

# HERITAGE BUILDINGS: KEEPING VALUED BUILDINGS WORKING EFFICIENTLY.

Institution of  
**MECHANICAL  
ENGINEERS**

Construction and Building  
Services Division  
**Seminar**

20 November 2013  
St. Paul's Cathedral, London  
[www.imeche.org/events/S1749](http://www.imeche.org/events/S1749)

**INCLUDES  
GUIDED  
TOUR OF  
ST PAUL'S  
CATHEDRAL**



## WHY YOU SHOULD BE THERE

### Join architecture and construction experts to examine engineering solutions for working with heritage buildings, in the impressive setting of St Paul's Cathedral.

Understand how, as architects and engineers, we can balance building envelope improvements and services upgrades with planning legislation and wider heritage sensitivities in a pragmatic and effective way.

Featuring case studies of, among others, King's Cross station, Bath Abbey and the Archive Centre at St John's College, Cambridge, this is a superb opportunity to examine how historically important buildings

have been refurbished, upgraded and updated to meet their current requirements. Many of the projects under discussion were required to deliver increased energy efficiency and reduced carbon emissions, incorporating sustainability factors and wider principles and practice of sustainable buildings and services.

Limited spaces are available on a behind-the-scenes tour of St Paul's Cathedral, where you will explore areas not usually open to the public.

## BENEFITS OF ATTENDANCE:

- Hear how heritage and traditional buildings have been updated for their current or new purposes
- Discover how the energy efficiency of older and valued building has been improved, using new, novel or existing energy sources
- Explore how modern refurbishment techniques have been successfully applied to older buildings
- Meet and network with experts in construction, energy efficiency and architecture

**WHEN** 20 November 2013  
**WHERE** St Paul's Cathedral, St Paul's Churchyard, London EC4M 8AD  
**BOOK ONLINE** [www.imeche.org/events/S1749](http://www.imeche.org/events/S1749)

## SUPPORTING ORGANISATIONS



**London South Bank University**

## SPONSORSHIP & EXHIBITION OPPORTUNITIES

### GET INVOLVED

Attending this event as either an exhibitor or sponsor will give you the opportunity to display your solutions, services and products to the right people at the right time.

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For sponsorship and exhibition enquiries, please contact **Aman Duggal** on +44 (0)20 7973 1309 or email [sponsorship@imeche.org](mailto:sponsorship@imeche.org)

### BENEFITS OF SPONSORING

- Plant yourself firmly in the minds of key decision-makers
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- Be associated with industry-wide publicity
- Enjoy well-targeted networking opportunities
- Have your company logo and URL featured on our website

## SPEAKERS AND CONTRIBUTORS



### ANT WILSON

DIRECTOR, AECOM

Ant has spent 35 years designing, researching and promoting building services engineering. He has led research projects and worked on some of the most challenging and technically advanced buildings in the world.



### BRIAN CUTHBERTSON

HEAD OF ENVIRONMENT AND SUSTAINABILITY, DIOCESE OF LONDON  
Brian practised as an architect for 14 years, before joining the Diocese of London in the 1990s. In his current role, he advises the Bishop of London on the environment and climate change, and supports the Diocese's church and members to mitigate their energy consumption.

### DAVID JACKSON

SENIOR ARCHITECT (HERITAGE),  
JOHN MCASLAN + PARTNERS

David has 35 years' architectural experience, in the last 15 years concentrating on conservation and refurbishment of historic buildings, and new building in historic contexts, including the King's Cross station upgrade.

### GEOFF RICH

ARCHITECT, PARTNER AND STUDIO LEADER, FEILDEN CLEGG BRADLEY STUDIOS LLP (ARCHITECTS)

Geoff joined FCB in 1996 after training at Newcastle University. He has a keen interest in conservation issues, and is a former Lethaby scholar of the Society for the Protection of Ancient Buildings.

## PROGRAMME

WELCOME  
WEDNESDAY  
20/11

9:00

REGISTRATION

9:30

CHAIRMAN'S WELCOME AND INTRODUCTION

Bruce Arnold, Director, Inspexions

9:45

KEYNOTE: DRIVERS FOR THE REFURBISHMENT OF HERITAGE BUILDINGS

Ant Wilson, Director, AECOM

- Energy efficient heritage buildings
- Government drivers for conservation of fuel and power
- Can heritage buildings be more efficient?
- Comfort and conservation
- Building fabric, HVAC systems, control systems for improved performance

10:15

ROUTE 2050: CUTTING ENERGY AND EMISSIONS FROM HISTORIC CHURCHES

Brian Cuthbertson, Head of Environment and Sustainability, Diocese of London

- Recording and estimating
- Benchmarking energy savings
- Generic building solutions
- How to save
- Learning and iteration

10:45

Q&A

11:00

REFRESHMENTS

11:25

SERVICES IN HISTORIC BUILDINGS

David Jackson, Senior Architect (Heritage), John McAslan + Partners

- Background and previous issues
- Every building is different
- Common problems and some solutions
- Conclusion

11:55

BATH ABBEY'S FOOTPRINT PROJECT: REPAIRING AND IMPROVING THE ABBEY

Geoff Rich, Architect, Partner and Studio Leader, Feilden Clegg Bradley Studios LLP (Architects)

- Energy efficiency and sustainability for the historic environment
- Introducing sophisticated and innovative solutions to Bath's challenges
- Tri-strand project: provision of major new spaces, a structural solution for conserving and repairing the Abbey floor and energy efficiency improvements

12:25

Q&A

12:35

LUNCH BREAK

13:20

TOUR OF ST PAUL'S CATHEDRAL

The tour explores the cathedral floor and crypt, as well as the history of St. Paul's, its architecture and decor. Guides will also take the tour into areas not usually accessible to the public including the stairwell of the famous Geometric Staircase, the Chapel of St. Michael & St. George and the Quire.

## SPEAKERS AND CONTRIBUTORS



### OLIVER CAROE

DIRECTOR, CAROE ARCHITECTURE LTD  
Oliver is a fourth-generation conservation and historic buildings architect. He established his own practice in 2009.



### DAVID ARNOLD

ROYAL ACADEMY OF ENGINEERING VISITING PROFESSOR, LONDON SOUTH BANK UNIVERSITY AND PARTNER, TROUP BYWATERS + ANDERS, CONSULTING ENGINEERS  
David trained as a building services engineer and became a chartered engineer in 1970. For the last 20 or so years he has carried out personal research on the history of building services and buildings.

### BARRY AUSTIN

ASSOCIATE DIRECTOR, OVE ARUP & PARTNERS  
Barry has 34 years' experience in building services engineering, from design and specification of HVAC installations to managing research and field trials.

## PROGRAMME (CONTINUED)

14:30	<p><b>WALKING A NARROW PATH: A NEW USE AND SERVICING STRATEGY FOR THE GRADE I-LISTED 'SCHOOL OF PYTHAGORAS', CAMBRIDGE</b> Oliver Caroe, Director, Caroe Architecture Ltd</p> <ul style="list-style-type: none"> <li>• Developing a strategically viable scheme: understanding the building historically and environmentally</li> <li>• The wider sustainability strategy</li> <li>• Exploring options and opinion-forming in the consents stage</li> <li>• Minimising impact through the environmental servicing strategy</li> </ul>
15:00	Q&A
15:15	<b>REFRESHMENTS</b>
15:40	<p><b>SAVING ENERGY IN CHICAGO'S MAJOR OLDER BUILDINGS</b> David Arnold, Royal Academy of Engineer Visiting Professor, Faculty of Engineering, Science and Built Environment, London South Bank University and Partner, Troup Bywaters + Anders, Consulting Engineers</p> <ul style="list-style-type: none"> <li>• A review of approaches to saving energy in three 50 year old air conditioned buildings that currently retain original air conditioning</li> <li>• Different approaches to how each owner/operator reduce their energy, ranging from simple improvements in control strategies to total renovation</li> <li>• Difficulties in changes to "landmark" buildings in USA</li> <li>• Measures implemented and attempted in last ten years</li> </ul>
16:10	<p><b>HERITAGE BUILDING PERFORMANCE FEEDBACK</b> Barry Austin, Associate Director, Ove Arup &amp; Partners</p> <ul style="list-style-type: none"> <li>• Understanding the opportunities of better energy efficiency, lower operating costs and better occupant satisfaction in heritage buildings</li> <li>• Understanding the importance of performance feedback in this process for those people running and using these buildings and to those designing major refurbishment for conservation or change of use</li> <li>• How building performance evaluation and feedback has been successfully applied in the heritage building sector to iconic buildings and period buildings with modern uses</li> </ul>
16:40	Q&A
16:50	<b>CLOSING REMARKS</b>
17:00	<b>CLOSE</b>

**Find out more about our speakers at [www.imeche.org/events/S1749](http://www.imeche.org/events/S1749)**

- This programme is subject to change.
- The Institution is not responsible for the views or opinions expressed by individual speakers.

**Construction and Building Services Division Organising committee:**  
Bruce Arnold, Director, Inspexions

**We are the market leader among professional engineering bodies. We've been supporting engineers since 1847 and have 100,000 members in over 120 countries, working in the world's most dynamic and important industries. Our comprehensive events programme brings you the latest research and best practice from industry and academia.**

### OTHER EVENTS TO LOOK FOR:

9 October 2013, London

#### **CIBSE BUILDING SERVICES GRADUATE OF THE YEAR.**

Supported by ASHRAE and the Institution of the Mechanical Engineers. This annual prize ceremony sees presentations from the Building Services Graduate of the Year finalists as well as the Institution's CBSD prize winner and ASHRAE President. Networking reception follows.

[www.imeche.org/events/L291](http://www.imeche.org/events/L291)

17 October 2013, Manchester  
7 November 2013, London

#### **MANUFACTURING WITH BIM: ENSURING COST-EFFECTIVE INTEGRATION.**

Use of Building Information Modelling (BIM) is increasing and so are the drivers for manufacturers to embrace it. Hear how manufacturers are already benefiting from developing their products into BIM objects, alongside an update from the Construction Industry Council on the Government's implementation plans.

[www.imeche.org/events/S1766](http://www.imeche.org/events/S1766)  
[www.imeche.org/events/S1780](http://www.imeche.org/events/S1780)

7 November 2013, London

#### **HEALTHCARE VENTILATION.**

Ventilation and air quality are vital within the various theatres, isolation rooms and wards of hospitals and healthcare buildings – and they present extensive challenges for engineers. This one-day seminar examines the engineering challenges and solutions in meeting modern healthcare ventilation standards and requirements.

[www.imeche.org/events/S1799](http://www.imeche.org/events/S1799)

If you are interested in any of these events, please contact  
**Rhiannon Stuart-Jones** on +44 (0)20 7973 1291 or [r\\_stuart-jones@imeche.org](mailto:r_stuart-jones@imeche.org)

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### JOURNALS

**Professional Engineering Publishing** is the publisher for the Institution of Mechanical Engineers. For more information about our magazines, journals and conference proceedings visit [www.uk.sagepub.com/imeche](http://www.uk.sagepub.com/imeche)

You may be interested in:

**Journal of Materials: Design and Applications** (Proceedings of the Institution of Mechanical Engineers, Part L)

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To find out more contact **Subscriptions** on +44 (0)1952 214050 or email [subscriptions@imeche.org](mailto:subscriptions@imeche.org)

### MEMBERSHIP

Whether you're a student, apprentice, graduate, qualified engineer or just have an interest in engineering, Institution membership offers the highest professional prestige. Professional registration is a valuable investment for any engineer who is serious about their career.

Find out which level you're best suited for at [www.imeche.org/membership](http://www.imeche.org/membership) or email us on [membership@imeche.org](mailto:membership@imeche.org).

### GET INVOLVED

Whether you're new to the profession or well established, volunteering is a great way to gain new skills, knowledge and experience. As an Ambassador you have the chance to represent your profession and give something back to the engineering community as well as inspiring the next generation.

See [www.imeche.org/volunteering](http://www.imeche.org/volunteering) for more information or go to <http://nearyou.imeche.org> to find engineering events hosted by volunteers in your area.

### Keep up your CPD

#### **Continuing Professional Development (CPD)**

As part of your professional registration and membership of the Institution of Mechanical Engineers and the Engineering Council, it's your responsibility to keep your skills up-to-date.

Our online Career Developer tool can help you:

- **Plan** Create an Action Plan and identify targets
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Register for Career Developer and get more from your career  
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For tailored advice contact [cpd@imeche.org](mailto:cpd@imeche.org)

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# BOOKING FORM

CONSTRUCTION AND BUILDING  
SERVICES DIVISION  
**HERITAGE BUILDINGS: KEEPING VALUED  
BUILDINGS WORKING EFFICIENTLY.**  
20 NOVEMBER 2013  
**S1749**

## REGISTRATION Please complete in capitals.

Family Name	Title (Mr, Mrs, Miss)
First Name	Job Title
Membership No	Institution
Name of Organisation (for name badge)	
Address for correspondence	
Town/City	
Postcode	
Contact Telephone	
Email	
Do you have any special requirements?	
How did you hear about this event? <input type="checkbox"/> Direct mail <input type="checkbox"/> Website <input type="checkbox"/> Colleague <input type="checkbox"/> Other	

## FEES AND CHARGES Please complete the appropriate box.

Registration fees include entry to the sessions, refreshments, lunch, and a copy of the event proceedings.

DELEGATE FEES	Fee	VAT	Total	£
Institution of Mechanical Engineers Member	£250.00	£50.00	£300.00	_____
Member of supporting organisation	£250.00	£50.00	£300.00	_____
Non-Member	£300.00	£60.00	£360.00	_____
Student / Retired Member	£70.00	£14.00	£84.00	_____

EXTRA ITEMS	Fee	VAT	Total	£
Invoice Charging (if applicable)	£10.00	£2.00	£12.00	_____
			<b>Total</b>	_____

## PAYMENT DETAILS

Payment must accompany this registration form. Registration will be confirmed only on receipt of full payment.

Please indicate method of payment:  Cheque  Credit Card  BACS  Invoice (see below)

Cheques should be made payable to IMechE and crossed. Please note international delegates may pay only by credit card, BACS or banker's draft. A copy of the draft must accompany this form. It is the delegate's responsibility to pay any bank charges.

**Credit Card:**  Visa  MasterCard (please note we cannot accept American Express, Diners Club or Maestro)

Card No	Valid From	/	Expiry Date	/
Name of Cardholder				
Billing Address of Cardholder (if different from above)				
	Postcode			
Amount to be Deducted	Signature			

## INVOICE DETAILS (UK DELEGATES ONLY)

Delegates wishing to be invoiced must provide an order number. If your company does not use order numbers please include a formal request for invoicing on your company's letterhead. A charge of £10 +VAT will be made to cover additional administration costs. Invoices are payable on receipt and no alterations to these terms will be accepted.

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BACS bank transfers can be made to: **IMechE Current Account, NatWest Charing Cross Branch.**  
Sort code: **60-40-05** Acc No: **00817767** A copy of the draft must accompany this form.  
Swift Code: **NWBKGB2L** IBAN Code: **GB96NWBK60400500817767**

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Please complete and return this form to:

## EVENT REGISTRATIONS

Institution of Mechanical Engineers  
1 Birdcage Walk, London SW1H 9JJ  
Fax +44 (0)20 7222 9881

For registration enquiries call  
**Tina Churcher** on +44 (0)20 7973 1258  
or email [t\\_churcher@imeche.org](mailto:t_churcher@imeche.org)

Please read the information listed below as each booking is subject to the Institution's standard terms and conditions.

## CONDITIONS OF BOOKING

Completed application forms should be returned to the address above, along with the correct payment. Attendance at the event will be confirmed on receipt of the full balance. All participants are advised to bring a copy of their confirmation with them on the day, to ensure the fastest possible entry.

## SPECIAL REQUIREMENTS

Please inform us of any special requirements, ie dietary or access, on the relevant section of this form.

## CANCELLATION

For a refund (minus £25 +VAT admin charge), cancellations must be received at least 14 days prior to the event. Replacement delegates are welcome at any time. The Institution reserves the right to cancel any event. In this case, the full fee will be refunded unless a mutually convenient transfer can be arranged. In the event that the Institution postpones an event for any reason and the delegate is unable or unwilling to attend on the rescheduled date, they will receive a full refund of the fee paid.

The Institution is not responsible for any loss or damage as a result of a substitution, alteration or cancellation/postponement of an event. The Institution shall assume no liability whatsoever if this event is cancelled, rescheduled or postponed due to a fortuitous event, Act of God, unforeseen occurrence or any other event that renders performance of this conference impracticable, illegal or impossible. For purposes of this clause, a fortuitous event shall include, but not be limited to: war, fire, labour strike, extreme weather or other emergency.

Please note that while speakers and topics were confirmed at the time of publishing, circumstances beyond the control of the organisers may necessitate substitutions, alterations or cancellations of the speakers and/or topics. As such, the Institution reserves the right to alter or modify the advertised speakers and/or topics if necessary without any liability to you whatsoever. Any substitutions or alterations will be updated on the event's webpage as soon as possible.

## SUPPORTING ORGANISATIONS

Members of supporting organisations can register at members' rates: See page 2 for details.

## VENUE

This event will be held at St Paul's Cathedral, St Paul's Churchyard, London, EC4M 8AD.

## LIABILITY

The organisers do not accept liability for any injuries or losses of any nature incurred by delegates and/or accompanying persons, nor for loss or damage to their luggage and/or personal belongings.

## ACCOMMODATION

Quote ID number 8488ME  
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## ENQUIRIES

For event enquiries, please contact  
**Rhiannon Stuart-Jones**  
on +44 (0)20 7973 1291  
or email [cbds@imeche.org](mailto:cbds@imeche.org)

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