

EDMUND BOOTH

SUMMARY CURRICULUM VITAE

Independent structural engineering consultant

KEY QUALIFICATIONS

- Edmund Booth is an independent consultant specialising in earthquake engineering. He is a fellow of the Royal Academy of Engineering.
- Fellow of the Institutions of Civil and Structural Engineers, and Association of Consulting Engineers
- Visiting Professor in the Principles of Civil Engineering Design, University of Oxford, 1998 – 2003 and Honorary Senior Lecturer, Imperial College London (2010 – 2015).
- 16 years as an independent consultant, following 20 years with Ove Arup & Partners (latterly as Associate) and 5 years on site in UK and overseas
- Involved in the design, analysis and assessment of a wide range of buildings, industrial and offshore structures, nuclear power related structures and bridges.
- Author of the second edition of the text book: 'Earthquake design practice for buildings' published in 2006 by Thomas Telford. Experienced speaker, broadcaster and author.
- Chair of BSI committee B/525/8 for Eurocode 8: design of structures for earthquake resistance (EC8) and editor/part author of the Institution of Structural Engineers' Manual on EC8.

PERSONAL DATA

Born May 1948
British citizen
Working knowledge of French, and ability in German

UNIVERSITY EDUCATION

Kings College Cambridge: Sept. 1966 to June 1969
Open Scholarship, 1966
Honours degree (Class 2i): Mechanical Sciences Part 1 and Economics Part 2

MEMBERSHIP OF PROFESSIONAL BODIES, APPOINTMENTS AND AWARDS

Fellow, Royal Academy of Engineering
UK Chartered Engineer
Fellow, Institution of Civil Engineers
Fellow, Institution of Structural Engineers
Fellow, Association of Consulting Engineers
Chair of BSI committee B/525/8 for Eurocode 8
Visiting lecturer for Imperial College's MSc in earthquake engineering (2004 -)
Royal Academy of Engineering Visiting Professor, University of Oxford (1998-2003)
Invited presenter of the Institution of Civil Engineers' annual prestige Unwin lecture (2008)
Member, American Society of Civil Engineers
Chairman, 1990-92 Society for Earthquake and Civil Engineering Dynamics (SECED)
Vice-chairman, Institution of Structural Engineers Research Panel (2001 - 2004)
Founder Member UK Earthquake Engineering Field Investigation Team (EEFIT)
Member, editor and part author, IStructE Task Group drafting a Manual for Eurocode 8
Institution of Structural Engineers' Murray Buxton Diploma, 1999
Institution of Civil Engineers' Coopers Hill Memorial Prize, 1999

EDMUND BOOTH DETAILED PROFESSIONAL EXPERIENCE RECORD

PROFESSIONAL EXPERIENCE

1995 - present Edmund Booth Consulting Engineer

Consultancy on seismic design of buildings in Tel Aviv, Almaty and Hainan (for Ramboll), Tirana (for conisbee), France (for Heyne Tillet Steel), Islamabad (for Atkins), Yerevan (for R J Crocker and Partners), Haiti (for McGregor McMahon & Associates), Zambia (for Campbell Reith) and Riga (for King Shaw Associates). Design consultancy on structural aspects of AWE Burghfield project (for WS Atkins) and for Urenco, Capenhurst (for Scott Hughes).

Site survey, assessment and retrofit recommendations of concrete, steel and masonry buildings in Bogota, La Paz, Algeria, Istanbul, Turkmenistan, Uzbekistan, Tajikistan, Kazakhstan, Peru, Pakistan, Armenia, Bulgaria, Indonesia, Georgia, India and Albania (principally for Foreign & Commonwealth Office & British Council). Desk study of seismic vulnerability of British Council overseas properties (with CAR Ltd).

Peer reviews: seismic safety case for facilities at Aldermaston (for mfd International Ltd/AWE Aldermaston), seismic safety case for new Evap D facility at Sellafield (for Costain Oil & Gas), site specific seismic hazard assessment of Dounreay, North Scotland (for AEA Technology), seismic design methodology document (for Magnox Electric), nuclear submarine docking facilities at Devonport (for DML Ltd and Electrowatt-Ekono) and at Barrow (for Owen Williams), LNG jetty in Indonesia (for Penta-Ocean Construction Company).

Review of seismic strengthening of Antalya Airport International Terminal, a concrete building, in Turkey using seismic isolation bearings, for Parsons Brinckerhoff.

Preparation (with Ove Arup & Partners) of report on Eurocode 8 for British Energy. Project leader and principal engineer for comparison study of nuclear codes of practice, involving sub-contractors in UK, France, Germany, USA and Japan, for Nuclear Electric plc (with Ove Arup & Partners). Review and development of Magnox Electric's seismic assessment procedures for existing buildings.

