

NOVEM 2023

10 - 12 JANUARY 2023

PROGRAMME

DAY 1 - 10 JANUARY 2023

8.00am	Registration Opens <i>Sir Owen G Glenn Building, Level 0 Foyer</i>	
8:45am	Opening Ceremony and Mihi Whakatau <i>OGGB4, 260-073</i>	
	Concurrent Session 1	
	1A: Engineered Materials I <i>OGGB4, 260-073</i> <i>Chairperson: Nicole Kessissoglou, UNSW Sydney</i>	1B: Characterisation and Identification <i>Case Room 3, 260-055</i> <i>Chairperson: Frieder Lucklum, Technical University of Denmark</i>
9.30am	Elastic wave reflection in beams with acoustic black hole termination under axial excitations (031) S. Sepehrihahnama, 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 <i>Sir Owen G Glenn Building, Level 0 Foyer</i>	
11.00am	Keynote Forum 1 <i>OGGB4, 260-073</i> Engineered materials for noise and vibration control <i>Chairperson: Guglielmo Aglietti, University of Auckland</i> 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 <i>Sir Owen G Glenn Building, Level 0 Foyer</i>	
	Concurrent Session 2	
	2A: Engineered Materials II <i>OGGB4, 260-073</i> <i>Chairperson: Steffen Marburg, Technical University Of Munich</i>	2B: Flow and Duct Acoustics <i>Case Room 3, 260-055</i> <i>Chairperson: Yusuke Hioka, Waipapa Taumata Rau - University of Auckland</i>
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 cylindrical duct using a hybrid reconstruction method (013) G. Kang, J. Weikang
3.00pm	Afternoon Tea <i>Sir Owen G Glenn Building, Level 0 Foyer</i>	
	Concurrent Session 3	
	3A: Engineered Materials III <i>OGGB4, 260-073</i> <i>Chairperson: Paolo Gonçalves, São Paulo State University</i>	3B: Modelling: Acoustics <i>Case Room 3, 260-055</i> <i>Chairperson: Oriol Guasch, La Salle Universitat Ramon Llull</i>
3.30pm	Sound radiation from a coated cylindrical shell in turbulent cross flow (104) G. S. 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. Iwamoto, S. Ishikawa
4.45pm	Bus Departs	
6.00pm	Welcome Reception sponsored by Dassault Systemes <i>Waitematā Harbour Cruise</i>	

DAY 2 - 11 JANUARY 2023

8.15am	Registration Opens <i>Sir Owen G Glenn Building, Level 0 Foyer</i>	
	Concurrent Session 4	
	4A: Numerical Methods in Acoustics	4B: Modelling: Vibrations
	<i>OGGB4, 260-073</i>	<i>Case Room 3, 260-055</i>
	<i>Chairperson: Jeong Guon Ih, Kaist</i>	<i>Chairperson: Izhak Bucher, Technion</i>
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. Yusukey, 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	
	Keynote Forum 2	
	<i>OGGB4, 260-073</i>	
	Big data and machine learning in vibration and acoustics	
	<i>Chairperson: Stuart Bolton, Purdue University</i>	
11.00am	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 <i>Sir Owen G Glenn Building, Level 0 Foyer</i>	
	Concurrent Session 5	
	5A: Big Data	5B: Vibroacoustics I
	<i>OGGB4, 260-073</i>	<i>Case Room 3, 260-055</i>
	<i>Chairperson: Sergio De Rosa, University of Napoli Federico II</i>	<i>Chairperson: Vladislav Sorokin, Waipapa Taumata Rau - University of Auckland</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 hooickx
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. Yu, 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. Bakhouché, 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. Yang, 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 hooickx, E. Reynders
3.30pm	Afternoon Tea	
	Concurrent Session 6	
	6A: Acoustics	6B: Uncertainty and Variability
	<i>OGGB4, 260-073</i>	<i>Case Room 3, 260-055</i>
	<i>Chairperson: Christian Adams, Technical University Of Darmstadt</i>	<i>Chairperson: Edwin Reynders, KU Leuven</i>
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, G. S. 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	Variability 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 sponsored by Rothoblaas NZ <i>Maritime Room</i>	

DAY 3 - 12 JANUARY 2023

8.15am	Registration Opens <i>Sir Owen G Glenn Building, Level 0 Foyer</i>	
	Concurrent Session 7	
	7A: Sound Field Control	7B: Vibrations I
	<i>OGGB4, 260-073</i>	<i>Case Room 3, 260-055</i>
	<i>Chairperson: Alain Berry, Université De Sherbrooke</i>	<i>Chairperson: Andrew Hall, Waipapa Taumata Rau - University of Auckland</i>
9.00am	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, A. I. Fernández, A. Van Hirtum
9.15am	Passive and active control of radiated sound from a coated cylindrical shell (102) C. Lin, N. Kessissoglou, I. MacGillivray, G. S. Sharma, A. Skvortsov	Linear vs nonlinear structural vibration behavior of steel-timber composite building elements (043) B. Chocholaty, N. B. Roozen, M. Maeder, S. Marburg
9.30am	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
9.45am	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
10.00am	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
10.15am	On the radiation of sound from an immersed cylindrical shell close to the sea surface (048) V Meyer	Elastic wave propagation in one-dimensional phononic crystal with defects (068) V. G. R. C. Dos Santos, A. M. Goto, E. J. P. Miranda Jr., J. M. C. Dos Santos
10.30am	Morning Tea	
11.00am	Keynote Forum 3 <i>OGGB4, 260-073</i> Sound field control <i>Chairperson: Weikang Jiang, Shanghai Jiao Tong University</i> Large-scale capture and modelling of acoustic fields Efren Fernandez-Grande , <i>Technical University of Denmark</i> Sound field control in real and virtual auditory space Jung-Woo Choi , <i>Korea Advanced Institute of Science and Technology</i> Binaural sound field recording and reproduction using spherical microphone arrays Shuichi Sakamoto , <i>Tohoku University</i>	
1.00pm	Lunch <i>Sir Owen G Glenn Building, Level 0 Foyer</i>	
	Concurrent Session 8	
	8A: Vibroacoustics II	8B: Vibrations II
	<i>OGGB4, 260-073</i>	<i>Case Room 3, 260-055</i>
	<i>Chairperson: Phil Shorter, Dassault Systemes</i>	<i>Chairperson: Neil Ferguson, University of Southampton</i>
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. Jaišić, S. Arandia-Krešić, D. Sutton
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. Sepéhrirahnama, 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. Belli, 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
3.00pm	SEA modelling of a structural system excited through a nonlinear device (016) L. Andrade, R. S. Langley	Complex band structure in viscoelastic thin plate phononic crystals (107) J. M. C. Dos Santos, V. F. Dal Poggetto, E. J. P. Miranda Jr., N. M. Pugno
3.30pm	Conference Closing Session <i>OGGB4, 260-073</i>	
4.00pm	Acoustics Research Center Laboratory Tour	