AFPAC 2024 Programme

Wednesday 17 January 2024

(All sessions are located in the McMillan Suite)

	12pm – 1pm	**Lunch** (Room: Restaurant)
	1pm – 1:20pm	**Registration and Tea/Coffee** (Room: Registration - Foyer outside McMillan Suite, Tea/Coffee - Glen Lomond Suite)
	1:20pm – 1:30pm	**Welcome** (Room: McMillan Suite)
P	1:30pm – 2pm	**Invited Speaker** Ultrasound: a therapeutic swiss army knife? **Gail ter Haar,** Institute of Cancer Research, UK
1	2pm – 2:12pm	Exploring the limits to quantitative elastography: supersonic shear imaging in stretched soft strips **Fabrice Lemoult,** Institut Langevin, France
2	2:12pm – 2:24pm	Evaluating the physical limits of acoustic holograms for transcranial brain applications **Rachel Burstow,** King's College London, United Kingdom
3	2:24pm – 2:36pm	OptimUS: a Python library for therapeutic ultrasound **Pierre Gélat,** University College London, United Kingdom
4	2:36pm – 2:48pm	Comparison of shear wave speed measurements using two shear wave elastography approaches **Andre Alvarenga,** National Physical Laboratory, United Kingdom
5	2:48pm – 3pm	All- optical laser ultrasound tomography for biomedical imaging using deep neural networks for image reconstruction **Ahmed Al Fuwaires,** University Of Strathclyde, United Kingdom
6	3pm – 3:12pm	Mechanisms of Therapeutic Ultrasound on Biomimetic Models of Cancer **Daniel Silva,** University College London, United Kingdom
7	3:12pm – 3:24pm	A non-linear delayed resonator for mimicking the hearing haircells **Jana Reda,** Institut Langevin, France
8	3:24pm – 3:36pm	Towards a 3D-printed acoustic sensor inspired by hair-like structures of arachnids and insects **Samuele Martinelli,** University of Strathclyde, United Kingdom
	3:36pm – 4pm	**Afternoon Break** (Room: Glen Lomond Suite)
	4pm – 4:12pm	Materials with elastic membranes : negative acoustic density **Juliette Pierre,** D'Alembert Institute - CNRS, France
9	4:12pm – 4:24pm	The spin angular momentum of sound waves and its conversion in a simple scattering experiment **Diego Baresch,** CNRS - Université de Bordeaux, France
10	4:24pm – 4:36pm	Multimodal approach of the guided wave propagation from a spatially extended source **Charlotte Comte,** Le Mans Université, France)
11	4:36pm – 4:48pm	Efficient finite element simulation of elastodynamic scatterer responses in arbitrarily complex materials and geometries **Paul Wilcox,** University of Bristol, United Kingdom)
12	4:48pm – 5pm	Multimodal radiation and directivity of open-ended waveguides **Simon Félix,** Le Mans Université, France
13	5pm – 5:12pm	Multi-modal characterization of ultrasonic bulk wave properties in heterogeneous textured media through finite element computations **Vincent Dorval,** Université Paris-Saclay, France

14	5:12pm – 5:24pm	Analysis of defects in symmetrical parts by non-contact modal analysis **Chloë Palerm,** Safran, France
15	5:24pm – 5:36pm	Friction-driven directed movement with surface acoustics waves **Marina Terzi,** Le Mans University, France
	5:36pm	**Day 1 Closes**
	7pm	**Dinner** (Room: Restaurant)

Thursday 18 January 2024

(All sessions are located in the McMillan Suite)