Principal seismic adviser to Owen Williams/Laing JV on major programme of survey, assessment and seismic retrofit for 57 reinforced concrete, steel and masonry hospitals in Turkey.

Survey of earthquake damage to the port of Manzanillo, Mexico, for insurance purposes (for Posford Haskoning/TT Club Miami).

Preparation of draft UK National Annex to Eurocode 8 (seismic): Part 2 – bridges for UK government Highways Agency

Seismic design advice for LNG tanks, petrochemical plants & bridges in Iran, India, Indonesia, the Philippines and Oman, for Foster Wheeler.

Seismic design advice on approach jetty for major reinforced concrete oil berthing facility on BTC pipeline, Ceyhan Turkey, for ILF Beratende Ingenieure, Austria.

Lecturer for seismic concrete design module on the Imperial College earthquake engineering MSc course (2004-present). Organisation and presentation of courses on seismic engineering for Ove Arup & Partners (1995), SECED/Imperial College (1996, 1999, 2004, 2006, 2008), British Nuclear Group (2008), British Standards Institution (2005, 2006) and Institution of Structural Engineers (1999, 2000, 2001, 2002, 2003, 2004, 2005, 2008, 2009), Indian Concrete Institute Delhi (2009). Presenter (in French) at Ponts et Chaussées courses (1998, 1999) and at AFPS anniversary conference, in Paris. Lecturer on MSc modules at Nottingham Trent University (2002-2004), Sheffield University (2005) and UC London (2008, 2009).

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Structural consultant to TEFER project, for improvement of natural hazard insurance and disaster funding strategy in Turkey, for CAR/Willis. Development of structural loss models for reinsurance purposes, for CAR/PartnerRe.

Other clients have included Process Combustion, Bechtel Water Technology, Marsh McLennan, the European Commission, Polarwall Ltd, Proctor & Gamble.

1982 - 1995 Ove Arup & Partners London.

Responsible for providing advice on the seismic design and analysis of a wide range of projects world-wide, including buildings, bridges, industrial structures, offshore structures and other projects for the nuclear power and petrochemical industry. Mr Booth has taken part in many seismic hazard and risk assessments, most recently involving major seismic hazard assessments of the UK mainland, and UK offshore areas, and Hungary. Extensive work in the nuclear industry included a seismic walkdown of JET experimental fusion reactor.

Mr Booth was a co-author of the report 'UK Continental Shelf seismic hazard' (1997) for the Health & Safety Executive, and 'Earthquake Hazard and risk in the UK' (1993) for the Department of the Environment..

During the same period, he was also responsible for a number of risk assessment and design projects outside the field of earthquake engineering, principally for industrial and offshore structures.

1979 - 1982 Ove Arup & Partners, London

Project engineer on a variety of steel and concrete building, industrial and offshore projects.

1979 Ove Arup & Partners, Nigeria

Site survey and design of upgrade of existing telecommunications buildings throughout Nigeria. Site survey and analysis for vibration problems in swamp piled flow station.

1977 - 1979 Ove Arup & Partners, London

Assistant Engineer on a variety of steel and concrete offshore, industrial and building projects.

1975 -1977 CARE, Sierra Leone, West Africa

Senior Site Civil Engineer, working on the site construction and design of roadworks, culverts and small bridgeworks for a rural feeder road self help construction programme.

1973 - 1975 Kier Ltd., Civil Engineering Contractors, Stowmarket, Suffolk, UK

Site Engineer (later section engineer) working on the construction of bridges for a major trunk road in Suffolk.

1969 - 1973 Ove Arup & Partners, London

Graduate Structural/Civil Engineer working on the design of a variety of steel and concrete building projects.

SELECTED PUBLICATIONS

Earthquake design practice for buildings. Textbook commissioned by Thomas Telford, April 2006.

Validating assessments of seismic damage made from remote sensing (with Keiko Saito, Robin Spence, Gopal Madabhushi and Ronald Eguchi). Earthquake Spectra Special Issue on Haiti, October 2011.

EEFIT: The UK Earthquake Engineering Field Investigation Team (with Sean Wilkinson, Matthew Free, Tiziana Rossetto and Robin Spence). Proc ICE – Forensic Engineering, August 2011.

Overview of earthquake design and development of UK NA for EN1998-2 and PD 6698 (with Lane, Ko and MacKenzie). ICE conference on bridges Eurocodes, November 2010.

Eurocode 8. Chapter in BSI Structural Eurocodes Companion, British Standards Institution, 2009.

Designing for earthquake effects in Great Britain. The role that research has played in supporting UK earthquake engineers. The Institution of Civil Engineer's Unwin Prestige Lecture, 2008.

Seismic risk management of an international portfolio of buildings (with Spence, Curtin and So). 14th World Conference on Earthquake Engineering, Beijing, 2008.

UK Studies for the preparation of the UK National Annex to Eurocode 8. Conference on seismic risk in northern Europe, Liège 2008.

