

EDMUND BOOTH

SUMMARY CURRICULUM VITAE

Independent structural engineering consultant

KEY QUALIFICATIONS

- Edmund Booth is a fellow of the Royal Academy of Engineering, practising as an independent consultant specialising in earthquake engineering.
- Fellow of the Institutions of Civil and Structural Engineers
- Associate of [Cambridge Architectural Research](#) (CAR) Ltd
- Visiting Professor in the Principles of Civil Engineering Design, University of Oxford, 1998 – 2003 and Honorary Senior Lecturer, Imperial College London (2004 – present).
- 20 years as an independent consultant, following 20 years with Ove Arup & Partners (latterly as Associate) and 5 years on site in UK and West Africa.
- 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 third edition of the text book: '[Earthquake design practice for buildings](#)' published in 2014 by Thomas Telford.
- Presenter of the [16th Mallet-Milne lecture](#) in May 2017.
- Chair of BSI committee B/525/8 for Eurocode 8: design of structures for earthquake resistance (EC8) and technical consultant/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

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

Chair of BSI committee B/525/8 - Eurocode 8, 2011 - 2017

Chair, Institution of Structural Engineers Advisory Group on Earthquake Engineering (2013-14)

Chair, European Association for Earthquake Engineering Working Group 1 – Eurocode 8

Honorary senior lecturer on Imperial College's MSc in earthquake engineering (2004 - present)

Royal Academy of Engineering Visiting Professor, University of Oxford (1998-2003)

Chairman, 1990-92 Society for Earthquake and Civil Engineering Dynamics (SECED)

Chief examiner for the seismic question in the Institution of Structural Engineers' chartered membership exam (2006-2010)

Invited presenter of SECED'S biennial prestige [Mallet Milne lecture](#) (2017)

Invited presenter of the Institution of Civil Engineers' annual prestige Unwin lecture (2008)

Honorary Member UK Earthquake Engineering Field Investigation Team (EEFIT)

Consultant 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

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DETAILED PROFESSIONAL EXPERIENCE RECORD

PROFESSIONAL EXPERIENCE

1995 - present Edmund Booth Consulting Engineer

Projects have included the following.

High level consultancies on seismic design of new structures, including buildings in Wuxi (for BDP), Haiti (for McGregor McMahon), Armenia (for Michael Barclay Partnership), Muscat (for SAS International), Tel Aviv, Almaty and Hainan (for Ramboll), Tirana and Muscat (for conisbee), France (for Heyne Tillet Steel), Islamabad (for Atkins), Yerevan (for R J Crocker and Partners), Haiti (for McGregor McMahon & Associates), Zambia and Sierra Leone (for Campbell Reith) and Riga (for King Shaw Associates) and LNG tanks, petrochemical plants & bridges in Iran, India, Indonesia, the Philippines and Oman, (for Foster Wheeler).

Contributor to Arup project for World Bank on the implementation of Eurocode 8 in Georgia. Preparation of draft UK National Annex to Eurocode 8: Part 2 – bridges for UK government Highways Agency. Consultant and part of author to the Institution of Structural Engineer/AFPS's Manual on Eurocode 8.

Site survey, assessment and retrofit recommendations of concrete, steel and masonry buildings in India, Bogota, La Paz, Algeria, Istanbul, Turkmenistan, Uzbekistan, Tajikistan, Kazakhstan, Pakistan, Armenia, Bulgaria, Indonesia, Georgia and Albania (principally for FCO & British Council).

Consultancy to UK Government's DFID, through IMC Worldwide Ltd, on Nepal Hospitals Earthquake Preparedness Project.

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.

Structural consultant to CAR Ltd for report on seismic risk of portfolio of buildings occupied by UK Government's FCO in seismic areas worldwide, and of buildings occupied by the British Council in seismic areas worldwide. Site assessments were carried out in many seismic areas worldwide.

Structural consultant to CAR Ltd on TEFER project, for improvement of natural hazard insurance and disaster funding strategy in Turkey (for Willis) and on development of structural loss models for reinsurance purposes (for PartnerRe).

Peer reviews of seismic safety case for facilities at Aldermaston (for mfd International Ltd/AWE Aldermaston), Derby (for Halcrow/Rolls Royce), Sellafield Evap D facility (for Costain Oil & Gas), Devonport (for DML Ltd and Electrowatt-Ekono), Aldermaston (for mfd International Ltd) and Barrow (for Owen Williams)

Site specific seismic hazard assessment of Dounreay, North Scotland (for AEA Technology), review of seismic design methodology document (for Magnox Electric), review of EC8 use for nuclear safety cases (for British Energy Generation Ltd).

High level advice on design of structures at Hinkley Point C and Burghfield (for Atkins) and Urenco, Capenhurst (for Scott Hughes).

Site survey of heritage buildings in Gujarat damaged by the Bhuj earthquake, for INTACH.

Review of seismic strengthening of Antalya Airport (Turkey) International Terminal, using isolation bearings to reduce seismic loading, for Parsons Brinckerhoff.

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 Cavendish Nuclear (2016), SECED/Imperial College (1996, 1999, 2004, 2006, 2008), British Nuclear Group (2008), Ramboll (2010, 2011, 2012), Buro Happold (2013), British

Standards Institution (2005, 2006), Institution of Structural Engineers (1999, 2000, 2001, 2002, 2003, 2004, 2005, 2008, 2009), Indian Concrete Institute Delhi (2009) and Ove Arup & Partners (1995). 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).

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.

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

Dealing with Earthquakes: seismic engineering as if people mattered. The 16th [Mallet Milne Lecture](#). For publication as a special issue of the [Bulletin of Earthquake Engineering](#), expected in the early part of 2018.

[Earthquake design practice for buildings](#). Textbook commissioned by Thomas Telford. Third edition 2014.

The future development of Eurocode 8. SECED Conference: Earthquake Risk and Engineering towards a Resilient World. Cambridge, UK, 2015.

Future development of the European seismic code, Eurocode 8. SEMC Conference, Cape Town, September 2013.

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.

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.

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 Sketchley). 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.

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

All are available for free download from <http://www.istructe.org/resources-centre/technical-topics/areas/eeffit/eeffit-reports> with the exception of the Bhuj report.

Haiti earthquake of 12th January 2010. A field report by EEFIT (editor and co-author). EEFIT, Institution of Structural Engineers, London, 2011.

Effect of the Bhuj, India earthquake of 26 January 2001 on heritage buildings. (with Rabindra Vasavada). Web publication 2001 www.booth-seismic.co.uk/Gujarat%20Intach%20report.pdf .

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.