

# Curriculum Vitae Sebastian Macmillan BA, BArch, PhD, RIBA



## Qualifications

- 1970-73 University of Liverpool School of Architecture: BA (Hons) Architecture 2:1
- 1974-76 University of Liverpool School of Architecture Bachelor of Architecture (Hons) 2:1
- 1977-80 Royal College of Art (PhD, 1980) (holder of Science Research Council Studentship)
- 1977-2017 Registered architect, Architects Registration Board (registration no. 44781)
- 1978- Chartered member of Royal Institute of British Architects (retired member from 2018)
- 1988-2018 Fellow of the Royal Society of Arts

## Academic summary

- 2017- Part-time Course Tutor, Interdisciplinary Design for the Built Environment masters, Cambridge Institute for Sustainability Leadership, University of Cambridge
- 2016-2017 Visiting Professor, Department of Urban Planning, Turin Polytechnic
- 2006- Senior Member, Wolfson College, Cambridge
- 2006-2017 Course Director, Interdisciplinary Design for the Built Environment masters, Departments of Architecture and Engineering, University of Cambridge (retired 2017)
- 2004-2008 Consortium Manager, Carbon Reduction in Buildings consortium, a five-university research consortium funded by the Engineering and Physical Sciences Research Council (part-time)
- 1996-2004 Senior Research Associate, The Martin Centre for Architectural and Urban Studies, Department of Architecture, University of Cambridge (part-time).
- 1999-2001 Sector Programme Manager, Engineering and Physical Sciences Research Council (part-time secondment)
- 1980-1986 Tutor, Department of Design Research, Royal College of Art.

## University External Examining and Advising

- External Examiner to Leeds University, Integrated Master of Engineering / Bachelor of Engineering in Architecture, 2018-2021.

- External Examiner to Heriot-Watt University, undergraduate course in Architecture at Dubai Campus. Started 2017-2021.
- External Examiner to Advanced Sustainability for the Built Environment MSc at Dundee University 2014-2016.
- External Examiner to Strategic Management of Projects MSc at UCL, 2012-2016.
- Academic Advisor to the Faculty of Architecture and Planning, Universiti of Teknologi MARA, Malaysia, 2013.
- External Advisor for MA Zero Carbon Architecture Course, Birmingham City University, 2013.

## Academic Award

Awarded the degree of Doctor Honoris Causa by the Prydniprovsk State Academy of Civil Engineering and Architecture, Ukraine, in recognition of outstanding academic and scientific achievements.

## Consultancy and architectural employment

In 1984, I formed a Cambridge based independent research consultancy called Eclipse Research Consultants with Dr Ian Cooper and we completed a wide range of projects relating to the design, construction and operation of the built environment, mostly for UK government bodies. The partnership ceased operating in 2018. Both partners continue to offer consultancy services as individuals.

I worked for several architectural practices: Peover & Cameron-Smith (1973-74), Derek Phillips Associates (1976-77), Design Team Partnership (1984). I also practised as an architect independently between 1980 and 1990.

## List of significant publications

### Books and booklets

- 2015 with C A Short, P Guthrie and Eleni Souti, Health Technical Memorandum HTM 07-02: Making Energy Work in Healthcare, Environment and Sustainability, [Part A: Policy and management](#), [Part B Procurement and energy considerations for new and existing building facilities](#), Department of Health.
- 2009 [Sustainable buildings need integrated teams – the O’Neill Report](#), published by the Specialist Engineering Alliance, 33 pages. Launched in the House of Commons by Lord O’Neill, 17 March.
- 2006 [The Value Handbook](#), Commission for Architecture and the Built Environment, 60 pages. ISBN: 1 84633 012 2
- 2004 Editor, [Designing Better Buildings: quality and value in the built environment](#) Spon Press, 220 pages, ISBN 0 415 31526 3. Author of Chapter 1 *Design as a generator of value*. Includes 18 chapters by leading figures such as Jon Rouse, Sunand Prasad, Richard Feilden, Dickon Robinson, Michael Dickson. Foreword by Robin Nicholson.
- 2001 With Robin Spence and Paul Kirby (joint editors), [Interdisciplinary Design in Practice](#), pub. Thomas Telford, London, 227 pages. ISBN 0 7277 3008 8. Three authored chapters: Chapter 12 (with Christopher French) Successful teamwork from day one: running an interdisciplinary design workshop; Chapter 13 Managing an interdisciplinary design team effectively; Chapter 14 (with John Steele) Towards an interdisciplinary design process.
- 1996 Editor of second edition of *Environmental Management for Hotels: the industry guide to best practice*, Butterworth-Heinemann, Oxford, 236 pages, ISBN 0 7506 2728 X.