P	9am – 9:30am	**Invited Speaker** Probing mechanical phenotype with optoacoustics: from characterization to control **Thomas Dehoux,** Institut Lumière Matière, France
16	9:30am – 9:42am	3D phononic endo-microscopy of sub-micron biology **Matt Clark,** University Of Nottingham, United Kingdom
17	9:42am – 9:54am	Numerical study of a Fabry-Perot based elastic EAT system at MHz regime **Jiacheng Chen,** Université de Tours, France
18	9:54am – 10:06am	Super-resolution imaging using nanobells **Rafael Fuentes-Dominguez,** University of Nottingham, United Kingdom
19	10:06am – 10:18am	Through-aberration accurate ultrasound focusing with SelF-EASE method **Samuel Rodriguez,** University of Bordeaux, France
20	10:18am – 10:30am	Development of GHz optoacoustic lenses for sub-optical resolution imaging **Rafael Fuentes-Dominguez,** University Of Nottingham, United Kingdom
	10:30am – 10:50am	**Morning Break** (Room: Glen Lomond Suite)
P	10:50am – 11:20am	**Invited Speaker** 3D Variational Bayesian Full Waveform Inversion **Andrew Curtis,** University of Edinburgh, United Kingdom
21	11:20am – 11:32am	Recent Developments in Multimode Multiple Scattering in Soft Media **Valerie Pinfield,** Loughborough University, United Kingdom
22	11:32am – 11:44am	Ultrasonic Characterization of Solid Suspensions in a Viscous Fluid **Moustafa Eid,** University Le Havre, France
23	11:44am – 11:56am	Simultaneous ultrasonic and rheological monitoring of medium density polyethylene with temperature in a rheometer **Nesrine Houhat,** Université de Tours, France
24	11:56am – 12:08pm	Digital twin of a MIMO sonar for real-time underwater imaging **Oleksandr Malyuskin,** Queen's University Belfast, United Kingdom
25	12:08pm – 12:20pm	Ultrasonic characterization of post-mortem interval (PMI) of human bones **Andres Arciniegas,** CY Cergy Paris Université, France
26	12:20pm – 12:32pm	Exploring ultrasonic coherent wave characteristics in Cast Austenitic-Ferritic Stainless Steels through virtual microstructure modelling and different analyses using numerical simulations **Zakaria Aghenzour,** EDF Lab les Renadières, France
27	12:32pm – 12:44pm	Machine learning for real-time inversion of locally anisotropic weld properties using in-process ultrasonic array measurements **Richard Pyle,** University of Strathclyde, United Kingdom
28	12:44pm – 12:56pm	Microstructural Characterisation of Nickel-based Superalloys using Ultrasound **Jennifer Jobling,** Imperial College London, UK
	1pm – 2pm	**Lunch** (Room: Restaurant)

P	2pm – 2:30pm	**Invited Speaker** Modal approach for the development of tools to simulate nondestructive evaluation techniques based on elastic guided waves **Alain Lhémery,** Université Paris-Saclay, France
29	2:30pm – 2:42pm	Integrated Analysis of Materials for Offshore Wind Turbine Blades: Mechanical and Acoustical Coupling **Khalid Aoujdad,** Le Havre Normandy University, France
30	2:42pm – 2:54pm	Determination of ageing indicators on glass-fibre polyester composite skins using Lamb guided waves **Khalid Aoujdad,** Le Havre Normandy University, France
31	2:54pm – 3:06pm	High-resolution ultrasonic characterization of an adhesive film in an aeronautical assembly **Youness Ezziani,** University of Le Havre Normandy, France
32	3:06pm – 3:18pm	Inverse problem identification of thickness and viscoelastic properties of a film deposit by scanning acoustic microscopy **Pooyan Manoochehrnia,** University of Le Havre Normandy, France
33	3:18pm – 3:30pm	Reconstruction of layer structure of composite materials by reverse time migration **Lily Tu,** University of Bristol, United Kingdom
	3:30pm – 3:50pm	**Afternoon Break** (Room: Glen Lomond Suite)
34	3:50pm – 4:02pm	Detection and imaging of BVIDs in composite plates **Pierre Goislot,** CEA/LIST/DIN/LSPM, France
35	4:02pm – 4:14pm	Impact of resynchronization errors on the quality of defects localization in reverberant plates **Omar Bouchakour,** (Univ. Polytechnique Hauts-de-France, France)
36	4:14pm – 4:26pm	Towards monitoring the state of charge of Li-Ion batteries using ultrasonic methods **Yassine Moradi,** (GREMAN UMR 7347 Laboratory, INSA - Centre Val De Loire, France)
37	4:26pm – 4:38pm	Golay-Based Total Focusing Method Using a High-Frequency, Lead-Free, Flexible Ultrasonic Array to Improve Industrial Inspections **Elmergue Germano,** University of Strathclyde, United Kingdom
38	4:38pm – 4:50pm	Strategies for robotic structural inspection **Anthony Croxford,** University of Bristol, United Kingdom
39	4:50pm – 5:02pm	Ultrasonic inspection of pipes using mobile robotics **Bruce Drinkwater,** University of Bristol, United Kingdom
40	5:02pm – 5:14pm	Reconstruction of smooth shape defects in additive manufactured waveguides by laser-ultrasound **Alexandre Charau,** (Université Paris-Saclay, France
41	5:14pm – 5:26pm	A methodology for large area inspection using reconfigurable Laser Induced Phased Arrays **Don Pieris,** University of Strathclyde, United Kingdom
	5:26pm	**Day 2 Closes**
	7pm	**Conference Dinner** (Room: Glen Luss) **Whisky Tasting Follows Dinner**

