



TECHNICAL SYMPOSIUM 2016

Integration for whole life building performance



14-15 APRIL
HERIOT-WATT
UNIVERSITY
EDINBURGH

Session programme

Hosted by: Gold Sponsor Silver Sponsors In association with: Claim over 5 hours CPD per day





Day one – morning

08:45 – Registration and refreshments

09:30 Room A

Tim Dwyer, Symposium Chair

Welcome: Representative from Heriot-Watt University

Opening address: John Field, CIBSE President Elect and Native-Hue Ltd

9:45 Room A Session 1

Integral Design to improve communication and sub-solution generation in building design collaboration

Wim Zeiler, University of Technology Eindhoven, Netherlands

10:10 – Parallel sessions

Room A Session 2 – Integrating technology to ‘close the loop’

Chair: Cathie Simpson, CIBSE Vice President, Building Simulation Ltd

The role of crowd-sourced data in improving the accuracy of energy use forecasts
Judit Kimpian, AHR

Practical use of CO₂ sensors for early life cycle energy and comfort performance
Sarah Noye, Imperial College London

The use of low cost infrared cameras for checking thermal insulation and other building services applications
Colin Pearson, BSRIA

Monitoring energy and environmental performance of an innovative low energy refurbishment of a historic council office building
Rajat Gupta, Oxford Brookes University

Room B Session 3 – Solutions for a real world

Chair: Karen Jackson, Hurley Palmer Flatt

Development of calibrated operational models of existing buildings for real-time decision support and performance optimisation

Daniel Coakley, Integrated Environmental Solutions (IES) Ltd.

An investigation of cooling unit performance on the London underground train network
Graeme Maidment, London South Bank University

Real-world validation of climate-based daylight metrics: mission impossible?
John Mardaljevic, Loughborough University

Case Study: Investigation into the Possible Benefits of Joint Resistance-Based Thermal Modelling
Liam Commins, London South Bank University

Room C Session 4 – Collaborating to succeed
Chair: Tim Rook, BESA

Using SysML as a collaboration tool in MEP engineering
Michael Wigington, Imperial College London and J Dunton Associates Ltd

Reducing data centre risk and energy consumption through stakeholder collaboration
Sophia Flucker, Operational Intelligence Ltd

Domestic overheating – an integrated approach from designer to occupant
William Wright, BRE

Zero energy retail – a breathing building for Costa Coffee
Owen Connick, Breathing Buildings

11:50 Room A Session 5 – Symposium sponsor address Chris Goggin, Rinnai UK



11:55 Room A Session 6 – Compendiary presentations Chair: Phil Jones, Chair CIBSE Energy Performance Group, Building Energy Solutions

Evaluation of passive cooling design technologies in residential building in mauritius
Najiah Kaudeer, Scene Ries Consult Ltd, Mauritius

Using Passivhaus methodology to eliminate the performance gap in large scale non-domestic UK buildings – the growing evidence Jonathan Hines, Architype

Acoustic insulation for mechanical spaces, reducing noise and vibration caused by MEP services
Mete Oguc, Acrefine Engineering Services Ltd.

A prototype environmental control strategy using a user-centred approach for residential facilities
Maral Rahmani, University of Southern California

12:20 – Lunch and posters

Day one – afternoon

13:20 – Parallel sessions

Room A Session 7 – BIM for real projects

Chair: Charlotte Mercer, Cundall

Digital masterbuilders: modernising communication between designers and constructors

Edward Godden, Ingleton Wood LLP

BIM for integrated design, construction, commissioning, operation and maintenance

Barry Wormald, THINK BIM

Identifying use cases and data requirements for BIM based energy management processes

Hendro Wicaksono, Karlsruhe Institute of Technology, Germany

Application of NRM3 in asset data classification In BIM: A Case Study Report Dolapo Oluteye, University College London

Room B Session 8 – Enhancement through assessment

Chair: John Field, CIBSE President Elect and Native-Hue Ltd.

