

General Profile

Title: Professor

Name: Callum Hill

Tasks: Member of management committee, leader of WG1

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Personal webpage (if any):

Curriculum Vitae

Education/professional career:

October 2007-present

Professor in Materials Science in the Centre for Timber Engineering Napier University, Edinburgh.

October 2001-September 2007

Senior lecturer in Renewable Materials in the School of the Environment and Natural Resources, University of Wales Bangor.

October 1994-September 2001

Lecturer in Wood Science in the School of Agricultural and Forest Sciences, University of Wales Bangor.

October 1988-September 1994

Post-doctoral research associate in University of Wales Bangor (Department of Chemistry)

July 1985- September 1988

Post-doctoral research associate at University of Bristol (Department of Chemistry)

June 1981-June 1985: Research assistant at University of West of England (Awarded PhD in 1985)

July 1979-June 1981: Experimental officer at the University of Bath (School of Materials Science).

October 1977-June 1979: Technician at Bristol Royal Infirmary (Department of Surgery).

June 1977: First Class Honours Degree in Chemistry, University of Bristol

Others:

- Visiting lecturer Helsinki University of Technology.
- Member of the management board of the Civil and Environmental Engineering Joint Research Institute of the Edinburgh Research Partnership in Engineering and Mathematics.

- Member of the management committee of COST FP0901 (Analytical techniques for biorefineries).
- Member of the management committee of COST FP0802 (Experimental and Computational Micro-Characterization Techniques in Wood Mechanics).
- Authoring a book for Earthscan on 'Resource Consumption and Sustainability'.
- Keynote speaker at COST action FP0802 workshop on 'Experimental and Computational Methods in Wood Micromechanics' Vienna 11-13th May 2009.
- Keynote speaker at seminar 'Modified Wood: Architecture and Construction Opportunities' 25th June 2008, Glasgow.
- Keynote speaker at Fibre Reinforced Composites Conference Port Elizabeth South Africa December 2007.
- Invited speaker at the Institute of Wood Science Conference, Oxford, 19th September 2006.
- Invited speaker for PhD programme University of Göttingen May 2006.
- Invited speaker at the Coford special seminar on 'Wood Modification Opportunities' and Challenges in Limerick on 9th February 2006. [www.coford.ie]
- Invited speaker at Renewable Biomaterials Intensive Programme at University of Gent 9-20th January 2006.
- Visiting lecturer to Université Bordeaux in June 2001.
- British Council funded visits to University of Ljubljana in Slovenia (1996), and University of Santiago del Estoril in Argentina in 1998.
- Served as member of the management board of Coed Cymru (2005-7).
- Member of the management board of the Welsh Forest Business Partnership Wood Knowledge Wales Group (2007).
- Member of the management board of the Welsh Institute for Sustainable Environments (2007).
- Member of EPSRC college.
- Referee for BBSRC.
- Referee for AHRC.
- Referee for the Research Council of Norway.
- Referee for the Natural Sciences and Engineering Research Council of Canada.
- Referee for British Council.
- Referee for the National Research Council of the USA.
- Referee for the Danish Council for Strategic Research.
- Referee for the Leverhulme Trust.
- Referee for John Wiley and Sons
- I have served as a proposal evaluator and project reviewer for the European Commission.
- Featured in New Scientist, 1 February 1997, pp.36-39 'Cars that Grow on Trees'.
- Act as referee for a wide range of scientific peer review journals including: Journal of Applied Polymer Science; International Journal of Adhesion and Adhesives; Holzforschung; Wood Science and Technology; Wood Material Science and Engineering; Holz als Roh- und Werkstoff; Maderas: Ciencia y Tecnologia; Journal of Material Science; Material Science Letters.; European Polymer Journal; Polymer Degradation and Stability; Applied Physics A, Carbohydrate Polymers, Industrial and Engineering Chemistry Research, Journal of the Acoustical Society of America, Composites Science and Technology, Biomacromolecules.

Research projects relevant to the Action: The production and use of cellulose microfibrils for use in high performance applications (Funded by industry)

Five recent publications relevant to the Action:

Development of a method for the production of hemicellulosic gels from Sitka spruce. *Carbohydrate Polymers*. S.F. Curling, Paul Fowler, C.A.S. Hill. *Carbohydrate Polymers*, **69**(4), 673-677, (2007).

Studies on the grafting of acryloylated potato starch with styrene J.M. Fang, P.A. Fowler and C.A.S. Hill. *Journal of Applied Polymer Science*, **96**(2), 452-459, (2005).

An investigation of cell wall micropore blocking as a possible mechanism for the decay desistance of anhydride modified wood. C.A.S. Hill, S.C. Forster, M.R.M. Farahani, M.D.C. Hale, G.A. Ormondroyd, and G.R. Williams. *International Biodeterioration and Biodegradation*, **55**(1), 69-76, (2005).

An investigation of the use of recovered vegetable oil for the preparation of starch thermoplastics. P. Fowler, J.M. Fang, J. Tomkinson and C.A.S. Hill. *Carbohydrate Polymers*, **50**(4), 429-434, (2002).

The preparation and characterisation of modified soybean polysaccharides. J.M. Fang, P. Fowler, J. Tomkinson, C.A.S. Hill. *Journal of the Science of Food and Agriculture*, **82**, 1523-1527, (2002)

Organisation

The Centre for Timber Engineering (CTE) was set up at Edinburgh Napier University in 2003, with support from the university, the Scottish Funding Council and the UK forest products industry. The initial aim was to provide research, knowledge transfer and education in timber engineering only, but in its six years of operations, a much wider focus has been developed and as a consequence, CTE will now form part of the Forest Products Institute (FPI), which will be formally launched early in 2010. Three other centres combine to make the FPI: the Centre for Cell Wall Science, the Centre for Wood Science and Technology, and Wood Studio. Thus, the whole range of wood behaviour and utilization will be covered from the molecular up to architectural aspects. The FPI has a very active research programme investigating the extraction and utilization of cellulose microfibrils funded by industry and has developed new technologies which are currently the subject of patent applications.