

Acoustics 2016

5-6 SEPTEMBER 2016 – CHESFORD GRANGE, WARWICKSHIRE



09.45 Welcome – Martin Lester, Conference Chairman

ROOM I		ROOM 2	
SESSION I – BUILDING ACOUSTICS		SESSION I – PHYSICAL ACOUSTICS	
Chair. Roger Kelly		Chair. Mike Swanwick	
10.00	Design and commissioning of schools to meet Building Bulletin 93:2014 requirements Jack Harvie-Clark, Adam Cooke, Beth Paxton, Felix Larrieu, Apex Acoustics	10.00	Air-borne surface waves generated over a periodic rough surface Alexander Stronach, Shahram Taherzadeh, Keith Attenbrough, Open University
10.30	Making sense of the acoustic performance of flanking paths for curtain walling systems Nick Conlan, Apex Acoustics	10.30	Sound Propagation through forests and tree belts Keith Attenborough & Shahram Taherzadeh, Open University
11.00	Correlation between subjective privacy and sound insulation in relation to cellular offices and meeting rooms Christina loannidou, Lise W Tjellesen, Peter Brett Associates	11.00	Acoustic propagation over periodic and quasi-periodic rough surfaces David Berry, University of Evora, Portugal, Shahram Taherzadeh, Alexnder Stronach, Keith Attenborough, Open University
11.30	Refreshments and Poster Session	11.30	Refreshments and Poster Session
12.00	RAYLEIGH MEDAL LECTURE 2016: Underground Acoustics Rupert Thornely-Taylor, Rupert Taylor		
13.00	Lunch	13.00	Lunch
SESSIC	DN 2 – BUILDING ACOUSTICS	SESSIC	ON 2 – PHYSICAL ACOUSTICS
Chair. Andrew Parkin		Chair. Mike Swanwick	
14.00	Feasibility study on using acoustic camera for acoustic imaging to detect air leaks in a structure Nikhilesh Patil, Danny Wong Mc-Sweeney, Richard Fitton, Andrew Elliott, David Waddington, University of Salford	14.00	Monitoring and analysis of acoustic emissions from knee joints Ivan Vatolik, Gordon Hunter, Michael Everington, Andy Augousti, Kingston University
14.30	Noise, ventilation and overheating in residential developments Anthony Chilton, ANC, Acoustics, Ventilation and Overheating Group	14.30	Localised elastic waves in structures of complex geometry Victor Krylov, Loughborough University
15.00	Active noise technology to promote natural ventilation in modern urban buildings Grant L Waters, Barry Jobling, Hoare Lea	15.00	Analysis of a low frequency muffler based on the "Acoustics Black Hole Effect" Neha Sharma, Olga Umnova, Andy Moorhouse, University of Salford
15.30	Refreshments and Poster Session	15.30	Refreshments and Poster Session
SESSIC	DN 3 – BUILDING ACOUSTICS	SESSIC	ON 3 – PHYSICAL ACOUSTICS
Chair. Adrian Popplewell		Chair. Mike Swanwick	
16.00	Quantifying noise exposure and natural ventilation performance in urban area Michael Barclay, University of Wales Trinity Saint David, Jian Kang, University of Sheffield	16.00	Terahertz sound lasers (sasers): recent developments and applications Caroline L Poyser, Andrey V Akimov, William York, Richard P Campion, Anthony J Kent, University of Nottingham
16.30	Finite-difference time-domain modelling as a method of predicting the sound reduction through open windows Ze Nunes, Mach Acoustics	16.30	Virtual assemblies and their use in the prediction of vibro-acoustic responses Joshua W R Meggitt, A S Elliott, Andrew T Moorhouse, University of Salford
17.00	Valuing the impact of fundamental design decisions in buildings: the case for noise and overheating Diana Sanchez, Barry Jobling, Hoare Lea	17.00	Perceptual evaluation of the BS4142:2014 penalty method for multiple sound characteristics Chris Youdale, James Woodcock, David Waddington, University of Salford
17.30	IOA Annual General Meeting – followed by refreshments	•••••	

19.00

19.30

Reception

Conference and Awards Dinner

ROOM I

SESSION I – ENVIRONMENTAL NOISE

Chair. Richard Perkins

09.00 Construction noise and vibration monitoring systems, past, present and future

David Nicholls. AECL

09.30 Case study: Forth replacement crossing
Martin Butterfield, Arup

10.00 Experience and lessons learnt from large military infrastructure projects

lan Hepplewhite , James Trow, Amec Foster Wheeler

Managing noise and vibration at Victoria Station upgrade
 Phil McIlwain, Westminster City Council,

Tom Whatling, Caroline O'Connor, Taylor Woodrow

11.00 Refreshments and Poster Session

SESSION 2 – ENVIRONMENTAL NOISE

Chair. David Waddington

11.30 A review of research into human response to the amplitude modulated component on wind turbine noise and development of a planning control method for implementation in the UK