- 1984 Editor, jointly with I. Cooper and J. Powell, *Designing for Building Utilisation*, E. & F.N. Spon, ISBN 0-419-13470-0. Author of chapter on 'Architects' design strategies; some justifications for current practice'.

## Refereed Journal Articles

- 2021 Hartwell, R, Macmillan, S, Overend, M. Circular economy of facades: real-world challenges and opportunities, *Resources, Conservation & Recycling*, <https://doi.org/10.1016/j.resconrec.2021.105827>
- 2019 Ahmed, T, Gilmore, D, Jaffe, P, Nakajima, Y, and Macmillan, S, 'Corporate social responsibility and construction design briefs: international case studies', *Proceedings of the Institution of Civil Engineers – Engineering Sustainability*, <https://doi.org/10.1680/jensu.19.00055>
- 2018 with Benjamin S. D. Hickman 'Efficacy of crystalline waterproofing additives for basement concrete', *Proceeding of the ICE: Construction Materials*, August 2018, ISSN 1747-650X.
- 2016 'The head, the heart and the hand: architecture and its place in the academy', *Architectural Studies* vol 2, no 1 pp 27-33. ISSN 2411-801X. Published from Lviv Polytechnic National University. Based on Keynote Presentation to celebrate 20 years of collaboration in Architecture between Lviv Polytechnic National University and Vienna Technical University, Lviv, November 2015.
- 2014 Collier, F., Hambling, J., Kernaghan, S., Kovacevic, B., Miller, R., Payá Pérez, A., Richardson, E. and Macmillan, S. '[Tomorrow's cities: a framework to assess urban resilience](#)', *Proceedings of the ICE: Urban Design and Planning*, vol 167, issue 2, pp 79-91.
- 2010 '[Architectural research and its enemies](#)', *ARQ (Architectural Research Quarterly)*, vol 14, no 1, pp 11-16.
- 2008 with Joseph Lampel and Harry Scarborough, 'Managing through projects in knowledge-based environments' Special Issue Introduction by Guest Editors, *Long Range Planning*, vol 41, no 1, pp 7-16.
- 2006 'Chronicles of the revolution', A review of the book *Change in the Construction Industry: an account of the UK construction industry reform movement 1993-2003* in *Building Research & Information*, vol 34, no 6, pp 600-603.
- 2006 '[Added value of good design](#)', *Building Research & Information*, vol 34, no 3, pp 257-271.
- 2005 With Foley, J. '[Patterns of interaction in construction team meetings](#)', *CoDesign*, vol 1, no 1, pp 19-37.
- 2002 '[The right vision for construction R&D? Responding to the Fairclough Report](#)', *Building Research and Information*, vol 30 no 5, pp 328-333.
- 2002 With J. Steele, P. Kirby, R. Spence and S. Austin, '[Mapping the design process during the conceptual phase of building projects](#)' *Engineering, Construction and Architectural Management*, vol 9, no 3, pp 174-180 [also published in *Proceedings of CIB W96 Commission on Architectural Management: Design Management in the Architectural and Engineering Office*, (held in Atlanta, May 2000) edited by G Augenbroe and M Prins, CIB Report/Publication 263, pages 97-108, CIB Rotterdam, March 2001, ISBN 90-6363-027-1.]
- 2001 With Simon Austin, John Steele, Paul Kirby and Robin Spence. '[Mapping the conceptual design activity of interdisciplinary teams](#)', *Design Studies*, vol 22 no 3 pp 211-232.
- 2001 With Simon Austin, John Steele, Paul Kirby and Robin Spence, '[Development and verification of a generic framework for conceptual design](#)', *Design Studies*, vol 22 no 2 pp 161-191.

