09:43	S2: Talk 5	Experimental method for the retrieval of scattering coefficients of underwater metamaterial-based acoustic panels	Clément Larcade	IEMN (France)
	09:55	S2: Talk 6	Domain decomposition method for coupling semi-analytical form and finite element models of wave propagation.	Romain Kubeckí	Institut de Mécanique et d'Ingénierie (France)
	10:07	<b>COFFEE / TEA BREAK</b>			
	10:30	S2: Talk 7	Simple modelling of combined effects of stress and of rolling on anisotropy of guided wave radiation validated by finite element computations	Flavien Agon	Université Paris-Saclay (France)
	10:42	S2: Talk 8	Reconstruction of 3D slowly varying thickness waveguide using adiabatic Lamb modes and critical thicknesses	Alexandre Charau	CEA List / Institut Jean Le Rond d'Alembert (France)
	10:54	S2: Talk 9	Bubbles as a means of weak-source amplification, a 3d printed bubble-capture technique and its output dampening and frequency altering effects	Luke Prentice	Centre for Ultrasonic Engineering (United Kingdom)
	11:06	S2: Talk 10	Torsional pendulum driven by sound-matter orbital angular momentum transfer involving acoustic vortices	Elena Annenkova	Laboratoire Ondes et Matière d'Aquitaine (France)
	11:18	S2: Talk 11	Acoustic Pseudo-Vortices with Tunable Orbital Angular Momentum	Denys Iablonskyi	University of Helsinki (Finland)
	11:30	S2: Talk 12	Acoustophoretic particle guidance in air using an ultrasonic phased array	Dmitrii Nikolaev	University of Helsinki (Finland)
	11:42	S2: Talk 13	Generation of reconfigurable patterns on water-air interface using acoustic radiation pressure	Thibaut Devaux	GREMAN Laboratory (France)
11:54	S2: Talk 14	Rotational Behavior of an Ultrasonically Levitated Droplet Using Phased Array	Keita Okano	University of Tsukuba (Japan)	
12:06	S2: Talk 15	Volumetric ultrasonic imaging through complex geometry with a manually scanned 1D array	Richard Pyle	University of Bristol (United Kingdom)	

12:20 LUNCH at La Saulaie

13:30 Departure to Saint Senoch Castle (Bus transfer)

		Title	Authors	University	
SESSION III: Tribute to Thérèse Planiol	14:45	Invited talk	Detect, see and treat, different faces of ultrasound in medicine	Frederic PATAT	INSERM UMR 1253, Tours University (France)
	15:10	Invited talk	Bubbly microreactors, can we go from lab to industrial applications?	Madeleine BUSSEMAKER	University of Surrey (United Kingdom)
	15:35	S3: Talk 1	Therapeutic Ultrasound on Biomimetic Models of Cancer	Daniel Silva	University College, London (United Kingdom)
	15:47	S3: Talk 2	Quantitative X-ray elastography of coronary arteries using flexural pulse waves	Sibylle Gregoire	LabTAU - INSERM U1032 (France)
	15:59	S3: Talk 3	Development of an ultrasound scanner for intraoral imaging and exploration of periodontal tissues	Franck Levassort	GREMAN Laboratory (France)
	16:11	S3: Talk 4	Determining the Potential of Ultrasonic Treatment for Alzheimer's Disease by Enhancing Microglial Amyloid Beta Clearance	Parisa Abbasi Jamaati	University College, London (United Kingdom)
	16:23	<b>COFFEE / TEA BREAK</b>			
	16:45	Invited talk	Unveiling tissue secret using vibrations	Stefan CATHELIN	LabTAU, INSERM UMR 1032, University Lyon 1 (France)
	17:10	S3: Talk 5	Simulation of transcranial ultrasound through coupling of volume integral equations and boundary element methods	Pierre Gélât	University College, London (United Kingdom)
	17:22	S3: Talk 6	Identification of viscoelastic properties of soft materials based on the dynamic response of a spherical object placed at the sample interface	Hasan Koruk	National Physical Laboratory (Teddington) (United Kingdom)
	17:34	S3: Talk 7	In vitro investigation of the biophysical mechanisms underlying ultrasound neurostimulation	Tom Aubie	LabTAU, INSERM UMR 1032, University Lyon 1 (France)
17:46	S3: Talk 8	Deep learning for fast laser induced ultrasound tomography in tissue phantoms	Ahmed Al Fuwaires	University of Strathclyde (United Kingdom)	
17:58	S3: Talk 9	Picosecond ultrasonics for cell imaging and characterisation: towards applications in cancer	Fernando Perez	University of Nottingham (United Kingdom)	