Richard Perkins, Michael Lotinga, WSP UK, Bernard Berry, Berry Environmental, Colin Grimwood, CJG Environmental Management, Stephen Stansfeld, Queen Mary University of London

12.00 A comparative study of dual-screen windshield design approached for noise measurements in high wind environments

David P Robinson, Cirrus Research

12.30 Technology of long term environmental noise survey and accuracy of proxy measurements Moise Coulon, TNEI, Peter Longbottom, VisualWind

13.00 The assessment of tranquillity and noise impact on areas of quiet character

Clive Bentley, Sharps Redmore

13.30 Lunch

SESSION 3 – MEASUREMENT AND INSTRUMENTATION

14.30 BS4142:2014 Measurement Planning and Practice Workshop

Mark Dowie, Bruel & Kjaer UK

Practical guide to planning and performing measurements for BS:4142 with an overview of the acoustic correction features, calculation, assessment and reporting process. This will be followed by a case study with the opportunity for delegates to work in groups to perform calculations and discuss their conclusions.

16.30 Refreshments and Close

ROOM 2

SESSION I - NOISE AND VIBRATION ENGINEERING

Chair. Russell Tipping

09.00 Numerical modelling and case studies in acoustics, dynamics and vibroacoustics

Malcolm Smith, ISVR, University of Southampton

09.30 Using statistical energy analysis (SEA) to predict sound insulation in buildings

Carl Hopkins, University of Liverpool

10.00 FE models of structure borne noise and vibration in buildings

Christos Karatosvis, Daniel Lurcock, ISVR, University of Southampton

10.30 The application of higher-order adaptive finite elements in vibro-acoustic analyses,

Gaurav Kumar, Koen Vansant, Siemens

11.00 Refreshments and Poster Session

SESSION 2 – NOISE AND VIBRATION ENGINEERING

Chair. Malcolm Smith

11.30 Common pitfalls in computer modelling of room acoustics lan Rees, Adrian James Acoustics

12.00 A novel point source method for inverse scattering in waveguides

Rebecca K Haunton, Simon N Chandler-Wilde, University of Reading

12.30 Application of numerical model methods to the design of silencers

Erika Quaranta, Simon Roberts, ISVR, University of Southampton

13.00 Modelling the propagation of rotor stator interaction noise

Tom Richards, Dyson

13.30 Lunch

SESSION 3 - MUSICAL ACOUSTICS GROUP

See overleaf

ROOM 2

SESSION 3 – MUSICAL ACOUSTICS GROUP

Chair. Michael Wright

14.30 A preliminary investigation into emotional responses to emulated violins using electroencephalography
Mohammed Abdulaal, Thomas Lloyd, Patrick Gaydecki,
University of Manchester

14.50 From light to sound: signal modality translation Jiaxuan Wang , Patrick Gaydecki, University of Manchester

15.10 Intelligent loudspeaker design with IIR –to-FIR translation

Sheheera Ismail, Patrick Gaydecki, University of Manchester

15.30 The Stradivarius question: a preliminary insight into virtual emulation and listener evaluation

Thomas Lloyd, Sheheera Ismail, Patrick Gaydecki, Hansa Johnannsson, University of Manchester

15.50 Experiments with choice – practice and pitfalls Richard Seaton. The Open University

16.10 A measurement method for rating the daytime noise impact of church bells
Tim Green, TGS acoustics

16.30 Close





Warwick Castle and grounds - located a few miles a from Chesford Grange

POSTERS

MONDAY & TUESDAY

Reverberation times in furnished and unfurnished classrooms Nicholas Barber, Tom Lucas, Aecom

Fitness noise control products – should we be measuring system or material properties

Paul Gartenburg, Pliteq, Canada

Public exposure to VHF and ultrasound: do we know the risks?

Jack Harvie-Clark, Beth Paxton, Apex Acoustics, Jennifer Bage, Independent

Nonwovens next top models?

Alistair I Hurrell, University of Sheffield, Michail T Pelegrinis, John Cotton Group

Relationship between the temperature and frequency dependence of the damping properties of natural rubber with different epoxidation level

Mahmud Iskander Seth A Rahim, University of Sheffield, Paolo Bonfiglio, Universita degli Studi di Ferrara, Italy

Analysis and characterisation of the road traffic noise mapping of Venice

Daniele Sepulcri, Francesca Remigi, Alessandro Buoso, Angela Scarpa, ARPAV, Italy

Calculating façade sound insulation for different incident spectra: a new method to determine the optimum single number rating

Weigang Wei, Jack Harvie-Clark, Apex Acoustics

A quick method to measure the residual strain on membranes Leiqing Zhou, M Pearce, R Prince, G Colston, O Trushkevych, M Myroniv, V A Shah, D R Leadley, R S Edwards, University of Warwick