- 2001 [‘How does innovation link to research?’](#) A review of *Building Innovation: complex constructs in a changing world* by David Gann, *Building Research and Information*, vol 29, no 3, pp 250-252.
- 2000 Michael Busseri and Jason Palmer, Improving teamwork: the effect of self-assessment on construction design teams, *Design Studies*, vol 21, pp 223-238. [Written by two Research Assistants at the Martin Centre under my supervision.]
- 1997 with Tim Knowles and Jason Palmer, ‘Environmental initiatives in the hospitality sector’, *The Environment Papers Series*, vol 1, no 1, March 1998, pp 30-40, ISSN 1460-1745, published by Glasgow Caledonian University.
- 1983 with I. Cooper and J. Powell, [‘Information for Designers’](#), *Design Studies*, vol 5, no 2, pp 113-120.
- 1983 ‘Synopsis of some recent published studies of the design process and designer behaviour’, *Design Studies*, vol 4, no 2, pp 133-140.
- 1981 [‘Architectural designers’ values and the evaluation of their designs’](#), *Design Studies*, vol 2, no 3, pp 131-137.
- 1981 [‘Empirical and theoretical studies of design judgement: a review’](#), *Design Studies*, vol 2, no 1, pp 19-26.

### Conference papers and invited presentations

- 2013 with Pavni Sahni Kohli [‘Exploring critical success factors in multi-organisational interdisciplinary construction projects’](#), paper to *CIB World Building Conference 2013*, Brisbane, 6-9 May 2013.
- 2013 [‘Great Australian Dream: the impact of household aspirations on spatial planning in Sydney’](#), paper to *CIB World Building Congress 2013*, Brisbane, 6-9 May 2013.
- 2010 With D Clements-Croome, Z A Samad, and D Mumovic, [‘Designing intelligent schools’](#), *Proceedings CIB World Building Congress 2010*, Salford, May 2010, CIB Publication 358, pp 1-15.
- 2008 The influence of building design on scholarly performance – the perceptions of stakeholders in 20 new UK primary schools, paper to Architecture and Behaviour Conference, Monte Verita, Ascona, 14-15 April 2008.
- 2005 Zulkiflee Abdul Samad and Sebastian Macmillan, [‘The valuation of intangibles: explored through primary school design’](#) paper to CIB W096 Architectural Management, Special meeting on ‘Designing value: new directions in architectural management’ Technical University of Denmark, Lyngby, Denmark, November 2005.
- 2005 with C Earl, C Eckert, L Bucciarelli, D Whitney, T Knight, M Stacey, A Blackwell and P Clarkson, ‘Comparative study of design with application to engineering design’, paper to International Conferences on Engineering Design (ICED05) Melbourne, 15-18 August, 2005.
- 2004 Zulkiflee Abdul Samad and Sebastian Macmillan, [Improving design quality and value in the built environment through knowledge of intangibles](#), paper to International Engineering Management Conference (IEMC) 2004, Singapore, October 2004.
- 2004 with C. Eckert, A Blackwell, L Bucciarelli, J Clarkson, C Earl, T Knight, M Stacey and D Whitney, [‘What designers think we need to know about their processes: early results from a comparative study’](#), paper to International Design Conference – Design 2004, Dubrovnik 18-21 May 2004.
- 2004 Zulkiflee Abdul Samad and Sebastian Macmillan, The underlying real estate value of intangibles in the built environment, paper to International Real Estate Research Symposium (IRERS) 2004, Kuala Lumpur, Malaysia, April 2004.
- 2001 with Simon Austin, John Steele, Paul Kirby and Robin Spence, ‘Identifying and managing iteration within the early stages of the building design process’, *Proceedings of International Conference on Engineering Design (ICED)*, Glasgow, August 2001, pp 123-130.