Impact of carbon reduction plans on building energy in US mega cities

Benjamin Skelton, cycloneENERGYgroup

NABERS: Everybody needs good NABERS

Ian Van Eerden, Northrop Consulting Engineers Pty Ltd and Paul Angus, Erbas

Achieving what NABERS achieves – A lessons learned approach for the implementation of nabers in the UK

Samantha Carlsson, Hoare Lea

Design for performance: a scheme to guarantee new build energy performance
Robert Cohen, Verco

Room C Session 9 – Perfecting practice

Chair: Andrew Saville, CIBSE Board Member, Armville Consultancy

Learning Together: Preparing collaborative professionals for future practice in the built environment industry

Alex MacLaren, Heriot-Watt University and Sarah Birchall, BSRIA

Why many engineers are doing less early stage HVAC sizing analysis and why it's important

Andrew Corney, Sefaira

Procurement routes and building performance

Julie Godefroy, Hoare Lea

3D business plan

Satheesh Jacob, Ramboll UK Ltd and Stephen Appleton, Ramboll UK Ltd

15:00– Refreshments and posters

15:25 – Parallel sessions

Room A Session 10 –
Interrogating systems
performance

Chair: Laura Dunlop, WIBSE
Chair, GLD Technical
Consulting

Occupant satisfaction
signatures: Longitudinal
studies of changing comfort
perceptions in two non-
domestic buildings

Roderic Bunn, BSRIA
and UCL

Analysis of high resolution
terminal unit performance data

Mike Darby, Demand
Logic

How well are your renewable
energy systems actually
performing?

Alasdair Donn, Willmott
Dixon Energy Services

Cost effectiveness of heat
meters within communal or
district heating schemes

Andrew Cripps, AECOM

Room B Session 11 – Reaching
beyond standards

Chair: David Fitzpatrick,
CIBSE Patrons, Wedge Group
Galvanizing Ltd

The accuracy of thermal
comfort zone, ASHRAE
standard 55-2013

Dimitris Theodossopoulos,
University of Derby

Think outside the box: ‘Churn’
and the Environmental Impact
of Office Fit-Out Retrofit

Theodora Tsolaki, Heriot-Watt
University

Retrofitting existing housing
stock: The role of professional
advice in supporting
householders and installers
Professional collaboration -
lessons for the future

Sadhbh Ni Hogain,
Haringey Council

Architectural education for
green building design

Julia Mundo, Benemerita
Universidad Autonoma de
Puebla, Mexico

Room C Session 12 –
Delivering solutions with intelligent
analysis

Chair: Chris Jones, CIBSE
HCNW Chair

Uncertainty, BIM and whole
life environmental impacts of
building services

Mike Medas, AECOM

Operational performance
targets in a daylighting
design process of a green
international airport terminal in
the tropics

Siti Norzaini Zainal Abidin,
International Islamic University
Malaysia and Shireen Kasim,
International Islamic University
Malaysia

Flow simulation of property-
scale rainwater systems

Achala Wickramasinghe,
Heriot-Watt University

Office displacement ventilation
using computation fluid
dynamics as a design tool

Vasilis Maroulas, Arup

17:00 Room A Session 13 – Debate - Putting our head above the parapet is impossible with the present industry structure

Chair: Richard Rooley, Project Management Partnership Ltd

18:00 – Day one close

Coaches to Edinburgh Castle leave at 18:15 from Gait 1

19:15 – Informal buffet reception and tour of the Crown Jewels at Edinburgh Castle – all delegates welcome

19:30 – Opening remarks by Nick Mead, CIBSE President and NMa

08:30 – Registration and refreshments

09:00 Room A

Chair: Nick Mead, CIBSE President and NMa

Room A Session 14 – UK Centre for Moisture in Buildings

Phil Banfill, Heriot-Watt University

09:15 – Parallel sessions

Room A Session 15 – Building energy renovation and retrofit

Chair: George Adams, Past CIBSE President, SPIE UK

Core bundles of technologies to achieve deep energy retrofit with major building renovation projects