18:10 Visit of Saint Senoch castle

18:45 DINNER GALA at the Castle

23:00 Return to La Saulaie (Bus transfer)

Friday 24 January 2025

		Title	Authors	University	
SESSION IV	08:30	Invited talk	Second harmonic sound emission from a wineglass	Oliver WRIGHT Hokkaido University (Japan)	
	08:55	S2: Talk 1	Optimisation of acoustic energy harvester	Kehinde Omotoso University of Derby (United Kingdom)	
	09:07	S2: Talk 2	An efficient acoustic power transfer using a CMUT transducer	Paul Roche GREMAN Laboratory (France)	
	09:19	S2: Talk 3	Flexible piezoelectric sensors applied to reverberant acoustic field measurement for the Structural Health Monitoring (SHM) of a thermoplastic-composite gas tank	Samuel Rodriguez Univ. Bordeaux (France)	
	09:31	S2: Talk 4	Controlling flexural wave propagation using arrays of perpendicular gyroscopes	Katie Madine University of Liverpool (United Kingdom)	
	09:43	S2: Talk 5	Waves in piezoelectric plates: semi-analytical modeling and laser-ultrasound experiments	Daniel Kiefer Institut Langevin - Ondes et Images (UMR7587) (France)	
	09:55	S2: Talk 6	Towards On-Line Inspection of Additively Manufactured Powder Bed Fusion Parts Using Spatially Resolved Acoustic Spectroscopy	Martin Todd University of Nottingham, UK (United Kingdom)	
	10:07	S2: Talk 7	Characterization and control of multi-MHz acoustic waves for acoustic crystalline undulators	Emmanouil Kaniolakis Kaloudis Hellenic Mediterranean University (Greece)	
	10:19	<b>COFFEE / TEA BREAK</b>			
	10:40	S2: Talk 8	4D time-domain Brillouin scattering of water ice phase transition under non-hydrostatic load	Nicolas Pajusco Laboratoire d'Acoustique de l'Université du Mans (France)	
	10:52	S2: Talk 9	Influence of the beam skewing in anisotropic plates on the dispersion curves	Sylvain Mezil Institut Langevin - Ondes et Images (UMR7587) (France)	
	11:04	S2: Talk 10	Deep Learning Techniques Applied to Time-Resolved Brillouin Scattering Signals	Andrea Faundez Quezada University of Nottingham, UK (United Kingdom)	
	11:16	S2: Talk 11	Nanometric surface acoustic wave pulses generated and detected by laser	Samuel Raetz Laboratoire d'Acoustique de l'Université du Mans (France)	
	11:28	S2: Talk 12	Versatile optical design for high sensitivity laser detection of ultrasounds and vibrations, based on multi-channel random-quadrature interferometry	Romain Labrosse Sound and Bright LLC. (United States)	
11:40	S2: Talk 13	Poroelectricity in cells: insights from acoustic propagation	Lucie Vovard Institut Lumière Matière (France)		
11:52	S2: Talk 14	New applications of laser generated sound sources	Konstantino Kaleris Hellenic Mediterranean University (Greece)		

12:10 LUNCH GRAB AND GO

13:00 DEPARTURE & BUS TRANSFERT TO SAINT PIERRE DES CORPS (TGV train station)

14:00 BUS ARRIVAL TO SAINT PIERRE DES CORPS (TGV train station)

18:00 VULGARISATION CONFERENCE in Blois (City Hall - Weeding Room)