- 2000 with John Steele, Simon Austin, Paul Kirby, Robin Spence, '[One step forward and three back: a study of the patterns of interdisciplinary conceptual design](#)'. Proceedings of the Design Research Conference 2000, Coventry, UK, September 2000.
- 1999 with J. Steele, P. Kirby, R. Spence. and S Austin, '[Using training workshops to map interdisciplinary team working](#)', Proceedings of Chartered Institute of Building Services Engineers National Conference 1999. Harrogate, UK. Pages 38-49, September 1999.
- 1999 with J Steele, S Austin, P Kirby and R Spence, '[Interdisciplinary interaction during conceptual design](#)', pages 297-305, volume 1, *Proceedings of the 15<sup>th</sup> Annual Conference of ARCOM* (the Association for Research in Construction Management), Liverpool John Moores University, September 1999. Published by ARCOM, Department of Construction Management and Engineering, University of Reading. ISBN 0-9534161-2-7. 2 volumes. Edited by Will Hughes.
- 1999 with J Steele, S Austin, R Spence and P Kirby, '[Mapping the early stages of the design process](#)', pages 1175-1178, volume 2, *Proceedings of ICED 99* (the 12<sup>th</sup> International Conference on Engineering Design), Munich, August 1999. Published by Technische Universitat Munchen, ISBN 3-922979-53-X. 3 volumes. Edited by U. Lindemann, H. Birkhofer, H. Meerkamm and S. Vajna.
- 1996 with David Curtis, '[The Energy Design Advice Scheme - enlarging the role of the profession](#)', *Proceedings of CIBSE/ASHRAE (Chartered Institution of Building Services Engineers, American Society of Heating, Refrigeration and Airconditioning Engineers) Joint National Conference*, Harrogate, 30 Sept - 2 Oct 1996, volume 1, pages 361-365, ISBN 0 900953 74 8.
- 1994 with David Curtis, '[The Energy Design Advice Scheme - the first two years](#)', *Proceedings of the First International Conference on Buildings and the Environment*, Organised by Task Group 8 (Environmental Assessment of Buildings) of CIB (Conseil International du Batiment), BRE, Watford, 16-20 May 1994.
- 1993 with David Bloomfield and Ian Cooper, '[Environmental Performance Modelling - use in practice](#)', *Proceedings of CIBSE National Conference*, Manchester, 9-11 May 1993, pp 8-17.
- 1992 '[Designers' experiences in using energy and environmental modelling](#)', paper to *BEPAC (Building Environmental Performance Analysis Club) Winter Seminar and AGM*, RIBA, 9 December 1992.
- 1991 with L Shorrock, J Clark, and G Moore, 'BREDEM-8, a monthly calculation method for energy use in dwellings: testing and development', paper to *BEP (Building Environmental Performance) '91*, proceedings published by Building Environmental Performance Analysis Club.
- 1986 with R. Brewer and I. Cooper 'People, an unresolved problem in the provision of design guidance and tools for low energy building', paper to International Climatic Architecture Congress, Louvain-la-Neuve. Proceedings published by CIACO, ISBN 2-78085-079-4.
- 1984 'Speculative housing: a critical appraisal of the design quality of some starter homes', paper to Conference on Design, Quality, Cost, Profit, Portsmouth Polytechnic, November 1984. Proceedings published by E. & F.N. Spon as *Quality and Profit in Building Design*, edited by Brandon & Powell, ISBN 0-419-13390-9.
- 1982 'Design processes and value theory', paper to *Design Policy Conference*, Royal College of Art, July 1982: Proceedings edited by Richard Langdon, published by the Design Council, 1984, ISBN 0-85072-142-3.
- 1979 with B.G.J. Thompson et al, 'Applications of CEDAR3: case studies from the pre-production trials of a large interactive computer-aided building design system in United Kingdom Central Government organisations', *Proceedings PARC79 (Planning, Architecture and the Computer) Conference*, IMK Berlin.

## Professional and technical press articles

- 2014 Quoted in Blackman, D 'What a difference a building makes' *Building* magazine, 28 July 2017, pp 60-63. <http://www.building.co.uk/what-a-difference-a-building-makes/5088979.article>
- 2007 '[All for one: collaboration is the key to good design](#)' *RIBA Journal*, March 2007, vol 114, no 3, pp 72-75.
- 2005 '[Valuable lessons: workshops put a price on intangibles](#)' *RIBA Journal*, September 2005, vol 112, no. 9, Practice Supplement page X.
- 2005 '[Professor Bruce Archer, Mechanical engineer who established design as an academic discipline](#)', obituary, *The Independent*, 20 May 2005, p 52-53.
- 2002 'Teamwork is not rocket science', *Civil Engineering*, volume 150, issue 1, February 2002, pp 7-8.
- 2001 'Measuring Teamwork', *Construction Manager*, July/August 2001, page 24.
- 1998 With N Baker and M Buckley, '[Educational Environments](#)', *Architects' Journal*, vol 207, no 8, pp 53-54, 26 February 1998.
- 1982 'At the point of decision', *Building*, 28 May 1982, pp 47-48.
- 1980 with B.G.J. Thompson, 'Computer Aided Design in Practice', *RIBA Journal*, May 1980, pp 67-69.

