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## Papers

### R W B Stephens Medal Lecture

EDUCATION, EDUCATION, EDUCATION, ACOUSTICS, ACOUSTICS, ACOUSTICS (Education and the wonderful world of acoustics) ' %

ROBERT J PETERS, AAD LTD

### Environmental Noise

Towards quantifying the quality of tranquil areas with reference to the National Planning Policy Framework ' %&

GREG WATTS, UNIVERSITY OF BRADFORD

GIS and noise modelling - the sum is greater than the parts ' B#5

JOHN FISK, DANI FIUMICELLI, FREDERIQUE LEMIEUX, TEMPLE GROUP

Analysis, identification and treatment of low frequency noise sources associated with complaints against industries regulated by the environment agency ' &'

JON TOFTS, TONY CLAYTON, ENVIRONMENT AGENCY & DAVID C WADDINGTON, UNIVERSITY OF SALFORD

The role of noise contours in communicating aircraft noise exposure ' ' ' B#5

NICOLE PORTER, ANDY KNOWLES, ANDERSON ACOUSTICS

Noise and environmental impact assessment ' B#5

DANI FIUMICELLI, TEMPLE GROUP, GRAHAM PARRY, ACCON

Absorption and scattering characteristics of soil and leaf ' ' ' %

JIAN KANG, HONGSEOK YANG, CHRIS CHEAL, UNIVERSITY OF SHEFFIELD

Who guidance within environmental assessment '' )

COLIN COBBING, ARM ACOUSTICS, RICHARD GREER, ARUP ACOUSTICS

Underwater noise and determination of effect on the marine environment ``B#5

PAUL LEPPER, LOUGHBOROUGH UNIVERSITY

Building Acoustics

SoundScoop: Development and application of an acoustically optimised low resistance ventilator``('

STUART COLAM, FISH INNOVATION

The highs and lows of domestic sound insulation ``B#5

TOMASZ GALIKOWSKI, DAVID TREW, BICKERDIKE ALLEN PARTNERS

The practical application of G and C50 to describe the acoustic response of classrooms: Measurements and modelling``)%

JACK HARVIE-CLARK, APEX ACOUSTICS

Vibration issues in timber framed apartments caused by domestic appliances ``\*\*

ANDREW PARKIN, CUNDALL ACOUSTICS

Balancing thermal comfort and good acoustic conditions in a naturally ventilated dwelling ``B#5

NICK CONLAN, URS

## Ventilation and noise in residential design ‐‐+(

JACK HARVIE-CLARK, APEX ACOUSTICS

## Refurbishing a performing arts centre ‐‐, ,

RAF ORLOWSKI, RAMBOLL ACOUSTICS

## Development of innovative products for new built homes to meet the tightening building regulations ‐‐- ,

ELENA PROKOFIEVA, SEAN SMITH, JOHN WOOD, EDINBURGH NAPIER UNIVERSITY

## Fast acoustic analysis for rooms of constant height ‐‐%\$\*

PATRICK MACEY, PACSYS

## Noise and Vibration Engineering

## Examining the NVH challenges posed by hybrid and electrical vehicles ‐‐%%)

GAURAV KUMAR, BENJAMIN MEEK, KARL JANSSENS, HERMAN VAN DER AUWERAER, LMS INTERNATIONAL

## Engineering the sound of the Jaguar F-Type ‐‐%&\*

ASHLEY GILLIBRAND, STUART ADLARD, RAYMOND CHEUNG, SIMON COX, GARRY DUNNE, JAGUAR LAND ROVER

## Exhaust sound quality tuning – the influence of vehicle cabin acoustic transfer functions in the exhaust design and development process ‐‐‐% (

ANDREW WOLFINDALE, JAGUAR LAND ROVER

## Design and implementation of a directive sound field for an electric car warning sound ‐‐%&

TOM BIRCHALL, PAUL CLARK, JORDAN MORAN, JORDAN CHEER, STEPHEN ELLIOTT,  
FILIPPO FAZI, ISVR UNIVERSITY OF SOUTHAMPTON

Prediction and measurement of air intake system noise in a  
turbocharged petrol engine during surge events

AJITH V PAI, STEPHEN WALSH, DAN J O'BOY AND RUI CHEN, LOUGHBOROUGH  
UNIVERSITY

Vibration in cycling equipment and the effects on the cyclist

EUGENIE SAINTE CLUQUE, CLEMENT ACOUSTICS LTD

The effect of curvature on the dynamic behaviour of a railway track

DIMITRIOS KOSTOVASILIS, SAMUEL KOROMA, MOHAMMED HUSSEIN, JOHN OWEN,  
UNIVERSITY OF NOTTINGHAM

The effects of railpad nonlinearity on the dynamic behaviour of  
railway track

SAMUEL KOROMA, MOHAMMED HUSSEIN, JOHN OWEN, UNIVERSITY OF NOTTINGHAM

Acoustic black holes: a new approach to vibration damping in light-  
weight structures

VICTOR KRYLOV, ELIZABETH BOWYER, LOUGHBOROUGH UNIVERSITY

Measurement & Instrumentation

The influence of the acousto-optic effect on LDV measurements of  
underwater transducer vibration and resultant field predictions

VICTOR HUMPHREY, MARTIN COOLING, ISVR, UNIVERSITY OF SOUTHAMPTON, PETE  
THEOBALD, STEPHEN ROBINSON, NATIONAL PHYSICAL LABORATORY

Particle velocity and pressure measurements of underwater sound using laser doppler anemometry ``% -

