

Reproduced Sound 2013

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# **Delivering the Experience – from imagination to realisation in audio**

12-14 November 2013 – Renaissance Hotel, Manchester



## TUESDAY 12 NOVEMBER 2013

## 14.00 BBC Research at MediaCityUK - Tour

You will be able to listen to original 3D audio recordings and object-based productions using a cutting-edge, 26 loudspeaker system. The tour will also feature demonstrations of a system which can extract mood information from music and new web-based audio applications e.g. to create a personalised football experience. A 'behind the scenes' tour of the BBC facilities will also be included in the visit. <http://www.bbc.co.uk/showsandtours/tours/salford.shtml>.

## 18.00 University of Salford at MediaCityUK - Demonstrations

After a drinks reception in the Reception at the University of Salford's MediaCityUK research facility, we will be given demonstrations of an Ambisonics rig with gesture control, in the digital performance lab. This rig has been developed as part of the FascinateE project (<http://www.fascinate-project.eu/>). Ben Shirley will also describe the audio capture system used at the events which are rendered in the ambisonics rig.

Note that both the BBC Tour and the University of Salford Demonstrations will occur at MediaCityUK and each will incur a small supplementary cost. Please indicate your attendance on the booking form. It may be necessary to limit numbers to the tours. If so, this will be done by date of arrival of the completed registration form.

## WEDNESDAY 13 NOVEMBER 2013

## 09.00 Introduction

*Paul Malpas, Electroacoustic Group Chairman*

## Keynote paper

## The sound of entertainment

*Dennis Baxter, Baxter Sound*

SESSION 1 – SPATIAL AUDIO *Chair: Mark Bailey*

## 10.15 A study into the broadcasting surround production chain

*Andrew J Horsburgh, Derek Turner & Jamie Size, University of the West of Scotland*

## 10.45 Investigation into the impact of 3D surround systems on spatial quality

*Paul Power, University of Salford*

## 11.15 Coffee

SESSION 2 – PERCEPTION 1 *Chair: Adam Hill*

## 11.45 An investigation into the perception of reproduced urban soundfields

*Tobias Ackroyd, University of Salford*

## 12.15 On the subjective nature of binaural externalisation

*Alistair Plail & Bruno Fazenda, University of Salford*

## 12.45 Subjective evaluation of audio egocentric distance in real and virtual environments using wave field synthesis

*Samuel Moulin, Rozenn Nicol & Laetitia Gros, Orange Labs, France*

## 13.15 Lunch

## 13.45 Poster Session

SESSION 3 – MODELLING *Chair: Paul Malpas*

## 14.30 Improving speech intelligibility using numerical sound system optimization

*Wolfgang Ahnert & Stefan Feistal, AFMG Technologies, Germany*

## 15.00 Validation of the binaural room scanning method for cinema audio research

*Linda A Gedemer, University of Salford*

## 15.30 Ear canal modelling with in situ in-ear devices

*John Braiden, Braiden Acoustics*

## 16.00 Tea

SESSION 4 – INTELLIGIBILITY *Chair: Helen Goddard*

## 16.30 Self-monitoring and self-optimising PA systems

*Sander van Wijngaarden & Jan Verhave, Embedded Acoustics, The Netherlands*

## 17.00 On the importance of the speech spectrum on the STI calculations

*Lorenzo Morales, London South Bank University & Glenn Leembruggen, ICE Designs, Australia*

## 17.30 The problems with minimum STI

*Anthony Stacey, AMS Acoustics*

## 18.00 PETER BARNETT MEMORIAL STUDENT AWARD 2013

Electro-acoustic design of voice alarm systems for underground stations

*Luis Gomez-Agustina, London South Bank University*

## 19.00 Reception

## 19.30 Conference Dinner

**THURSDAY 14 NOVEMBER 2013**

	<b>SESSION 5 – PERCEPTION 2</b> <i>Chair: Glenn Leembruggen</i>
09.00	Quality, timbre and distortion: perceived quality of clipped music <i>Trevor Cox, Bruno Fazenda, Stephen Groves-Kirby, Iain Jackson &amp; Paul Kendrick, University of Salford</i>
09.30	Perception and evaluation of audio quality in commercial music production <i>Alex Wilson &amp; Bruno Fazenda, University of Salford</i>
10.00	Low frequency sound source localisation as a function of closed acoustic spaces <i>Adam Hill, University of Derby &amp; Malcolm Hawksford, University of Essex</i>
10.30	What happens when we move off-centre <i>Darius Satongar, Chris Pike &amp; Yiu W Lam, University of Salford</i>