## Best practice publications and case studies

- 2009 With Alan Short, Alistair Fair, Peter Barrett, Adrian Cave and Patricia Sterry, [Building Excellence in the Arts: a guide for clients](#), CABE.
- 2007 [Environmental Sustainability: design guidance note](#), Sport England.
- 2007 With David Adamson, Tony Pollington, Kevin Thomas, [The business case for integrated collaborated working](#), Constructing Excellence.
- 2004 [Partnering workshops to promote teamwork in the construction of Oakfields Primary School, Wickford, Essex: a case study](#), Constructing Excellence.
- 2004 [Effective Teamwork – a good practice guide for the construction industry](#), Constructing Excellence.
- 2003 [CHP in hotels – a guide for owners and managers](#), Good Practice Guide 384, Action Energy.
- 2000 [The design team's guide to environmentally smart buildings – energy efficient options for new and refurbished offices](#), Good Practice Guide 287, Energy Efficiency Best Practice programme.
- 2000 [Document management at the Royal Opera House](#), IT Construction Forum Case Study IT029, Department for Trade and Industry.
- 2000 [Exchanging CAD drawings with consultants and contractors in the United States and Ireland](#), IT Construction Forum Case Study IT030, Department for Trade and Industry.
- 2000 [Exchanging design information via the internet](#), IT Construction Forum Case Study IT031, Department for Trade and Industry.
- 2000 [Installing a new network, operating system, and CAD software in an architects' office](#), IT Construction Forum Case Study, IT032, Department for Trade and Industry.
- 2000 [Sharing CAD data among the design team on a construction project](#), IT Construction Forum Case Study IT034, Department for Trade and Industry.
- 1999 [Energy efficient refurbishment of schools – the achievements of Bolton Council](#), Good Practice Case Study 381, Energy Efficiency Best Practice programme.
- 1998 [Effective management of energy in sports centres - Kirklees Metropolitan Council](#), Good Practice Case Study 360, Energy Efficiency Best Practice programme.

- 1997 [Energy efficient refurbishment of hotels and questhouses - a guide for proprietors and managers](#), Good Practice Guide 205, Energy Efficiency Best Practice programme, 16-page guide.
- 1996 [Energy efficiency action pack - for retail premises](#), Good Practice Guide 190, Energy Efficiency Best Practice programme, 12-page guide with eight loose-leaf inserts.
- 1995 [Protect our environment - save energy, a guide to managing energy in hotels](#), four-page guide with 6 posters, published by BRECSU on behalf of the DoE and the SAVE programme of DGXVII of the European Commission.
- 1995 [The Derwentwater Hotel, Keswick, UK](#), Good Practice Case Study 297, Energy Efficiency Office Best Practice programme.
- 1995 [The Munich Park Hilton Hotel, Germany](#), Good Practice Case Study 296, Energy Efficiency Office Best Practice programme.
- 1994 [Energy efficient house design - exploiting solar energy](#), Good Practice Guide 73, Energy Efficiency Office Best Practice programme.
- 1993 [Energy Efficiency in Hotels - a guide for owners and managers](#), Energy Consumption Guide 36, Energy Efficiency Office Best Practice programme.

## CRISP (Construction Research and Innovation Strategy Panel) reports

- 2005 CRISP Commission 04/13: Report of the Be/nCRISP Value Task Group.
- 2003 CRISP Commission 02/08: A review of CRISP Task Group recommendations and action plans.
- 2001 CRISP Commission 00/29: An Action Plan for the Environment Agency.
- 2001 CRISP Commission 00/23: An Action Plan for the Economic and Social Research Council.
- 2001 CRISP Commission 00/22: An Action Plan for the Highways Agency.
- 2000 CRISP Commission 00/14: An Action Plan for the Construction Innovation and Research Management (CIRM) Division of the Department of Environment, Transport and the Regions (DETR).
- 2000 CRISP Commission 00/13: An Action Plan for the Engineering and Physical Sciences Research Council.
- 1999 CRISP Commission 99/5: A review of current industry and research initiatives on design.