TRIAANTAFILLOS KOUKOULAS, STEPHEN ROBINSON, PETE THEOBALD, GARY HAYMAN  
BRIAN MOSS, NATIONAL PHYSICAL LABORATORY

Advances in the free-field measurements of acoustic particle velocity using gated photo correlation spectroscopy ``&\$+

BEN PIPER, TRIAANTAFILLOS KOUKOULAS, PETE THEOBALD, NATIONAL PHYSICAL  
LABORATORY, ANTONI TORRIS-ROSELL, DANISH FUNDAMENTAL METROLOGY,  
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Stroboscopic contour projection ``&%

MIKE HUTLEY, CONSULTANT

Sound brush measurement technique for 3D imaging of complex stationary sound fields ``&&\$

KARL JANSSENS, FABIO BIANCIARDI, DIRK DE WEER, LMS INTERNATIONAL, BELGIUM

Characterisation of intelligent distributed acoustic sensor in comparison with vibroacoustic sensors ``&&,

VERONIQUE MAHUE, DOUGLAS MILLER, ANDREW CLARKE, TOM PARKER, SERGEY  
SHATLIN, DANIEL FINFER, SILIXA LIMITED

A demonstration 1D waveguide for the intelligent distributed acoustic sensor ``&' \*

DANIEL FINFER, VERONIQUE MAHUE, DOUGLAS MILLER, ANDREW CLARKE,  
MAHMAOUD FARHADIROUSHAN, SILIXA LIMITED

The versatility of the acousto-optic measuring principle in characterising sound fields ``&(&

ANTONI TORRIS-ROSELL, SALVADOR BARRERA-FIGUEROA, DANISH FUNDAMENTAL METROLOGY, DENMARK, FINN JACOBSEN, TECHNICAL UNIVERSITY OF DENMARK

## Speech & Hearing

Vocal stress and acoustics in schools – a pilot study ‘&) %

NICK DURUP, RORY SULLIVAN, SHARPS REDMORE, BRIDGET SHIELD, STEVE DANCE, LONDON SOUTH BANK UNIVERSITY

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Ear canal modelling and categorisation for improved objective hearing protector performance testing ‘&\* (

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ALAN BOYD, UNIVERSITY OF STRATHCLYDE, WILLIAM WHITMER, W OWEN BRIMIJON, MICHAEL AKEROYD, INSTITUTE OF HEARING RESEARCH

Novel digital techniques for echo cancellation applied to speech signals ‘&, '

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## Use of spectrographic analysis to identify "Queenless" in Honey Bee colonies

DON HOWARD, OLGA DURAN, GORDON HUNTER, KINGSTON UNIVERSITY, KRZYSZTOF STEBEL, SILESIAAN UNIVERSITY OF TECHNOLOGY, POLAND

## Underwater Acoustics

### Detection and impact assessment of impulsive underwater noise

PAUL BARKER, PAUL LEPPER, LOUGHBOROUGH UNIVERSITY

### Finite element analysis of ground roll waves produced by piling

PATRICK MACEY, PACSYS LIMITED

### Marine piling acoustics modelling by use of wave equation analysis

MICHAEL WOOD, ISVR, UNIVERSITY OF SOUTHAMPTON

### Effective mitigation method for offshore piling noise

KARL-HEINZ ELMER, OFFNOISE-SOLUTIONS

### DFS simulation of acoustic wave propagation through impedance tube with a temperature gradient

HAYDAR AYGUN, SOUTHAMPTON SOLENT UNIVERSITY, PHILIP RUBINI, UNIVERSITY OF HULL

### Long-term multibeam measurements of the environment around a tidal turbine test site in Orkney, Scotland

PHILIPPE BLONDEL, BENJAMIN WILLIAMSON, UNIVERSITY OF BATH

## Portraying the variability of the underwater sound field associated with renewables to non-expert users

ED HARLAND, CHICKERELL BIOACOUSTICS

## The acoustic effects of the shallow water fast current environment around marine turbines

PETER DOBBINS, ULTRA ELECTRONICS SONAR SYSTEMS

# Musical Acoustics

## Studies with a small gamelan gong

ROBERT PERRIN, MASSEY UNIVERSITY, SININ HAMDAN, UNIVERSITI MALAYSIA  
SARAWAK, BEN HALKON, GERRY M SWALLOWE, LOUGHBOROUGH UNIVERSITY

# Supervised signal processing for separation and independent gain control of different percussion instruments using a limited number of microphones

SHAHAB FAIZ MINHAS, ANTONY BARTON AND PATRICK GAYDECKI, UNIVERSITY OF MANCHESTER

The Mari-Cha Lion - did it once roar? '' )'

DAVID SHARP, OPEN UNIVERSITY

## Pitch drift in a capella choral singing - work in progress

RICHARD SEATON, DENNIS PIM, DAVID SHARP, OPEN UNIVERSITY

Radiation efficiency and radiativity sound fields of classical guitars .....\*)

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Perceptual thresholds for string-body coupling in guitars ' +'

WILIAM ROBERTS, CARDIFF UNIVERSITY

Mode placement in guitars revisited ' , %

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Measurement of radiated sound from the violin and other stringed instruments by acoustic measurements inside their hollow shells ' (\$%

COLIN GOUGH, UNIVERSITY OF BIRMINGHAM

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A detailed study of single reeds for early, and folk instruments ' (&)

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A review of the pipe organ related research carried out at the University of Edinburgh over the past ten years ' (' '

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