NOVEM 2023

10 - 12 JANUARY 2023

PROGRAMME

DAY 1 - 10 JANUARY 2023

8.00am	***Registration Opens***	
	Sir Owen G Glenn Building, Level 0 Foyer	
8:45am	**Opening Ceremony and Mihi Whakatau**	
	OGGB4, 260-073	
	Concurrent Session 1	
	1A: Engineered Materials I	**1B: Characterisation and Identification**
9.30am	**Elastic wave reflection in beams with acoustic black hole termination under axial excitations** (031) S. Sepehrirahnama; J.C.S. Lai, S Oberst	**Assessment of acoustical materials sound absorption coefficient under oblique incidence plane wave and diffuse field using a virtual source antenna** (014) A Berry, M Sciard, F Sgard, O Robin, T Dupont
9.45am	**Systematic design of 2D and 3D vibroacoustic fluidic cavity sensors using topology optimization** (029) Y. Belahurau; N. Aage; R. E. Christiansen, F. Lucklum	**Laboratory implementation of the noise correlation methodology for leak location in water distribution systems** (039) P Fausti; A Santoni
10.00am	**Flexural wave attenuation in thin plates with periodic circular inhomogeneities** (119) N Ansley; V Sorokin; A Hall; G Dodd; G Schmid	**A neural network-augmented two-microphone impedance tube method to estimate sound propagation characteristics** (040) M Eser; L Emmerich; C Gurbuz; S Marburg
10.15am	**Strategies to enhance the attenuation band in a finite beam under different boundary conditions using an array of lumped systems** (059) J P Carneiro Junior, V.G. Cleante, P J P Gonçalves, M J Brennan	**Acoustic defect detection in PBF additive manufacturing using Fourier and Wavelet transformation** (080) Y Ren; C Adams; P Gross; T Melz; M Weigold
10.30am	***Morning Tea***	
	Sir Owen G Glenn Building, Level 0 Foyer	
11.00am	**Keynote Forum 1**	
	OGGB4, 260-073	
	Engineered materials for noise and vibration control	
	Chairperson: Guglielmo Aglietti, University of Auckland	
	Reconfigurable Metastructures – From Wave & Vibration Controls to Mechano-Intelligence **Kon-Well Wang**, *University of Michigan*	
	Taming the noise with a sonic crystal **Heow Pueh Lee,** *National University of Singapore*	
	Vibration mitigation using gradients of mechanical properties : Acoustic Black Hole Effect and Metaplates **François Gautier,** *Université du Maine*	
1.00pm	***Lunch***	
	Sir Owen G Glenn Building, Level 0 Foyer	
	Concurrent Session 2	
	2A: Engineered Materials II	**2B: Flow and Duct Acoustics**
2.00pm	**Two methods to improve sound transmission loss in the coincidence region** (055) A Hall; G Schmid; V Sorokin; G Dodd	**Evolutionary strategy to optimize sonic black hole profiles in duct terminations** (047) O Guasch; M Arnela; D Miralles; G. Serra
2.15pm	**Locally resonant metamaterials with multimodal resonators for sound insulation improvement** (054) D Giannini; M Schevenels; E. P.B. Reynders	**Contribution of Lighthill tensor components to far-field acoustic pressure** (115) E Eftekharian; N Kessissoglou; S Marburg
2.30pm	**Dispersion relation and sound transmission loss of a Mindlin plate with an array of attached masses** (096) V Sorokin, A J Hall, G Dodd, G Schmid, Y Yang, B Mace	**Numerical Simulation of Aeroacoustics Generated by Flow around 30P30N High-lift Aerofoil using Hybrid CFD/BEM approach** (083) M Mori, T Masumoto
2.45pm	**Programmable sound absorption performance enabled by 3D printed fibers** (099) B Sharma, J. S. Bolton, W Johnston, Y Xue	**Identification of broadband acoustical sources in the cylindric duct using a hybrid reconstruction method** (013) G Kang; J Weikang
3.00pm	***Afternoon Tea***	
	Sir Owen G Glenn Building, Level 0 Foyer	
	Concurrent Session 3	
	3A: Engineered Materials III	**3B: Modelling: Acoustics**
3.30pm	**Sound radiation from a coated cylindrical shell in turbulent cross flow** (104) GS Sharma; N Kessissoglou; I MacGillivray; L Maxit; B Ngo; A Skvortsov	**Sound energy density-based non-negative surface contributions for interior acoustic problems** (041) C Gurbuz; S Marburg
3.45pm	**Vibration mitigation using finite graded metamaterials: a rod with attached local resonators** (064) A Ihsan; V S Sorokin; A J Hall; B R Mace	**Modelling of noise due to impulsive excitation using nonlinear time series analysis** (062) C Adams; S Oberst
4.00pm	**Application of acoustic metamaterial for tire noise reduction** (065) F Kronowetter; S Marburg	**Comparing acoustic prediction methods for additively manufactured porous structures** (100) B Sharma, M. C. Brown, W Johnston, M. G. Jones
4.15pm	**The Modeling of Disc-shaped Acoustic Black Hole Plate and Vibration Characteristics** (026) Y Ding; K Shi, J Li, M Li, L Zheng, Y Li	**Analysis of thermoacoustic phenomenon using concentrated mass model** (073) D Funyu; S Hisano; H Iwanoto; S Ishikawa
4.45pm	Bus Departs	
6.00pm	**Welcome Reception**	
	Waitematā Harbour Cruise	