The above are available on my consultancy website [www.eclipseresearch.co.uk](http://www.eclipseresearch.co.uk)

## Other miscellaneous items including some unpublished items

- 2013 *Funding low carbon buildings through project process innovations*. This desk-based study was commissioned by the Royal Institute of British Architects (Adrian Dobson, Director of Practice) and the UK Construction Industry Council (Richard Saxon) to examine in detail a recommendation made by the UK Government Low Carbon Construction Innovation and Growth Team that had invited the construction sector to identify innovative procurement processes and their potential for cost savings that might then be used to fund low- and zero-carbon technologies in buildings. The report recommended low carbon solutions, but not zero-carbon buildings, believing these to represent over-investment and citing the law of diminishing returns. Consequently, the report was not approved for publication by the RIBA.
- 2009 *Best practice in the construction and contracting sector in Abu Dhabi*. This major study was commissioned by the Abu Dhabi Council for Economic Development (ADCED) and comprised a strategic review of the construction sector in the Emirate. During 2009, I spent five weeks in Abu Dhabi and conducted 44 interviews and, with colleagues, ran a stakeholder workshop. For

confidentiality reasons the 150-page report has never been published, but it is cited on the ADCED website <https://www.adced.ae/sites/En/initiatives/SitePages/2009Pri2act3.aspx>

- 2005 *Better designed buildings - improving the valuation of intangibles* This study was funded by the Department for Trade and Industry and addressed the need for new valuation methods that credit the intangible benefits arising from good design. Various reports including the Final Report can be found on my consultancy website [www.eclipseresearch.co.uk](http://www.eclipseresearch.co.uk) under Design, innovation and value.
- 2004 Macmillan, S. and Köhler J.H. (2004) 'Modelling energy use in the global building stock: a pilot survey to identify available data sources', *Tyndall Centre Technical Report 6, University of East Anglia*.
- 1998 *Energy Design Advice Scheme (EDAS): Operations and Achievements 1992-1998*, ETSU S/T1/00133/REP, published by Energy Technology Support Unit for the Department of Trade and Industry [an edited version of my final report to BRE.]

## Co-ordination of research groups and projects

### Consortium Manager (part-time), CaRB (Carbon Reductions in Buildings) project (2004-2009)

Appointed from 2004 as part-time Project Manager to the CaRB consortium. The members of the consortium are De Montfort University, University College London, and the universities of Reading, Manchester and Sheffield. CaRB is a major research project (£3m over 4 years) funded by the EPSRC and Carbon Trust as part of Carbon Vision Buildings (CVB) - a research programme aimed at reducing carbon emissions from the UK building stock.

### Secretary to the Carbon Vision Building Engagement Group (2005-2009)

Appointed from 2005 as Secretary to the CVB Engagement Group which oversaw the three consortia that formed CVB – that is, Carbon Reduction in Buildings (CaRB), Building Market Transformation (BMT) and Technology Assessment for Radically Improving the Built Asset Base (Tarbase).

### Engineering and Physical Sciences Research Council – Sector Programme Manager (1999-2001)

Responsible for maintaining, developing and promoting the momentum of the *Construction as a Manufacturing Process* programme through networking with academia, the professional institutes, the construction industry and government support agencies. Reinforced links between the programme and the Construction Directorate of DETR, the Construction Best Practice Programme, the Movement for Innovation, the Construction Research and Innovation Strategy Panel, and the Construction Associate Programme of Foresight. Defined a strategic framework for UK construction research. Established a Sector Target Advisory Group (STAG) and chaired meetings of the STAG to assess research proposals and advise EPSRC on the allocation of funds (£3.75m annually). Monitored progress of funded teams from academia and industry and reported to EPSRC.

