

Curriculum Vitae

Professor B.H.V. Topping

BSc, PhD, CEng, CMath, CIT, MBCS, MICE, MStructE, MIMechE, FIMA

Current Posts

- Director, Computational Technology Solutions
Address: Civil-Comp Ltd, Dun Eaglais, Kippen, Stirlingshire, FK8 3DY, Scotland, United Kingdom
Tel: +44(0)1786 870 191 Fax: +44(0)1786 870 192 Mobile: +44 (0)7803 907 142
E: b.h.v.topping@hw.ac.uk webpage: www.bhvt.org.uk
- Honorary Professor, Pollack Mihály Faculty of Engineering
University of Pécs, Hungary
- Emeritus Professor of Computational Mechanics, School of Engineering & Physical Sciences
Heriot-Watt University, Edinburgh, Scotland, United Kingdom

Academic and Professional Qualifications

- 1975: First Class Honours in Civil Engineering and the Kenchington Prize, City University, London.
- 1978: PhD in Computer Aided Design (Civil Engineering), City University, London.
- 1985: Member of The British Computer Society
- 1986: Fellow of The Institute of Mathematics and its Applications
- 1988: Member of The Institution of Civil Engineers, Chartered Engineer
- 1990: Member of The Institution of Structural Engineers
- 1992: Chartered Mathematician
- 1996: Member of the Institution of Mechanical Engineers
- 2004: Chartered IT Professional

Past Posts

- 1970-1975: Two years pre-graduation experience with Halcrows (Consulting Engineers), London
- 1978-1988: Lecturer, Department of Civil Engineering and Building Science, University of Edinburgh
- 1988-1989: Senior Lecturer, Department of Civil Engineering, Heriot-Watt University, Edinburgh
- 1989-1990: Reader, Department of Civil Engineering, Heriot-Watt University, Edinburgh
- 1990-1995: Professor of Structural Engineering, (Personal Chair) Heriot-Watt University, Edinburgh
- 1995-2006: Professor of Computational Mechanics, Heriot-Watt University, Edinburgh

Teaching, Departmental and University Experience

- Teaching Interests include: structural mechanics and analysis, numerical and computational methods, civil engineering systems, finite element methods.
- Teaching for Civil Engineering undergraduates (BSc, BEng, MEng) years 1, 2, 3 and 4.
- Teaching for Mechanical Engineering undergraduates (BSc, BEng, MEng) years 1, 3, 4 and 5.
- Teaching for MSc courses in Structural Engineering, Structural Engineering Computational Technology and Computational Mechanics.
- New Course Development including EPSRC and LEEL funding for the MSc in Structural Engineering Computational Technology, (1989-1998). Establishment of an Industrial Advisory Committee for the course.
- Establishment of a European Network for the exchange of students in structural engineering.
- Supervision of numerous European students' Diploma theses including students from: Pavia (Italy), Budapest (Hungary), Lausanne (Switzerland), Lyon (France), Madrid (Spain), Leuven (Belgium) and Lisbon (Portugal).
- Departmental Administration: (at various times) Director of Postgraduate Studies, MSc Course Director, Budget Holder for Postgraduate Courses, Responsibility for Publicity and Advertising Materials

for both Undergraduate and Postgraduate Courses, and Director of Computing and IT. Experience with Staff Appraisals and Staff Appointment Boards.

- University Committees: (at various times) Faculty, Senate, Building and Estates, Postgraduate Studies, Library.
- 2000-2006: Development of the HWU High Performance Computing Facility (JREI Funding) used by staff and postgraduate students from six departments (42 users).

External Academic Experience

- External Examiner for over 25 higher degrees (at both PhD and DSc level) in the UK, Europe, Middle and Far East, Australia.
- External Examiner for MSc Courses at Strathclyde University (1993-1997), University of Wales (Swansea)(1994-1997) and Queen's University, Belfast, (1996-2000).
- Specialist Quality Assessor in Civil Engineering for the Welsh Funding Council (1996-1997).
- Member of University of Edinburgh's TRACS (Training and Research on Advanced Computing Systems) Committee (1996-2001).