DAY 2 - 11 JANUARY 2023

8.15am	***Registration Opens*** *Sir Owen G Glenn Building, Level 0 Foyer*	
	Concurrent Session 4	
	4A: Numerical Methods in Acoustics	**4B: Modelling: Vibrations**
9.00am	**A fast multipole boundary element method for acoustics in viscothermal fluids** (071) S Preuss; J Marin; C Jelich; S Marburg	**A simple transformation for switching between the stochastic responses in different systems** (045) S. De Rosa, A. Casaburo, G. Petrone, F. Franco
9.15am	**An accelerated deflation preconditioner for acoustic BEM systems based on subspace recycling** (032) D. Panagiotopoulos,E. Deckers, W. Desmet	**The natural frequency estimation for a system composed of a beam and a spring-mass system** (085) S Xutao; M Yusuke; S Ilanko
9.30am	**On the modeling of thin moving sound sources using a cutFEM approach** (105) S van Ophem; W Desmet	**Characterising non-linear elements with free-free and fixed boundary conditions for dynamic substructuring** (022) A Zucchini; F Naets; A Hülsmann; W Desmet
9.45am	**New porous absorber simulation techniques in the context of finite element modelling** (020) M Bronzova, A Bocquillet, M Schanz	**A genetic-continuation algorithm for bifurcation analysis of nonlinear rotordynamic systems** (051) S Kim
10.00am	**Multi-fidelity modeling using Gaussian processes for the frequency dependent Helmholtz equation** (025) C Gurbuz; M Eser; J Schaffner; S Marburg	**Effect of nonlinear inertia and Duffing-type nonlinearity on the dynamic behaviour of nonlinear parametrically excited cantilever beams with tip mass** (058) M Aghamohammadi; B Mace; V Sorokin
10.15am	**Scattering from a partially coated shell immersed in water using a subtractive modelling technique** (019) F Dumortier; L Maxit; V Meyer	**Modeling and analysis of rotating shaft with bearing faults based on transfer matrix method** (044) D. Hong; B. Kim
10.30am	***Morning Tea***	
11.00am	**Keynote Forum 2** *OGGB4, 260-073* **Big data and machine learning in vibration and acoustics** *Chairperson: Stuart Bolton, Purdue University* Big Data and (Population-Based) Structural Health Monitoring **Nikolaos Dervilis,** *University of Sheffield* Data-driven structural acoustics for Naval applications including Digital Twin. **Kyle B Gustafson**, *Naval Surface Warfare Centre* A Change in Paradigm – From big data to high quality data **Marcus Maeder,** *Technical University of Munich*	
1.00pm	***Lunch*** *Sir Owen G Glenn Building, Level 0 Foyer*	
	Concurrent Session 5	
	5A: Big Data	**5B: Vibroacoustics I**
2.00pm	**Determination of Johnson-Champoux-Allard model parameters with machine learning techniques** (050) A. Casaburo; D. Magliacano; G. Petrone, S. De Rosa, F. Franco	**Impact sound insulation prediction and uncertainty quantification using a detailed source model in the modal Transfer Matrix Method** (030) J Vastiau; E P B Reynders; C Van hoorickx
2.15pm	**Physics-informed neural networks for solving the Helmholtz equation** (049) J D Schmid; P Bauerschmidt; C Gurbuz; S Marburg	**Bloch mode synthesis for band-structure computation of unit cell with non-matching boundaries** (084) C Xi; Y Mi; X Yu2, H Zheng
2.30pm	**Reconstruction of Substructural Transfer Functions with Operational Responses Using Deep Learning Approach** (079) D Lee	**Sound transmission reduction of double walls using porous and viscoelastic materials** (010) S Bakhouche; W Larbi; J.F Deü; P Macquart
2.45pm	**Use of DL Model to Capture Noise Variance of EV Motor by Tilting and Eccentricity** (103) W Jeong; H Kim	**An investigation of magnetic and vibroacoustic coupling in the balanced armature receiver** (027) B S. Bække; F T. Agerkvist; F Lucklum; V C Henriquez
3.00pm	**Bayesian approach for acoustic boundary admittance estimation** (061) J.M. Schmid; M. Eser; S. Marburg	**A deterministic energy method for predicting the response of coupled finite structures** (015) Y Yangi; M Kingan; B Mace
3.15pm	**Road Pattern Classification Using Deep Learning for Noise Data for Autonomous Driving Vehicle** (008) S Lee; K An	**Validation of a hybrid deterministic-diffuse approach for prediction of diffuse vibration transmission across finite plate junctions** (018) W Stalmans; C Van hoorickx; E Reynders
3.30pm	***Afternoon Tea***	
	Concurrent Session 6	
	6A: Acoustics I	**6B: Uncertainty and Variability**
4.00pm	**Nonlinear dynamics of acoustically levitated particles** (005) I Bucher; A Dolev; E Tenenbaum	**Statistical Energy Analysis (SEA): defining Information, Uncertainty and Detail in Vibro-Acoustic simulations** (070) P Shorter
4.15pm	**Cyclostationary tools to enhance relevant acoustic signals for bearing diagnostics** (035) A Mauricio; H Denayer; K Gryllias	**An efficient approach for the upper bound estimation of uncertain FRFs via polynomial chaos expansion** (011) N S Ferguson; M Kara
4.30pm	**Evaluation of virtual sensing with spherical array surrounding head for directional noise** (028) N Shinobu; Y Haneda; Y Hiwasaki; H Itou; N Kamado; S Murata	**Acoustic performance of a multilayered coating with uncertainty in design parameters** (093) K Modur; N Kessissoglou; I MacGillivray; GS Sharma; A Skvortsov
4.45pm	**Effect of room acoustics on speech intelligibility under noise between native and non-native listeners** (108) Y Hioka; C.T.J Hui; H Masuda; C.I Watson	**Uncertainty in measured resonance frequencies and loss factors of a bolted panel structure** (006) T Jerome; M Shepherd; S Hambric
5.30pm	Bus Departs	
6.30pm	**Gala Dinner** *Maritime Room*	