11.00	Coffee
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	<b>SESSION 6 – MEASUREMENT</b> <i>Chair: Keith Holland</i>
11.30	Determination and display of 3D room impulse response <i>Daniel Protheroe, Keith Ballagh &amp; Daryl Prasad, Marshall Day</i>
12.00	A simplified, automated system for measuring room acoustic responses <i>Robert Walker, Consultant</i>
12.30	Using maximum entropy to achieve better acoustical measurements <i>Jamie Angus, University of Salford</i>

13.00	Lunch
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13.30	Poster Session
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**POSTERS**
**POSTER SESSION – HELD DURING LUNCH ON BOTH DAYS**

Radiation efficiency and radiativity sound fields of classical guitars  
*Ian Perry & Bernard Richardson, Cardiff University*

Improving the low frequency directivity of line-array microphones  
*Udo Wagner, Microtech Gefell, Germany & John Willett, Sound-Link ProAudio*

Audio Flipboard: a spatial audio display exploiting simultaneity in the presentation of a collection of organised media articles  
*Ben Shirley & Joe Sinker, University of Salford*

Radiation efficiency and radiativity sound fields of classical guitars  
*Ian Perry & Bernard Richardson, Cardiff University*

Awareness system for headphone users  
*Jonathan Kay & Bruno Fazenda, University of Salford*

In situ measurement of the sound absorption characteristics of existing building fabrics  
*John Grimes, Oliver Kinnane & R Walker, Trinity College, Ireland*

14.00	EAG AGM
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	<b>SESSION 7 – PHYSICAL ACOUSTICS AND LOUDSPEAKERS</b> <i>Chair: Bob Walker</i>
14.30	Acoustics of cinema screens <i>Philip Newell, Consultant, Spain, Jana Guijarro Garcia, Keith Holland, ISVR, University of Southampton</i>
15.00	IOA/IAC YOUNG PERSON'S AWARD FOR INNOVATION IN ACOUSTICAL ENGINEERING 2013 Array-based TV listening aid for the hearing impaired <i>Marcos F Simón &amp; Stephen J Elliott, University of Southampton</i>
15.30	Drive granularity for straight and curved loudspeaker arrays <i>Ambrose Thompson, Martin Audio</i>

16.00	Tea
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	<b>SESSION 8 – SOUND REINFORCEMENT</b> <i>Chair: John Taylor</i>
16.30	A scientific approach to microphone placement for cymbals in live sound <i>Joshua Harrison &amp; Adam Hill, University of Derby</i>
17.00	The propagation of low frequency sound through an audience <i>Elena Shabalina, d&amp;tb audiotechnik, The Netherlands</i>
17.30	Use of ambisonics reproduction techniques for popular music – a jazz music concert application <i>Serafino Dirosario, Buro Happold</i>

18.00	Close
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**FRIDAY 15 NOVEMBER 2013**

10.00-	<b>Manchester Royal Exchange Theatre</b>
-12.30	Note that the Royal Exchange Theatre visit is provided without cost and all delegates are welcome.



Manchester Royal Exchange Theatre is unusual in that the theatre is a 7 sided glass module suspended within the old Manchester Cotton Exchange building. With 56 channels of surround and 230 speaker points both inside and outside the theatre module, plus the ability to open the roof into the large exchange space, the flexibility they can offer the sound designer is immense. The visit will include a tour of the theatre and sound facilities. The sound department staff will be on hand to answer questions and will put together a variety of demonstrations to show what their craft can bring to a production.

