

ACOUSTICS 2023

16-17 October 2023

The Guildhall, Winchester

Programme

MONDAY 16 OCTOBER 2023

ROOM 1

0830 Registration and Refreshments

0930 Welcome, Alistair Somerville, President, Institute of Acoustics

ROOM 1 – King Alfred Conference Chamber

Environmental Sound Group Chair: Steve Mitchell

1000 What makes a noise limit acceptable?

Stephen Turner, ST Acoustics

1030 Environment Agency noise regulation

Jon Tofts, Environment Agency

1100 Method implementation document for BS4142

Julija Smyrnova, Gillian Brown, Tony Clayton, Jon Tofts, Environment Agency

1130 Refreshments

1200 Rayleigh Medal 2023

Environmental noise, health and cognition

Stephen Stansfeld, Queen Mary University London

1300 Lunch

1345 Environmental Sound Group AGM

1400 Predicting BS4142 character corrections at the planning stage

Matt Torjussen, ANV Measurement Systems; Patrick Hoyle, WSP; Jo Webb, Antonio J Torija Martinez, David Waddington, University of Salford

1430 Lessons learned monitoring noise during construction of the HS2 Colne Valley Viaduct and Chiltern tunnels

Andrew Bird, Graeme Hales, Align

1500 The science of soundscape-summary of the evidence base from the UK acoustics community

Peter Rogers, Sustainable Acoustics; F Aletta, UCL London; K Attenborough, Open University; C Bentley, Sharps Acoustics; J Harvie-Clark, Apex Acoustics; J Kang, UCL London; L Lavia, Noise Abatement Society; T Martinez, University of Salford; S R Payne, University of Surrey; G Waters, Tranquil City

1530 Refreshments

1600 Habitats: Developments in managing the ecological impacts of noise on wildlife habitats for sustainable development

David C Waddington, Michael D Wood, William J Davies, Robert J Young, Margret S Engel, University of Salford

1630 Acoustic benefits of green infrastructure in urban areas-a rapid evidence review

Grant Waters, Chris Wood, Doushiant Monhith, Jack Naumann, Anderson Acoustics; Ben Piper, Acoustic Sensor Networks; Andy Murdock, Maploom; Hilary Notley, Luca Marazzi, Defra

1700 Integrating acoustics engineering and soundscape design for an urban park: a case study

Luis Pereira, Jack Harvie-Clark, Rebecca Romeo Pitone, Apex Acoustics; Andrew Mitchel, researcher

1730 Close

1800 Institute of Acoustics Annual General Meeting

1900 Reception and Conference Dinner, The Guildhall

MONDAY 16 OCTOBER 2023

ROOM 2 – King Charles Hall

Measurement & Instrumentation Group: Chair, John Shelton

1000 A comparison of existing methods of predicting the source of beer garden noise to measured data
Feargus Flanagan, Chris Chittock, Dragonfly Consulting; Benjamin West, Birmingham City University

1030 Obtaining input terms for railway noise for use in strategic noise models
Daniel Lurcock, Martin Toward, David Thompson, University of Southampton

1100 The acoustic camera has come of age!
Richard O'Sullivan, Soundcam, UK

1130 Refreshments

1200 Rayleigh Medal 2023 – King Alfred Conference Chamber
Environmental noise, health and cognition
Stephen Stansfeld, Queen Mary University London

1300 Lunch

1345 Measurement and Instrumentation AGM

1400 Ask the Instrumentation Experts – Live
Chair: Simon Bull

1530 Refreshments

Speech and Hearing – Chair: Gordon Hunter

1600 The effect of sound source direction on speech intelligibility in rooms
Stephen Dance, S Toone, J Sheng Tham, London South Bank University; Peter Mapp, Peter Mapp Associates

1630 Applying approaches from automated processing of human speech to monitoring and predicting important events in honeybee hives using acoustic signals
Gordon Hunter, Stenford Ruvinga, Kingston University