Research and Related Experience

- Research Interests:
Type 1 Research: Parallel Computing, Genetic Algorithms, Neural Networks, Finite Element Methods
Type 2 Research: Design of Cable Membrane Structures, Contact Detection Methods, Structures subject to transient dynamic loading, Fluid-Structure Interaction,
- Over 200 publications, authored, co-authored or edited. Including 50 journal papers, 4 research monographs and 20 chapters contributed to books and research monographs.
- 1990: Awarded a Telford Premium by the Institution of Civil Engineers for the paper "Theorems of Geometric Variation for Engineering Structures".
- 2001: Best Paper award by the Journal of Computing in Civil Engineering, American Society of Civil Engineers, for the paper "Transient dynamic nonlinear analysis using MIMD computer architectures".
- Research and other funding from: EPSRC, SHEFC and industry in excess of £2m (in current terms - incremented in line with inflation).
- Supervision of 16 Higher Research Degrees and 28 MSc Theses.
- 1986-1987: Von-Humboldt Research Fellow at the University of Stuttgart, Germany.
- 1989: Director of the NATO Advanced Study Institute "Optimization and Decision Support Systems in Civil Engineering".
- 1997-1999: Organiser of the Euro-Conference Series on "Parallel and Distributed Computing for Computational Mechanics" funded by the European Commission.
- 1983-date: Editor of the International Conference Series on Computing in Civil and Structural Engineering Computing.
- Founding Editor: Structural Engineering Review, (Chapman & Hall, publishers, 1988-1995), Founding Editor: International Journal of Computing Systems in Engineering, (Co-Editor: Professor A.K. Noor, NASA Langley Research Center, USA, Publishers: Pergamon Press, 1990-1995), Co-Editor: Engineering Structures (Elsevier Science, 1996-1997), Editorial Board Member: International Journal of Engineering Optimization (1987-date), Editorial Board Member: International Journal of Engineering Computations (1989-date).
- Hosting numerous international research visitors for research visits of between 3 and 12 months. Including researchers from: Canada, Israel, Germany, Hong Kong, China, France, Germany, Poland, Czech Republic, Hungary, Slovakia. Some funded by the University of Edinburgh's Parallel Computing Centre.
- 1996-date: Editor of the International Journal of Computers & Structures (Co-Editor: Professor K.J. Bathe, MIT, USA, publishers: Elsevier Science).
- 1996-date: Editor International Journal of Advances in Engineering Software (Co-Editors: Professor A.K. Noor, NASA Langley Research Center, USA, Dr. R. Adey, WIT, Southampton, England, publishers: Elsevier Science).

- 1984-date: Director of Civil-Comp Ltd, a company providing engineering computing services, publishing and technical conference organisation.
- Reviewing papers and research proposals for EPSRC (JREI and EPSRC College), Australian and Canadian Research Councils, ICE (Journals), ASCE (Journals) and reviewing papers for the international journals of: Numerical Methods in Engineering, Engineering Computations, Computer Methods in Applied Mechanics & Engineering and Engineering Structures.

Major Consultancy Projects

- Consultant to Peter Hudson, Buckle and Partners (Glasgow) for the analysis of the shell roofs for the Janadriyah Complex, Saudia Arabia, 1989-1991).
- Consultant to Thales Group (Fugro Engineers SA/NV (FESA), Brussels) for a number of projects concerned with Offshore Engineering Simulation (1999 - to date).
- Consultant to Moidart Developments Ltd (Edinburgh) for the Roof of the National Rock Climbing Centre, Ratho, Edinburgh (2001-2002)

Other Interests

- 2000-date: Trustee of the Friends of Kippen Kirk Trust (a registered Charity for the preservation of the fabric of Kippen Kirk, Stirlingshire)
- Hobbies: Gardening, Art and Travel.

27th February 2007