Alexander Zhivov

Advanced business and financial models for Deep Energy Retrofit (DER)

Rüdiger Lohse

Deep energy retrofit of buildings in Europe and the USA. – analysis of case studies

Ove Mørck, Cenergia Energy Consultants, Denmark

An analysis of energy efficient retrofit strategies for office buildings in China

Runming Yao, University Of Reading

Room B Session 16 – Integrating comfort and energy efficiency

Chair: Derek Clements Croome, Reading University

Energy efficient district heating in practice – the importance of achieving low return temperatures

Martin Crane, Carbon Alternatives Ltd

An investigation into the effects of workplace designs upon occupant well-being, satisfaction and performance

Gary Middlehurst, University of Reading

Evaluating the performance of the mixed-mode ventilation strategy at Horizon House

Ashley Bateson, Hoare Lea 

Quantifying performance potentials of advanced facades

Stephen Selkowitz, Lawrence Berkeley National Laboratory

10:55 Refreshments and posters

11:20 Room A Session 17 – Forecasting performance and cost Chair: Stuart MacPherson, CIBSE Honorary Treasurer, Irons Foulner

Semantically enriched BIM life cycle assessment to enhance buildings' environmental performance

Yair Schwartz, University College London

Integration of life cycle assessment tools in the design process of low-carbon buildings

Sahar Mirzaie, Heriot-Watt University

How operational data is used to test assumptions in the SAP methodology

John Henderson, BRE

Life cycle cost of mechanical and electrical services

Haniyeh Mohammadpourkarbasi, Beverly Clifton Morris (BCM)

11:20 Room B Session 18 – Resilient Cities Chair: Susie Diamond, CIBSE Future Cities Group, Inklings LLP

Aspects of energy use by UK air conditioning

Roger Hitchin


Adapting to improved thermal envelopes with 2-pipe fan coil systems in London

Dinachi Onuzo, AECOM

Comparative analysis of traditional vs. sustainable chilled water plant design in Saudi Arabia

Syed Mustafa Ali, Al-Hamdan Consulting Office

Heat pipes for enhanced dehumidification

Richard Meskimmon, S & P Coil Products Limited 

13:00 – Lunch and posters

Day two – afternoon

14:00 Room A – Session 19 – Unleashing opportunities with future thinking

Chair: Lynne Jack, Heriot-Watt University

An operational lifetime assessment of the carbon performance of gas fired CHP led district heating

Stuart Allison, Arup

Opportunities for surface water source heat pumps in the UK and an Introduction to the CIBSE/HPA/GSHPA Code of Practice

Phil Jones, Building Energy Solutions

Sublime chaos and complexity in construction. Each profession and trade as a divergent attractor

Richard Rooley, Project Management Partnership Ltd



One Planet, One environment, one chance. A Study

George Adams, SPIE UK



15:40 Break area – Conference close, prize presentation and drinks reception

Chair: Hywel Davies, CIBSE Technical Director

16:20 – (approximately) Day two close



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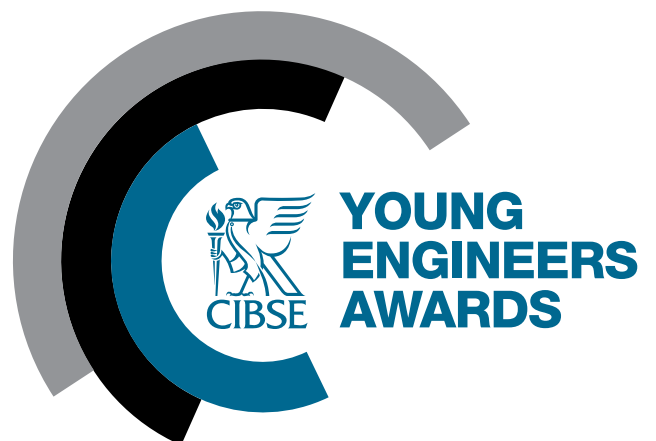
- Learn from the most innovative and influential built environment professionals
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