

# PROGRAMME: TIMBER 2018

26-27 JUNE 2018 IOM3, 297 EUSTON ROAD, LONDON

A conference for the UK timber industry, presenting the latest trends and emerging research in timber, wood science and related fields.



Organised by the Wood Technology Society, this event brings together wood scientists, technologists, and businesses from all areas of the timber industry. The primary aim is to report the latest developments in timber research in the UK, and to discuss their potential within UK markets as new products or processes.

This new format conference will span all topics related to timber, ranging from the fundamental experiments understanding the nano-scale through to the industrial application and development of new products. Topics range from preservation to panel products; modified wood to engineered lumber. In addition to the oral presentations, posters will be on display throughout the event in the break out room.

The conference is organised by the Wood Technology Society of the Institute for Materials, Minerals and Mining (IOM3). Members of IOM3 societies such as the Wood Technology Society are entitled to a member rate. Membership information for the Wood Technology Society can be found on the IOM3 website: <http://www.iom3.org/membership-and-registration-join-us>

The event will be held in the IOM3 headquarters, 297 Euston Road, London. This central London location can be easily accessed from Warren Street tube station.

Registration information can be found on the IOM3 website on the following link: <https://www.iom3online.org/timber2018>

Delegate fees include all sessions, a copy of the conference proceedings and all refreshments.

Full registration £295 plus VAT (members £250 plus VAT)

Student registration £245 plus VAT (student members £200 plus VAT)

For all queries relating to the event you can contact the conference organisers on [timber2018@bangor.ac.uk](mailto:timber2018@bangor.ac.uk)

# TIMBER 2018: PROGRAMME

26<sup>th</sup> June 2018

## 9.00 Timber structures

Stephan Zaugg (Zaugg Baut + Bewegt) – Dawn of a new era – world's first timber built car park

Audley English (BuildEco) – Introducing a timber 3D building system manufactured from C24 or LVL

Adrian Campbell (changebuilding) – What engineers don't know about wood: an engineer's perspective on key knowledge gaps in the use of mass timber

Coffee Break – posters will be on display during all session breaks

## 11.00 Characterisation of properties

C-B Ong, M.P. Ansell, W.S. Chang and P. Walker (Bath University) – Bending properties of finger jointed Malaysian dark red meranti

R. Adey-Johnson, P. Mclean, J. Van den Bulke, J. VanAcker and P. McDonald (Surrey University) – A digital, microstructural model of softwood

S. Garrett, D. Jesson, G. Pans, C. Phanopoulos and J. Watts (Surrey University) – A model for the micro-mechanical characterization of wood fibres

Qiushi Peng (Sheffield University) – Timber chemical composition and its mechanical properties

Lunch break

## 2.00 The wood value chain

Daniel Ridley Ellis (Edinburgh Napier University) – Strength grading of timber in the UK in 2018

M. Spear, A. Norton, C Hill and G. Ormondroyd (Bangor University) – Considering timber as biogenic carbon: the built environment and carbon sequestration

C. Greenslade, S. Morse and R. Murphy (Surrey University) – The long and winding road: from forests to markets in South East England

A. Dimitriou, P. Ellis, M. Spear, S. Curling, R. Jones and G. Ormondroyd (Bangor University) – Adding value to UK grown timber in construction: a challenging opportunity in a future market

Tea break

## 4.20 Coatings and adhesives

S. Uphill, F. Bongers and S. Ashton (Accsys Technologies) – Coating performance in acetylated wood

Rob Elias and Radek Braganca (Bangor University) – Biobased adhesives for wood based panels

Nyle Parker (Cardiff University) – RF curing of MUF resin and dielectric properties

Conference dinner

Day 2: 27<sup>th</sup> June 2018

### 9.00 Performance of structural materials

T.J. Belden, D.A. Jesson and J.F. Watts (Surrey University) – The effect of metal fixings on the fire based degradation of timber: implications for BS EN 1995 Eurocode 5

A. Bjornfot, R. Tomasi, G. Vestol, O. Hoibo and A. Nyrud (Norwegian University of Life Sciences) – Composite wood panels - a state of the art

A. Al Sabouni-Zawadzka, W. Gilewski and J. Pelczynski (Warsaw University of Technology) – Perpendicular to the grain stress concentrations in glulam beams of irregular shape - FEM in the context of standard design

C. Hughes, D. McPolin, P. McGetrick and D. McCrum (Queens University Belfast) – Performance of typical CLT floor panel connections under monotonic and cyclic loading

Coffee break

### 11.20 Fluid flow and wood anatomy

Steven Adams and Daniel Ridley Ellis (Edinburgh Napier University) – The daily cycle of moisture content expansion and contraction in UK-grown Sitka spruce trees

R. Adey-Johnson, P. Mclean and P.J. McDonald (Surrey University) – Lattice Boltzmann modelling of the water sorption cycle in a statistical model of Sitka Spruce: the role of cell wall pits

J.S. Henderson, P. Mclean, D.A. Faux, P.J. McDonald (Surrey University) – Lattice Boltzmann modelling of the water sorption and sorption in porous materials including sub-resolution porosity

M. Spear, J. Holmberg, S. Nath, A. Pitman, D. Waugh, P. Mason, S. Curling, G. Ormondroyd (Bangor University) – Fluid flow in wood: investigation of the influence of laser incision parameters on uptake and flow paths in four wood species

Lunch break

### 2.00 Chemical modification

Ferry Bongers and Stephen Uphill (Accsys Technologies) – Performance of acetylated wood in aquatic applications

Callum Hill (JCH Industrial Ecology) – Measuring the free hydroxyl content in wood modified by acetic or propionic anhydride

Bronia Stefanowski and Andrew Pitman (Fibre 7) – Review of the use of PF and related resins for modification of solid wood

D. Jones, D. Sandberg and A. Kutnar (Lulea University) – A review of wood modification across Europe as part of COST FP1407

### 4.00 Durability and performance

P. Carter, G. Sawyer, A. Pitman and S. Hodgson (Paul Carter Associates) – Woodworm (*Anobium punctatum*) infestations in centrally-heated and unheated properties in the UK

Simon Curling and Graham Ormondroyd (Bangor University) – Potential effects of climate change on durability of timber and wood based building materials

Closing remarks

**The Wood Technology Society**

A Division of the Institute of Materials, Minerals and Mining