DAY 3 - 12 JANUARY 2023

8.15am	***Registration Opens*** *Sir Owen G Glenn Building, Level 0 Foyer*	
	Concurrent Session 7	
	7A: Sound Field Control	**7B: Vibrations I**
9.00am		
9.15am	**Methods of vibration field control using actuator array for improving the panel speaker sound** (113) J Ih; J Woo; K Lee	**Control of chaotic vibrations in lumped mass models of the vocal folds** (046) O Guasch; M Arnela; AI Fernández; A Van Hirtum
9.30am	**Passive and active control of radiated sound from a coated cylindrical shell** (102) C Lin; N Kessissoglou; I MacGillivray; GS Sharma; A Skvortsov	**Linear vs nonlinear structural vibration behavior of steel-timber composite building elements** (043) B Chocholaty; NB Roozen; M Maeder; S Marburg
9.45am	**Application of the equivalent source method to preserve and reproduce the spatial characteristics of the sound source** (110) W Cho; I Jung; J Ih	**Vibro-acoustic optimisation of composites with multiple parameters** (034) M Klaerner; S Marburg; L Kroll
10.00am	**Minimization of acoustic power in free space using dipole sound sources** (052) Y Ogasawara; H Iwamoto; S Hisano	**Beamformed Envelope Spectrum of acoustic signals for bearing diagnostics under varying speed conditions** (036) A Mauricio; H Denayer; K Gryllias
10.15am	**Near-field modeling of the head-related transfer function by using the dummy head sound source** (111) I Jung; W Cho; J Chang; J Ih	**On the effects of a nonlinear boundary with cubic stiffness on the reflection coefficients of time harmonic flexural waves in an Euler-Bernoulli beam** (086) M Abdi; V Sorokin; B Mace
10.30am	***Morning Tea***	
11.00am	**Keynote Forum 3** *OGGB4, 260-073* **Sound field control** *Chairperson: Weikang Jiang, Shanghai Jiao Tong University* Large-scale capture and modelling of acoustic fields **Efren Fernandez-Grande,** *Technical University of Denmark* Sound field control in real and virtual auditory space **Jung-Woo Choi,** *Korea Advanced Institute of Science and Technology* Binaural sound field recording and reproduction using spherical microphone arrays **Shuichi Sakamoto,** *Tohoku University, Japan*	
1.00pm	***Lunch*** *Sir Owen G Glenn Building, Level 0 Foyer*	
	Concurrent Session 8	
	8A: Vibroacoustics II	**8B: Vibrations II**
2.00pm	**Uncertainty quantification of the diffuse sound field assumption in sound insulation predictions** (114) E Reynders; C Van Hoorickx	**Nonreciprocal vibration transmission by the use of concurrent non-collocated feedback control loops** (090) N Alujević; M Jalšić; S Arandia-Krešić; D Suton
2.15pm	**Sensitivity and bifurcation analysis of an analytical model of a trapped object in an externally excited acoustic radiation force field** (012) M. Akbarzadeh; S. Oberst; S. Sepehrirahnama; B. Halkon	**Structural system modeling from base excitation measurements using Swarm Intelligence** (017) C Cerini; G Aglietti
2.30pm	**Analysis of hybrid diffuse-deterministic systems with domain couplings between structural and acoustic components** (106) C Van hoorickx; E Reynders	**Computing dispersion relations with modal analysis methods** (021) L H M S Ribeiro; D Braghini; D Beli; J R F Arruda
2.45pm	**Degradation and damage analysis of composite pressure vessels via experimental modal analysis** (057) S. John; G.W. Mair	**Parametric study of the axial force and negative stiffness of an electromagnetic mechanism for vibration isolation applications** (056) M Shahraeeni; S Ilanko; B Mace; V Sorokin
3.15pm	**Conference Closing Session** *OGGB4, 260-073*	
3.45pm	**Acoustics Research Center Laboratory Tour**	