## Scientific responsibility for research groups

### University of Cambridge Department of Architecture

#### **AQIT - Achieving Quality through Interdisciplinary Teamwork (1997-1998)**

Funded by EPSRC under the LINK programme *Integration in Design and Construction*. Initiated the project, wrote the bid, and managed it on a day to day basis. Because I was on a research contract, the Principal Investigator was named as Robin Spence. Research Assistants: Michael Busseri and Dr Jason Palmer. Non-academic partners: Essex County Council, Building Design Partnership, Kier Anglia.

#### **AQIT-2 - Measuring the benefits of interdisciplinary teamwork in construction (1999-2001)**



Follow up to AQIT, funded by EPSRC. Initiated the project, wrote the bid, and managed it on a day to day basis. Because I was on a research contract, the Principal Investigator was named as Robin Spence. Research Assistant: Jason Foley. Non-academic partners: Nicholas Grimshaw Architects.

#### **Mapping the Design Process during the conceptual phase of building projects (1998-2000)**

Funded by EPSRC under the Construction as a Manufacturing Process programme. Initiated the project, wrote the bid, and managed it on a day to day basis. Because I was on a research contract, the Principal Investigator was named as Robin Spence. Research Assistant: John Steele – he completed his PhD based on this research although he was registered at Loughborough University as we had applied for only 2 years of funding and Cambridge demanded 3 years guaranteed to register him. Non-academic partners: AMEC, British Airports Authority.

#### **Exploiting the internet to improve collaboration between users and design team: the case of the new Computer Laboratory building at Cambridge (1999-2001)**

Co-investigator with Paul Richens for this EPSRC-funded project. It was concerned with establishing what at the time (late 1990s) was a novel internet-based communication system between the consultants, the future occupants, and the university Estates Management and Building Services department for the University's new Computer Laboratory. Research Assistant: Michael Trinder

#### **Modelling energy use in the global building stock – a pilot survey to identify available data sources (2004)**

Investigator with co-investigator Jonathan Kohler for pilot study about the global building stock to assess the resources needed to build a database of global building stock data that could be used *inter alia* in the E3MG global economic model which is being developed as part of the Tyndall Centre's ETech+ project 'Technology policy and technical change, a dynamic global and UK approach'. Research Assistant: Fiona Holdsworth.

#### **Designing dynamic environments for the performing arts (2005-2008)**

Responsible for final compilation and editing of the successful bid to Arts and Humanities Research Council, Principal Investigator Alan Short. Research Assistant: Dr Alistair Fair.

### **PhD supervisions**

- |                       |  |
|-----------------------|--|
| Kevin McCartney       | Thesis title: <i>Designers' use of information sources</i> . Started 1982 and obtained PhD in 1986 at the Department of Design Research, Royal College of Art. He is now Professor at the Cork Centre for Architectural Education, University College Cork, Ireland.   |
| Zulkiflee Abdul Samad | from the University of Malaya, Malaysia, 2003-2007. Obtained PhD in 2008, Thesis title: <i>Intangibles in the built environment: explored through UK primary schools</i> , University of Cambridge, Department of Architecture. He is now a Senior Lecturer, Department of Quantity Surveying, Faculty of the Built Environment, University of Malaya, Malaysia. |
| Jesper Eis Eriksen    | started 2012 but never completed owing to illness. Proposed title: <i>Impacts of Investing In Public Open Space: a longitudinal case study of Mimms Park, Copenhagen</i> , University of Cambridge, Department of Architecture.  |
| Chris Marien          | Started 2014, completed 2019, undertaken part-time. Title: <i>Design Intent compared with Performance in Practice: Residential Heat Networks with Combined Heat and Power</i> . University of Cambridge Department of Engineering.   |

### **Examining experience at Masters and PhD level**

- I have examined about 60 masters theses at Cambridge, plus 3 in 2017 at UCL.

- I have examined 10 PhDs (3 as External at Manchester (Alai, 1997), UCL (Manzoni, 2014), and University of Central Lancashire (Barrett, 2017) and 7 as Internal at Cambridge in the Departments of both Architecture and Engineering (Houlihan, 2010; Makrodmritri, 2013; Voss, 2014; Anderson, 2014, Ho, 2017; Jiao, 2017; Yi, 2017).