Friday 19 January 2024

(All sessions are located in the McMillan Suite)

P	9am – 9:30am	**Invited Speaker** Nonthermal Effects of Ultrasound: A Force for Good in the Body **Nader Saffari,** University College London, UK
42	9:30am – 9:42am	Quantitative characterisation of cavitation signals using wavelet packet transform and k-means clustering **Reza Haqshenas,** University College London, United Kingdom
43	9:42am – 9:54am	Unlocking Acoustic Chaos: Characterising the cavitation in a tube transducer with increasing drive amplitude **Hilde Metzger,** University Of Glasgow, United Kingdom
44	9:54am – 10:06am	Active microrheology of soft materials with acoustical tweezers **Antoine Penneron,** Institut D'Ingénierie et de Mécanique, France
45	10:06am – 10:18am	Acoustic amplitude of resonating bubbles **Vincent Gourmandie,** Université Paris Cité, France
46	10:18am – 10:30am	Imaging of crystal degradation upon non-hydrostatic compression via time-domain Brillouin scattering **Samuel Raetz,** Le Mans Université, France
47	10:30am – 10:42am	Elasticity and grain morphological characterization in polycrystalline materials using spatially resolved acoustic spectroscopy (SRAS++) **Carolina Guerra,** University of Nottingham, United Kingdom
48	10:42am – 10:54am	Anisotropic Orientation Inversion using Stein Variational Gradient Descent **James Ludlam,** University of Strathclyde, United Kingdom
	10:54am – 11:30am	**Morning Break** (Room: Glen Lomond Suite)
49	11:30am – 11:42am	Coherent Multi-Transducer Ultrasound (CoMTUS) imaging: Towards large field-of-view imaging with three probes **Paul Dryburgh,** King's College London, United Kingdom
50	11:42am – 11:54am	Can Mn:PIN-PMN-PT piezocrystal replace hard piezoceramic in power ultrasonic devices? **Xuan Li,** University of Glasgow, United Kingdom
51	11:54am – 12:06pm	Characterisation of a Lead-free Piezoceramic using a Hybrid of Techniques **Olubunmi Onanuga,** University of Glasgow, United Kingdom
52	12:06pm – 12:18pm	Development and simulation of high-temperature ultrasonic transducers with porous metal backing **Guy Feuillard,** GREMAN INSA Centre Val De Loire, France
53	12:18pm – 12:30pm	The influence of phase microstructure transformations on the dynamic response of Nitinol Langevin ultrasonic transducers **Yuchen Liu,** University of Glasgow, United Kingdom
54	12:30pm – 12:42pm	Design of a bespoke, additively manufactured HIFU transducer characterised at high power **Jack Stevenson,** University of Glasgow, United Kingdom
55	12:42pm – 12:54pm	Zinc Oxide Thin Film as a candidate for Lead-Free Ultrasound Transducers **Claire Thring,** Novosound, United Kingdom
	12:54pm – 1:30pm	**Lunch (grab and go) and Depart**