

## Monday 5th September

### ROOM 1

09.45 Welcome – Martin Lester, Conference Chairman

### SESSION 1 – BUILDING ACOUSTICS

#### Chair. Roger Kelly

10.00 Designing and commissioning schools to meet Building Bulletin 93:2014 requirements

Jack Harvie-Clark, A Cooke, B Paxton, F Larrieu, Apex Acoustics

10.30 Making sense of the acoustic performance of flanking paths for curtain walling systems

Nick Conlan, J Harvie-Clark, Apex Acoustics

11.00 Acoustics and wellbeing in workplace design

Andrew J Parkin, Cundall

11.30 *Refreshments, Exhibition and Poster Session*

12.00 **RAYLEIGH MEDAL LECTURE 2016:**

Underground Acoustics

Rupert Thornely-Taylor, Rupert Taylor

13.00 **Geoff Kerry Distinguished Service Medal**

Geoff Kerry

13.15 *Lunch*

### SESSION 2 – BUILDING ACOUSTICS

#### Chair. Andrew Parkin

14.00 Feasibility study on using acoustic camera for acoustic imaging to detect air leaks in a structure

Nikhilesh Patil, D Wong Mc-Sweeney, M Benjaber, R Fitton, A Elliott, D Waddington, University of Salford

14.30 Noise, ventilation and overheating in residential developments

Anthony Chilton, J Healey, M Hyden, J Harvie-Clark, D Trew, N Conlan,

ANC, Acoustics, Ventilation and Overheating Group

15.00 Active noise cooling vents for new homes

Grant L Waters, B Jobling, Hoare Lea

15.30 *Refreshments, Exhibition and Poster Session*

### SESSION 3 – BUILDING ACOUSTICS

#### Chair. Adrian Popplewell

16.00 Quantifying noise exposure and natural ventilation performance in urban area

Michael Barclay, University of Wales Trinity Saint David, S Sharples, University of Liverpool, J Kang, University of Sheffield

16.30 Standardising the testing and modelling methods of predicting the sound reduction through open windows

Ze Nunes, C Jones, Mach Acoustics

17.00 Valuing the impact of fundamental design decisions in buildings: the case for noise and overheating

Diana Sanchez, B Jobling, Hoare Lea

17.30 **IOA Annual General Meeting – followed by refreshments**

19.00 **Reception**

19.30 **Conference and Awards Dinner**

**Monday 5th September**

**ROOM 2**

**SESSION 1 – PHYSICAL ACOUSTICS**

**Chair. Mike Swanwick**

- 10.00 Air-borne acoustic surface waves generated over a periodic rough surface  
Alexander Stronach, I Bashir, S Taherzadeh, K Attenbrough, The Open University
- 10.30 Sound Propagation through forests and tree belts  
Keith Attenborough, S Taherzadeh, The Open University
- 11.00 Acoustic propagation over periodic and quasi-periodic rough surfaces  
David Berry, University of Lisbon, University of Evora, Portugal, S Taherzadeh, A Stronach, K Attenborough,  
The Open University
- 11.30 *Refreshments, Exhibition and Poster Session*

12.00	<b>RAYLEIGH MEDAL LECTURE 2016:</b> Underground Acoustics Rupert Thornely-Taylor, Rupert Taylor	<b>ROOM 1</b>
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13.00	<b>Geoff Kerry Distinguished Service Medal</b> Geoff Kerry	<b>ROOM 1</b>
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13.15 *Lunch*

**SESSION 2 – PHYSICAL ACOUSTICS**

**Chair. Mike Swanwick**

- 14.00 Monitoring and analysis of acoustic emissions from knee joints  
Ivan Vatolik, G Hunter, M Everington, A Augousti, Kingston University
- 14.30 Localised elastic waves in structures of complex geometry  
Victor Krylov, Loughborough University
- 15.00 Analysis of a low frequency muffler based on the Acoustics Black Hole Effect  
Neha Sharma, O Umnova, A Moorhouse, University of Salford
- 15.30 *Refreshments, Exhibition and Poster Session*