Establishing the need for seismic design in the UK (with Bryan Skipp). Report for Institution of Civil Engineers, 2008.

The estimation of peak ground motion parameters from spectral ordinates. Journal of Earthquake Engineering, Vol 11 No 1, 2007.

Retrofit of Antalya airport international terminal building, Turkey using seismic isolation (with Cetin Yilmaz and Christopher Sketchnley). First European Conference on Earthquake Engineering and Seismology, Geneva, September 2006.

Quality management of structural design. In: Kanda J (ed.) Monograph on structural safety and QA for tall buildings. Council on Tall Buildings and Urban Habitat/ASCE, 2005.

Building vulnerability assessment using pushover methods - a Turkish case study (with Juliet Bird and Robin Spence). Proceedings, International Workshop on performance-based seismic design, Bled, Slovenia, June 2004.

Development of an earthquake loss model for Turkish catastrophe insurance (with Bommer J, Spence R, Erdik M, Tabuchi S, Aydinoglu N, del Re D, Peterken O). Journal of Engineering Seismology, 2002, 6:2

Earthquake risk mitigation: Lessons from recent experience in Turkey (with Robin Spence, Oliver Peterken, Polat Gulkan and Nuray Aydinoglu). 12th European Conference on Earthquake Engineering, London 2002.

Earthquake resistant design in the 21st Century. Ingenia (magazine of the Royal Academy of Engineering) May 2000.

Simplified methods for seismic reliability analysis (with Professor Michael Baker, University of Aberdeen). Twelfth World Conference on Earthquake Engineering, Auckland February 2000.

A critical review of international practice on seismic design of reinforced concrete buildings (with Andreas Kappos and Robert Park). Structural Engineer, June 1998. Awarded Murray Buxton diploma, 1999.

Earthquake engineering in the 1990's - achievements, concerns and future directions. Paper No 11449, Structures & Buildings, May 1998. Awarded Coopers Hill memorial prize, 1999.

Seismic response of piles: some recent design studies (with J Pappin, J Ramsey and Z Lubkowski). Journal of Geotechnical Engineering, January 1998.

UK Continental Shelf seismic hazard (with Musson, Long, Pappin and Lubkowski). Health and Safety Executive - Offshore Technology Information. OTH 96 416. 1996.

Regional influences on the seismic design of tall buildings: some international comparisons (with KL Chang). Invited paper, Habitat and the High Rise conference, Amsterdam 1995.

Concrete structures in earthquake regions. Editor and principal author of textbook, published by Longmans, 1994.

Current practice in the design and analysis of earthquake resistant structures. Keynote address, ERCAD conference, Berlin, 1994.

Engineering characteristics of earthquake loading. Invited paper, Hazards Forum Seminar, 1992.

Comparison between analytical and shaking table results for extreme response of a model steel building (with A Blakeborough and P Murphy). 1991 SECED Conference.

Code provisions for engineered building structures in areas of low seismicity (with M Baker, Imperial College). Ninth European Conference on Earthquake Engineering, Moscow 1990.

Response of an Offshore Gravity Platform in the North Sea to Extreme Earthquakes. In: "Earthquake Engineering in Britain", Thomas Telford, 1985.

Seismic Hazard Assessment. The Arup Journal, 1984.

Impact Scalability of Plated Steel Structures. In "Structural Crashworthiness". Butterworths, 1983.

Cast-in Floor Ducts in Concrete Slabs. Ove Arup and Partners, 1980.

The Strength of Tubular Joints in Tubular Lattice Towers. The Arup Journal, 1979.

The CARE manual of feeder road construction (editor and principal author). CARE, Freetown, 1977.

The design of deep beams in reinforced concrete (contributor). CIRIA Guide 2, 1977.

Earthquake Field Reports

Haiti earthquake of 12th January 2010. A field report by EEFIT (editor and co-author). EEFIT, Institution of Structural Engineers, London, 2011. www.istructe.org/knowledge/EEFIT/Pages/reports.aspx

Effect of the Bhuj, India earthquake of 26 January 2001 on heritage buildings. (with Rabindra Vasavada). Web publication 2001.

The Erzincan Turkey Earthquake of 13 March 1992: A field report by EEFIT (contributor). EEFIT, Institution of Structural Engineers, London 1993.

The Luzon Philippines earthquake of 19 July 1990: A field report by EEFIT (editor and co-author). EEFIT, Institution of Structural Engineers, London, 1991.

The Mexican earthquake of 19 September 1985: A field report by EEFIT (editor and co-author). SECED, Institution of Civil Engineers, London, 1986.

The Chilean earthquake of 3 March 1985: A field report by EEFIT (editor and co-author). SECED, Institution of Civil Engineers, London, 1988.

The Liège, Belgium earthquake of 1983: A field report by EEFIT. Ove Arup & Partners, 1983.