1700 What do we know about noise impacts on birds? A systematic review focusing on acoustic methodology
David Waddington, Margret S Engel, William J Davies, Michael D Wood, Robert Young University of Salford; Adam Scott, Hoare Lea Consulting Engineers

1730 Close

1800 Institute of Acoustics Annual General Meeting

1900 Reception and Conference Dinner

MONDAY 16 OCTOBER 2023

ROOM 3 – Eversley Room

Physical Acoustics Group Chair: Keith Attenborough

- 1000 Babinet's principle in acoustics: a time domain reappraisal
Chris Feuillade, Pontificia Universidad Católica de Chile
- 1030 Spatial Fourier transform method incorporated with Johnson Champoux--Allard model to determine absorption coefficient of materials
Haydar Aygun, London South Bank University
- 1100 Review of impact of vibration techniques on flood defense structures (FDS)
Octavio Lora Aranda, G G Small, Matthew White, Thomas Goose, RSK Acoustics

1130 Refreshments

1200 Rayleigh Medal 2023 – King Alfred Conference Chamber (Room 1 or Room 2)
Environmental noise, health and cognition
Stephen Stansfeld, Queen Mary University London

1300 Lunch

Chair: Daniel Elford

- 1400 Acoustic surface waves above porous and periodic surfaces
Shahram Taherzadeh, Keith Attenborough, Open University
- 1430 Sound propagation over periodic roughness
Keith Attenborough, Imran Bashir, Steve Mellish, Alex Stronach, Shahram Taherzadeh, Open University
- 1500 Flight sound of an insect wing: application of metamaterial concepts to bioinspired flapping wings
Mostafa Ranjbar, Cranfield University; M.Cihat Yilmaz, Ankara Yidirim Beyazit University, Turkey

1530 Refreshments

- 1600 Resolving uncertainty in mechanical vibration of thin structures: a novel Bayesian approach
Jah Shamas, Anton Krykin, University of Sheffield
- 1630 Modelling the vibration of bone using finite element analysis
Jamie Scanlan, Olga Umnova, Francis Li, University of Salford
- 1700 Close

1800 Institute of Acoustics Annual General Meeting

1900 Reception and Conference Dinner

MONDAY 16 OCTOBER 2023

ROOM 4 – Wykeham Room

Musical Acoustics Group: Chair, Stephen Dance

1000 Investigating the effects of modern genres on the likelihood of annoyance for residents living close to music venues and how this might influence noise mitigation strategy
Peter J Wheeler, Acoustic Consultants & Open University; David Sharp, Shahram Taherzadeh, Open University

1030 Is there a relationship between pitch perception and individual preference of concert hall reverberation time?
Thea E N Strother, William J Davies, University of Salford

1100 Converting video to sound: texture-based algorithms for sonification
Patrick Gaydecki, Erdem Atbas, University of Manchester

1130 Refreshments

**1200 Rayleigh Medal 2023 – King Alfred Conference Chamber (Room 1 or Room 2)
Environmental noise, health and cognition
Stephen Stansfeld, Queen Mary University London**

1300 Lunch

1345 Musical Acoustics Group AGM

1400 Consideration of the link between musical frequency and musical therapy
Andrew Morgan, medical/acoustic therapist

1430 The effect of vibrational energy transmitted to sections of string outside the main sounding length in plucked string instruments
Jonathan Kemp, University of St Andrews

1500 Impulse response synthetic and real-time convolution for acoustic instrument emulation
Patrick Gaydecki, Erdem Atbas, University of Manchester

1530 Refreshments

Musical Acoustics Group: Chair: David Sharp

1600 Experimentally-tuned synthesis of a thin plate
Sebastian Duran, Michele Ducceschi, Henna Tahvanainen, University of Bologna, Italy; Ludovico Ausiello, University of Portsmouth;

1630 Variable bracing patterns to tune soundboard and membrane speakers
Ludovico Ausiello, M Pani, University of Portsmouth; Sebastian Duran, Michele Ducceschi, University of Bologna, Italy