## **Refereeing for UK Research Councils and Innovate UK**

- 2017 Panel Member for EPSRC Research Innovation Fellowships, November.
- 2017 Member of the Engineering and Physical Sciences Research Council Assessment Panel to review bids under the UK-India Energy Demand Reduction in the Built Environment, July.
- 2015 Member of UK Engineering and Physical Sciences Research Council Engineering Assessment Panel to review grant applications, May.
- 2015 Participant in RCUK (Research Councils UK) China-UK Urbanisation Workshop, Chengdu, January.
- 2012 Member of UK Engineering and Physical Sciences Research Council Engineering Assessment Panel to review grant applications, October.
- 2010 Member of the Economic and Social Research Council Assessment Panel for *Energy and Communities*.
- 2009 Member of the joint Engineering and Physical Sciences Research Council and the Economic and Social Research Council *People-Energy-Buildings* programme grant application review panel, September.
- 2004 Member of assessment panel for joint AHRB/EPSRC programme *Designing for the 21<sup>st</sup> Century*.

I am a member of the UK EPSRC College of Referees and regular referee to EPSRC for research grant proposals in the area of design and the built environment.

I regularly assess proposals for Innovate UK and its predecessor the Technology Strategy Board in the field of built environment, innovation and energy.

I was an assessor and panel member for the UK Government Department for Trade and Industry, Partners in Innovation programme in 1999, 2000, 2001 and 2002.

## **International refereeing**

2016, 2018 and 2019 International Assessor for research applications to the Ministry of Business, Innovation and Employment, New Zealand.

## **UK Universities Research Assessment Exercise/Research Excellence Framework**

- 2001 Member of Built Environment Panel for the UK *Research Assessment Exercise*.
- 1996 Member of the Industry Sub-Panel for the UK Research Assessment Exercise.

## **National and international reputation and professional activity**

- Keynote speaker at conference at Lviv Polytechnic National University (LPNU) on 19-20 November 2015 celebrating 20 years of academic co-operation between LPNU and Vienna University of Technology. Topic: 'Architecture and its place in the Academy'.
- Participant representing Cambridge University in Project SEHUD (Architecture and sustainable development based on eco-humanistic principles and advanced technologies without losing identity. Funded by EC under the Tempus programme, and led by Milan Polytechnic. Objective is to establish postgraduate courses in five Ukrainian universities on the topic of sustainable urban

development. I have contributed lectures and course materials to the project and visited all the participating Ukrainian universities. (2012-2015).

- Invited speaker on 'Design for the Built Environment', UK Government Department for Communities and Local Government, Science and Technology Day (part of Government Enquiry Week 2013) 23 April 2013.
- Invited participant, Global Leadership Forum in Construction Engineering and Management, Hong Kong Polytechnic University, 11-12 May 2013.
- Invited speaker to the International Association for Bridge and Structural Engineers Future of Design Conference, UCL, September 2012 (reported in *New Civil Engineer*, 20 September 2012, pages 10-11).
- Invited participant, international Design Futures Council summer meetings: Cambridge, August 2010, and London, July 2012.
- Regular referee for *Design Studies*, the *Design Journal*, *Building Research & Information* and *Construction Management & Economics*.
- University Moderator, RIBA Part 3 Professional Practice, University of Cambridge, 2007-2012.
- Member of the Cambridge University Engineering Design Centre Steering Committee, 2002-2006.
- Member of the Sounding Panel for AHRC-supported project *Designing dynamic environments for the performing arts* at the Department of Architecture, University of Cambridge, 2004-07.
- Member of the steering group for the *CityForm* project, Oxford Institute of Sustainable Development.
- External assessor for pre-Research Assessment Exercise review of the Construction Management department of Liverpool John Moores University, 2006.
- External assessor for pre-Research Assessment Exercise review of the Built and Human Environment Research Institute, University of Salford, 2005-07.
- External assessor for Interior Spatial Design course at Chelsea College of Art, 2005.
- Conducted a Research Review of the Faculty of the Built Environment, Dublin Institute of Technology, spring 2003.
- Member of 2003 Adjudication Panel for Technological Sector Research - Strand III Core Research Strengths Enhancement, part of the Irish Government's National Development Plan.
- Advisor to the Architects for Change group of the Royal Institute of British Architects over the *Why Women Leave Architecture* study by University of West of England (2002-2003)