**SESSION 3 – PHYSICAL ACOUSTICS**

**Chair. Mike Swanwick**

- 16.00 Terahertz sound lasers (sasers): recent developments and applications  
Caroline L Poyser, A V Akimov, W York, R P Campion, A J Kent, University of Nottingham
- 16.30 Virtual assemblies and their use in the prediction of vibro-acoustic responses  
Joshua W R Meggitt, A S Elliott, A T Moorhouse, University of Salford
- 17.00 Perceptual evaluation of the BS4142:2014 penalty method for multiple sound characteristics  
Chris Youdale, J Woodcock, D Waddington, University of Salford

<b>ROOM 1</b>
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| 17.30 | <b>IOA Annual General Meeting – followed by refreshments</b> |
| 19.00 | <b>Reception</b>   |
| 19.30 | <b>Conference and Awards Dinner</b>                          |

**Tuesday 6th September**

**ROOM 1**

**SESSION 1 – ENVIRONMENTAL NOISE**

**Chair. Richard Perkins**

- 09.00 Construction noise and vibration monitoring systems, past, present and future  
David Nicholls, AECL
- 09.30 A case study: the Forth replacement crossing  
Martin Butterfield, Arup, L Shackman, Transport Scotland
- 10.00 Experience and lessons learnt from large military infrastructure projects  
Ian Hepplewhite, J Trow, Amec Foster Wheeler
- 10.30 Managing noise and vibration at Victoria Station upgrade  
Phil McIlwain, Westminster City Council, T Whatling, Taylor Woodrow, C O'Connor, BAM Nuttall
- 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, M Lotinga, WSP |Parsons Brinckerhoff, B Berry, Berry Environmental, C Grimwood, CJG Environmental Management, S Stansfeld, Queen Mary University of London
- 12.00 A comparative study of single and dual-screen windshield design approaches for noise measurements in high wind environments  
David P Robinson, Cirrus Research
- 12.30 The use of proxy measurements to determine wind farm noise compliance, what are the options, is there a need for further guidance?  
James Mackay, M Coulon, J Baldwin, TNEI
- 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, Ian Matthews, Red Twin**

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 1 – NOISE AND VIBRATION ENGINEERING**

**Chair. Russell Tipping**

- 09.00 Numerical modelling case studies in acoustics, dynamics and vibroacoustics  
Malcolm Smith, ISVR, University of Southampton
- 09.30 Using statistical energy analysis to predict sound insulation in buildings  
Carl Hopkins, University of Liverpool
- 10.00 Assessing noise and vibration in buildings using finite element modelling: understanding the factors influencing predictions  
Christos Karatsovis, D Lurcock, ISVR, University of Southampton
- 10.30 The application of higher-order adaptive finite elements in vibro-acoustic analyses,  
Gaurav Kumar, K 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  
Ian Rees, Adrian James Acoustics
- 12.00 A novel point source method for inverse scattering in waveguides  
Rebecca K Haunton, S N Chandler-Wilde, University of Reading
- 12.30 Application of numerical model methods to the design of silencers  
Erika Quaranta, S 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**

**Chair. Michael Wright**

- 14.30 A preliminary investigation into emotional responses to emulated violins using electroencephalography  
Mohammed Abdulaal, T Lloyd, P Gaydecki, University of Manchester
- 14.50 From light to sound: signal modality translation  
Jiaxuan Wang, P Gaydecki, University of Manchester
- 15.10 Intelligent loudspeaker design with infinite impulse response to finite impulse response filter translation  
Sheheera Ismail, P Gaydecki, University of Manchester
- 15.30 The Stradivarius question: a preliminary insight into virtual emulation and listener evaluation  
Thomas Lloyd, S Ismail, P Gaydecki, University of Manchester, H Johannsson, Johannsson Violins, Iceland
- 15.50 Experiments with choirs – practice and pitfalls  
Richard Seaton, D Sharp, A Jones, D N Pim, The Open University
- 16.10 A measurement method for rating the daytime noise impact of church bells  
Tim Green, TGS acoustics, J Pritchard, University of Derby
- 16.30 *Refreshments and Close*

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## POSTERS

A comparison of measured 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, T Nash, Charles M. Salter Associates, USA

Public exposure to very high frequency sound and ultrasound: do we know the risks?

Beth Paxton, Jack Harvie-Clark, Apex Acoustics,

Nonwovens next top model?

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, Università degli Studi di Ferrara, Italy

The assessment of noise from construction of offshore renewable energy infrastructure

Jonathan Sims, Hoare Lea Acoustics

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