1700 Preliminary investigations into machine learning and signal processing methodologies for blind recovery and restoration of old audio recordings
Jiaxi You, Claire Mitchell, Keming Tam, Erdem Atbas, Patrick Gaydecki, University of Manchester

1730 Close

1800 Institute of Acoustics Annual General Meeting

1900 Reception and Conference Dinner

TUESDAY 17 OCTOBER 2023

0930 Registration and refreshments

ROOM 1 – King Alfred Conference Chamber
Building Acoustics Group: Chair Adrian Popplewell

1000 The future of building acoustics in a zero carbon world
Neil Bodsworth, Colin O'Connor, Cundall

1030 Accelerating improved specification of sustainable acoustic materials & products
Neha Sharman, Barry Jobling, Hoare Lea

1100 Assessing noise and overheating in dwellings: aligning acoustic and thermal models for partially open windows
Jack Harvie-Clark, Nick Dobinson, Nick Conlan, Apex Acoustics; James Healey, Peninsular Acoustics

1130 Refreshments

1200 Rayleigh Medal 2022
From sound propagation to sound perception
Jian Kang, University College London

1300 Lunch

1305 Sound, Noise and Health Group AGM

Building Acoustics Group: Chair James Healey

1400 Acoustic classification scheme for configurable pods
Ben Southgate, Sandy Brown; Andrew Parkin, Cundall

1430 The use of adaptive sound masking systems in open plan offices: how they work, and the relative improvements for speech privacy and acoustic comfort
Roderick Mackenzie, André L'Espérance, Alex Boudreau, Vincent Le Man, François Gariépy, Soft dB, Canada

1500 Designing for acoustic satisfaction in open plan offices
Jack Harvie-Clark, Nick Dobinson, Richard Hinton, Richard King, Emily Foster, Apex Acoustics

1530 Refreshments

1600 Decolonising museum soundscapes: a practice-based case study
Rebecca Romeo Pitone, Jack Harvie-Clark, Apex Acoustics

1630 Inclusive acoustic design for mainstream schools: an evidence based approach
Jack Harvie-Clark, Apex Acoustics, Emma Greenland, Anderson Acoustics, Adrian James, Adrian James Acoustics,

1700 The Synergistic power of ChatGPT and Grasshopper for 3D analysis in room acoustic design
Shenzhi Su, Cundall

1730 Close

TUESDAY 17 OCTOBER 2023

ROOM 2 – King Charles Hall

Noise and Vibration Engineering: Chair, Matt Torjussen

- 1000 Modelling the performance of base-isolated buildings: how simple can we get?
James P Talbot, University of Cambridge; Tisal L Edirisinghe, Mott Macdonald
- 1030 Managing low frequency noise during the operation of precast concrete factories required for the construction of the HS2 Colne Valley Viaduct and Chiltern tunnels.
Andrew Bird, Graeme Hales, Align
- 1100 Investigating the influence of piles on the building foundation response relative to local geotechnical conditions within the framework of rail-induced groundborne vibration assessment
Zijiang Yang, Jorge De Avillez, WSP

1130 Refreshments

1200 Rayleigh Medal 2022 – King Alfred Conference Chamber
From sound propagation to sound perception
Jian Kang, University College London

1300 Lunch

- 1400 Development and testing of noise and vibration isolation solutions for Cross Laminated Timber (CLT) constructions
Reinhilde Lanoye, Marina Rodrigues, Sarah Huskie, CDM Stravitec
- 1430 Lift noise and vibration
Adam Fox, Mason UK
- 1500 Noise from ASHPs: what we know and what we don't
Matt Torjussen, ANV Measurement Systems; Jack Harvie-Clark, James Hill, Apex Acoustics;
Peter Rogers, Sustainable Acoustics,

1530 Refreshments

- 1600 Managing effects from ground-borne noise and vibration during construction of the HS2 Chiltern tunnels
Alex Champion, Rick Methold, Southdowns Environmental; Andrew Bird, Align; A Medley, High Speed 2
- 1630 Low frequency active acoustic absorption
Roger Roschnik, PSI Audio
- 1700 Close