# REGISTRATION FORM

**REPRODUCED SOUND 2013 – 12-14 NOVEMBER 2013**

Name:

Business:

Address:

Postcode:  E-mail:

Telephone:  Fax:

ONLINE REGISTRATION IS AVAILABLE AT: [WWW.IOA.ORG.UK](http://WWW.IOA.ORG.UK)

All prices inclusive of VAT

**Delegate Fee:** *(includes refreshments and lunch on Wednesday & Thursday, conference dinner on Wednesday & CD proceedings)*

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|---|----------|
| <input type="checkbox"/> Fee for Authors <i>(giving presentation)</i>   | £ 220.00 |
| <input type="checkbox"/> Fee for Members, IOA, ISCE, AES, ABTT, APRS, other authors & overseas delegates                          | £ 440.00 |
| <input type="checkbox"/> Fee for Non-members  | £ 490.00 |
| <input type="checkbox"/> Fee for Students <i>(I enclose written confirmation of my student status from my Head of Department)</i> | £ 60.00  |
| <input type="checkbox"/> I will attend the BBC MediaCityUK Tour   | £ 10.00  |
| <input type="checkbox"/> I will attend the University of Salford MediaCityUK Demonstrations                                       | £ 10.00  |

**Day Rate:** *(please indicate which day you will attend. Covers CD proceedings, refreshments and lunch)*

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|--|-----------------------------------|---------------------------------|----------|
| Members  | <input type="checkbox"/> Thursday | <input type="checkbox"/> Friday | £ 250.00 |
| Non-members  | <input type="checkbox"/> Thursday | <input type="checkbox"/> Friday | £ 300.00 |
| Students   | <input type="checkbox"/> Thursday | <input type="checkbox"/> Friday | £ 60.00  |
| <input type="checkbox"/> Conference Dinner on Wednesday 13 November 2013 for day delegates |                                   |                                 | £ 45.00  |
| <input type="checkbox"/> I would like vegetarian meals                                     |                                   |                                 |          |

**Sponsorship Package:** *(additional exhibitors should register at members rates – full details available at [www.ioa.org.uk](http://www.ioa.org.uk))*

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| <input type="checkbox"/> Sponsorship & Exhibition Fee | £ 1,200.00 |
| <input type="checkbox"/> Educational Exhibition Fee   | £ 800.00   |

**Accommodation:**

A number of rooms have been reserved at the Renaissance Hotel and bookings can be made through VenueFixers, full details on the IOA website. Email: [scarlett@venuefixers.com](mailto:scarlett@venuefixers.com) or call on 07791 038265 please quote "IOA Reproduced Sound Event", £99.00 B&B inc VAT per night

**Proceedings:**  I am unable to attend the conference. Please send me a copy of the Conference CD proceedings.

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| <input type="checkbox"/> Members £20.00 | <input type="checkbox"/> Non-Members £30.00 |
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**Payment instructions:**

Total: £

There are four ways to pay. Please indicate your chosen method: (CANCELLATIONS ARE PAYABLE IN FULL)

- 1. Cheques:** Payable to "Institute of Acoustics" (in £ Sterling drawn on UK bank account)
- 2. Direct to Bank:** BACS: Account No: 00375204 Sort Code: 30 94 81  
**Bank Transfer:** SWIFT LOYDGB21024 IBAN GB27LOYD30948100375204  
**Bank Address:** Lloyds TSB Knightsbridge Branch, PO Box 663, 79-81 Brompton Road, London SW1 1DD  
*A copy of the instructions to the bank should be attached with the registration form. Please quote 'RS2013' and the name of the delegate registered.*
- 3. Invoice:** Please supply purchase order number:
- 4. Credit Card/Debit Card:** I enclose credit card details for the full amount: VISA, DELTA, MASTERCARD, MAESTRO, ELECTRON  
 Card Number:              
 Card Expiry Date:  /  Security Code:    *last 3 digits on back of card*  
 Maestro only: Issue No.  or Valid from:  /
- Card holders name: *(if different from above)*
- Card holders address:
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- Postcode: