

PASSIVHAUS ENTERS THE MAINSTREAM.

Institution of
**MECHANICAL
ENGINEERS**

Construction and Building
Services Division
Seminar

25 June 2014
One Birdcage Walk, London
www.imeche.org/events/S1820



Passivhaus is an engineering approach to the low energy design of buildings giving a far better operational performance than required by current Building Regulations.

The Institution's *Passivhaus* seminar will provide you with details on specific projects underway in the UK and discuss how creating beautiful, energy efficient, comfortable and affordable buildings requires an integrated design approach.

Hear case studies of completed and ongoing projects including the largest Passivhaus development in the UK: a 12,000m² medical teaching building for the University of Leicester.

This essential seminar will help you learn about the "performance gap" between design aspirations and construction, not only in terms of energy but also comfort performance.

BENEFITS OF ATTENDANCE:

- Meet industry experts who can help you develop your own project
- Gain a better understanding of the Passivhaus process for larger projects
- Hear case studies of completed and ongoing projects
- Opportunity to ask industry experts questions regarding their current Passivhaus projects

WHEN	25 June 2014
WHERE	London
BOOK ONLINE	www.imeche.org/events/S1820



WITH THANKS TO THE MEMBERS OF
THE IMECHE CONSTRUCTION AND
BUILDING SERVICES DIVISION BOARD

Left: 14 Passivhaus dwellings in Ditchingham Conservation Area, Norfolk, opened in September 2012. Designed by Parsons and Whittley

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BENEFITS OF SPONSORING

- Showcase new products
- Raise awareness of your operation
- Improve perception of your brand
- Influence other organisations' spending plans

For more information phone **+44 (0)20 7973 1309** or email sponsorship@imeche.org

SPEAKERS AND CONTRIBUTORS

KYM MEAD

ASSOCIATE DIRECTOR, PASSIVHAUS TRUST

Kym Mead has recently joined the Passivhaus Trust where he is the technical lead. Prior to joining the Passivhaus Trust Kym worked as Head of Low Carbon Buildings at BRE, where he offered and lead strategic advice on the design and construction of low energy buildings, which included consultancy and certification for the Passivhaus and EnerPHit standards. He has detailed knowledge in designing low energy buildings and has trained architects and services engineers in the Passivhaus standard. Kym is also part of the low carbon editorial board for Construction News.

JONATHAN HINES

DIRECTOR, ARCHITYPE LTD AND ARCHIHAUS LTD

Jonathan Hines' focus is to design life enhancing genuinely sustainable architecture. With a life-long commitment to social and environmental sustainability, Jonathan has led the team for many of Architype's pioneering buildings including the Springhill Co-housing Scheme in Stroud, Architype's own award winning sustainable office in Hereford, and the UK's first BREEAM Excellent and Passivhaus schools. Jonathan has been involved in a number of national research projects. He is a Fellow of the Royal Society of Arts and a member of the Design Review Panel of the Design Commission for Wales. In 2011 he was named in a list of the top 50 people most influencing sustainable development in the UK.

CHRIS PARSONS

DIRECTOR, PARSONS + WHITTLEY LTD, CHARTERED ARCHITECTS AND CHARTERED BUILDING CONSULTANTS

Chris Parsons is a Fellow of the Chartered Institute of Building. He has been working on delivering Passivhaus in the UK since 2009, when his practice was first appointed to deliver the ground breaking and award winning Wimbish Passivhaus rural affordable housing scheme. A firm believer in simplicity of detailing and using techniques that evolve from tried and tested UK standards, Chris has delivered over 28 certified Passivhaus units in the UK and his practice is currently working on 10 more projects delivering a total of 43 more Passivhaus units over the next 12 months.

BENEDICT BINNS

PROGRAMME MANAGER, UNIVERSITY OF EAST ANGLIA

Benedict Binns oversees and co-ordinates all built environment related activity within the Adapt Low Carbon Group. He joined the team in March 2010, taking the lead on the InCrops Enterprise Hub initiatives in creating low carbon supply chains using plant based materials in the built environment before taking up the post of Programme Manager for the Centre for the Built Environment. The Centre for the Built Environment draws upon a cluster of expertise within and outside UEA and will be housed in the new Exemplar Low Carbon Building which will be known as The Enterprise Centre – a £15m project supported by ERDF, BBSRC and involving a number of partners and stakeholders. Ben has been instrumental in setting ambitious sustainability targets for the building which include BREEAM Outstanding and Passivhaus certification and construction with the innovative use of local renewable materials.

PROGRAMME

09:00 REGISTRATION AND REFRESHMENTS

09:30 CHAIRMAN'S OPENING REMARKS

09:35 REVIEW OF MAJOR (LARGE SCALE) UK PASSIVHAUS PROJECTS

Kym Mead, Associate Director, Passivhaus Trust

10:00 SCHOOLS AND LARGE HOUSING DEVELOPMENTS

Jonathan Hines, Director, Architype/Archihaus

- The rationale and logic of Passivhaus as an economic solution for mainstream construction in the UK to deliver buildings that work and perform as they should, as evidenced by:
 - The delivery of the UK's first four Passivhaus schools
 - The delivery of the UK's first Passivhaus archive building and the UK's first Passivhaus university building
 - The progress of a new Passivhaus housing development company that will deliver Passivhaus as standard at standard price

10:25 NEW LONDON PASSIVHAUS SCHOOL PROJECT AND OTHER CONSTRUCTION EXPERIENCE

Aurelie Cleraux, Bouygues Construction

10:50 SPEAKER Q&A PANEL

- Kym Mead, Associate Director, Passivhaus Institute
- Jonathan Hines, Architype/Archihaus
- Aurelie Cleraux, Bouygues Construction

11:00 NETWORKING REFRESHMENT BREAK

PASSIVHAUS PUBLIC HOUSING

11:20 AFFORDABLE HOUSING

Chris Parsons, Parsons and Whittlely

- Methodology and design principles
- Energy and comfort
- Costs and payback; housing market anomalies

11:45 THE ECOTECH BUILD SYSTEM – DELIVERING AFFORDABLE PASSIVE HOUSING

Mark Bradbury, Climate Energy Homes

- Is offsite manufacturing the solution to affordable Passivhaus?
- The ecoTECH build system
- Case study: Rainham Passivhaus for Circle Housing

LARGE PASSIVHAUS BUILDINGS

12:10 UEA ENTERPRISE CENTRE PHPP/BREEAM, EMBODIED CARBON AND LOCAL SOURCING

Benedict Binns, Programme Manager, University of East Anglia

- Client brief
- Winning tender
- Risks and challenges of Passivhaus
- Update on build

12:45 SPEAKER Q&A PANEL

- Chris Parsons, Parsons and Whittlely
- Mark Bradbury, Climate Energy Homes
- Benedict Binns, University of East Anglia

13:00 NETWORKING LUNCH

SPEAKERS AND CONTRIBUTORS

STEPHEN BALL

DIRECTOR OF SUSTAINABILITY,
COUCH PERRY AND WILKES

Dr Stephen Ball joined environmental building services consultancy, Couch Perry Wilkes in 2007, and is now Director of Sustainability. He has wide ranging commercial experience in the field of energy efficiency and environmental technology, including development work for British Gas and Ericsson. Stephen holds a PhD in Thermo-Fluid Dynamics and prior to joining CPW he was involved with Research and Development projects for the International Space Station, working closely with scientists and academics from NASA/MIT on thermal/energy performance and space flight qualification. As well as being a Fellow of the Institute of Mechanical Engineers, Stephen is a Chartered Engineer and Chartered Environmentalist.

MARK BRADBURY

DEVELOPMENT DIRECTOR, CLIMATE
ENERGY HOMES

Mark Bradbury is Development Consultant to Climate Energy Homes, owners of the ecoTECH build system, a high quality offsite system delivering homes to Passivhaus and CfSH 4+ quickly and cost effectively. Mark has also worked with Regeneration and Development Agencies including the London Thames Gateway Development Corporation and the Greater London Authority. Mark has also sat on a number of advisory panels for bodies such as the Committee on Climate Change and the Institute for Sustainability.

SALLY GODBER

DIRECTOR, WARM: LOW ENERGY
BUILDING PRACTICE

Sally Godber started her career as a building services engineer specialising in renewable and low energy systems for a diverse range of sectors including historic, industrial and educational buildings. At WARM Sally's main interest has been on comfort, and how this can be achieved alongside improved energy performance, an obvious partner for Passivhaus. Sally set up WARM in 2009 with her father, since then it has grown to be one of the largest consultancies specialising in Passivhaus in the UK, supporting design teams with a balance of theoretical and practical understanding of building physics.

NICK GRANT

FREELANCE PASSIVHAUS CONSULTANT,
PRINCIPAL OF ELEMENTALS SOLUTIONS.
TECHNICAL DIRECTOR OF THE
PASSIVHAUS TRUST (VOLUNTARY)

Nick Grant is a freelance building consultant with a lifelong passion for doing more with less. Nick has no professional qualifications having dropped out of two universities in the 1980s to follow his interests. Whilst thankful for a basic grounding in engineering, he is mostly self-taught. His interest in closing the performance gap led him to his first Passivhaus conference in 2007. Nick is a practical engineer, tinkerer and self-builder with a keen interest in theory as a useful tool. He is known for questioning everything, including the need to question everything.

MICHAEL SWAINSON

PRINCIPAL ENGINEER, BUILDING
DIAGNOSTICS AND HVAC ENGINEERING

Michael Swainson BSc, MSc, PhD is principal engineer in BRE's Building Diagnostics and HVAC Engineering team. He has over 15 years experience designing and undertaking practical investigations into the performance of heating, ventilation and air conditioning systems within buildings, both laboratory based and on site. Michael also lectures at Cranfield University on the MSc Energy Systems and Thermal Processes, in the areas of building services and energy auditing and on the Passivhaus Designer and Passivhaus Systems Installer course at BRE in the areas of mechanical ventilation and heating systems.

PROGRAMME

14:00

MAINTAINING PASSIVHAUS QUALITY AND SUCCESS AS THE INDUSTRY EXPANDS

LOW ENERGY BUILDING PRACTICE

Sally Godber, Director, WARM

- What is the "performance gap" between design aspirations and construction, not only in terms of energy but also comfort performance? How buildings usually fail and the key principals required to minimise the gap.
- What Passivhaus does to address these issues; modelling of low energy buildings during the design, robust construction techniques and certification procedure.
- What problems large scale construction brings to Passivhaus in the UK; in particular how we maintain quality at scale: skilling up a greater workforce and getting suitable products into the market are key to this.

14:25

ENGINEERING DESIGN FOR BUILDINGS

Nick Grant, Freelance Passivhaus consultant, Principal of Elementals Solutions, Technical Director of the Passivhaus Trust (voluntary)

- Creating beautiful energy efficient, comfortable and affordable buildings requires an integrated design approach with the whole team engaged in the creative process.
- Building engineers need to reclaim their role as designers not as technicians tasked with stopping ironic bridges from wobbling.
- Similarly Architects need to embrace the constraints imposed by the laws of nature.

14:50

LARGE NON-DOMESTIC PASSIVHAUS

Stephen Ball, Director of Sustainability, Couch Perry and Wilkes (CPW)

- CPW: Zero Carbon Roadmap and how Passivhaus design slots in.
- Case study: 12,000m² Medical Teaching Building for the University of Leicester – largest Passivhaus development in the UK.
- Passivhaus pros and cons – What's good, what's not so good.

15:15

SPEAKER Q&A PANEL

- Sally Godber, Director, WARM
- Nick Grant, Freelance Passivhaus consultant, Principal of Elementals Solutions, Technical Director of the Passivhaus Trust (voluntary)
- Stephen Ball, Director of Sustainability, Couch Perry and Wilkes

15:25

NETWORKING REFRESHMENT BREAK

VENTILATION OF HIGH THERMALLY EFFICIENT BUILDINGS

15:45

ASSESSMENT OF MVHR INSTALLATIONS

Michael Swainson, Principal Engineer, BRE

- Mech Vent, Nat Vent and air tight buildings
- Experience of MVHRs in the UK
- The way forward for the UK

16:10

CLOSING REMARKS

16:30

END OF SEMINAR

Find out more about our speakers at www.imeche.org/events/S1820

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

BOOKING FORM

SEMINAR CODE:
S1820AB

PASSIVHAUS
ENTERS THE MAINSTREAM
25 JUNE 2014
ONE BIRDCAGE WALK, LONDON

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	
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Do you have any special requirements?	

How did you hear about this event? Direct mail Website Colleague Other

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 News and updates from the Institution
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FEES AND CHARGES Please complete the appropriate box.

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

	STANDARD RATE	TOTAL
Member, Institution of Mechanical Engineers	£283.80 + VAT	£
Member, supporting organisation	£283.80 + VAT	£
Non-member	£356.50 + VAT	£
Student/retired	£104.50 + VAT	£
Invoice charging (if applicable)	£10 + VAT	£

PAYMENT DETAILS

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

PLEASE INDICATE METHOD OF PAYMENT:

- Cheque** 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**
Card type: Visa MasterCard (please note we cannot accept American Express, Diners Club or Maestro)
Card No _____ Valid From _____ / _____ Expiry Date _____ / _____
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Sort Code: **60-40-05** Acc No: **00817767**
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- 1 Online:
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- 2 Post completed booking form to:
**Event Registrations
Institution of Mechanical Engineers
1 Birdcage Walk
London SW1H 9JJ**
- 3 Phone **+44 (0)20 7973 1258**
- 4 Fax **+44 (0)20 7222 9881**
- 5 Email **eventenquiries@imeche.org**

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

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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

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VENUE

This event will be held at One Birdcage Walk, Westminster, London SW1H 9JJ.

LIABILITY

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OTHER EVENTS TO LOOK FOR:

23 September 2014
Birmingham

ENERGY STORAGE

This seminar brings together users and developers of energy storage, along with researchers and policy makers in order to share ideas and understand how energy storage can and will be used in the future.

www.imeche.org/events/C1413

15-17 April 2015
Keele University, Staffordshire

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