TUESDAY 17 OCTOBER 2023

ROOM 3 – Eversley Room

Sound, Noise and Health Chair, Benjamin Fenech

1000 The effects of night-time aviation noise exposure on sleep disturbance and annoyance
Charlotte Clark, Joan Morris, Elena Marcus, University of London; Mari-Toomse-Smith, Franziska Marcheselli, Dhriti Mandalia, Rebecca Steinbach, National Centre for Social Research; Mathias Basner, University of Pennsylvania, USA; Jamie Trow, George Gibbs, Noise Consultants

1030 Estimates of the burden of disease due to transportation noise in England
Benjamin Fenech, Sierra Clark, Owen Williams, UK Health Security Agency; Calvin Jephcote, John Gulliver, University of Leicester; Nigel Jones, Extrium

1100 Monitoring noise complaints – the Public health Outcomes Framework indicator B14a
Benjamin Fenech, UK Health Security

1130 Refreshments

1200 Rayleigh Medal 2022- King Alfred Conference Chamber (Room 1 or Room 2)
From sound propagation to sound perception
Jian Kang, University College London

1300 Lunch

1400 Aural diversity and acoustic assessment
William J Davies, Jamie Scanlon, University of Salford

1430 Developing a noise and soundscape conceptual framework for fair and equitable distribution of aircraft
Charlotte Clark, St Georges University; Lisa Lavia, Heriot Watt University, Antonio J Torija Martinez, University of Salford;

1500 Institute of Acoustics Secondary Schools' Competition 2023-The connection between Acoustics and Ecology
D C Waddington, University of Salford; D Holden, Balshaws Church of England High School

1530 Refreshments

1600 Evidence review of effects of soundproofing on residents' mental wellbeing and alternative designs
Charlotte Clark, St Georges University; Jian Kang, University College London, Lisa Lavia, Noise Abatement Society; Peter Rogers, Angela Lamacraft, Sustainable Acoustics; Nigel Jones, Extrium, Hilary Notley, Cerise Reynolds, Defra; Martin McVay, Welsh Government

1630 An in-situ investigation of office soundscape perceptual evaluation methodologies
Benjamin West, Islah Ali-MacLachlan, Birmingham City University, Angus Deuchars, Arup

1700 The use of proprietary noise camera systems to manage excess noise from motor vehicles in residential areas
Reuben Peckham, Intelligent Instruments; Philip Richardson, Royal Borough of Kensington & Chelsea

1730 Close

ROOM 4 – Wykeham Room

Early Careers Group: Chair, Josie Nixon

- 0930 The IOA school's competition on soundscapes: student learning and stem engagement
Ashton Billett, Emmeline Turner, Shay Wheeler, Peter Clarke,
St Oscar Romero Catholic School
- 1000 Noise and soundscape policy developments in Wales
Martin McVay, Welsh Government
- 1030 Construction site environment pollution management-initiatives and innovation in South East Asia
Charles-Etienne Lamort, Ekawat Sakorn, Jean-Florent Cros, Julien Preuilh, Acoem
- 1100 The interface between planning and pollution regime control. Understanding the Environment
Agency's position on their interaction within acoustics
Stephen Jay, Paul Doyle, Environment Agency

1130 Refreshments

**1200 Rayleigh Medal 2022 – Room 1 – King Alfred Conference Chamber (Room 1 or Room 2)
From sound propagation to sound perception
Jian Kang, University College London**

1300 Lunch

- 1400 UK best available techniques (BAT)
Julija Smyrnova, Paul Stevens, Tony Clayton, Environment Agency
- 1430 National Highways Environmental Sustainability Strategy: what it means for future
road noise
Ian Holmes National Highways
- 1500 British Standard BS8233 – Guidance on sound insulation and noise reduction in buildings –
a review
Simon Kahn, Mott MacDonald; David Hillier, Arup

1530 Refreshments

- 1600 Refurbishment of an anechoic chamber at the University of Southampton
Daniel Lurcock, John Fithyan, Glen Barber, University of Southampton
- 1630 Panel Discussion
- 1730 Close