

Institution: University of Kent

Unit of Assessment: C16 Architecture and the Built Environment

a. Overview

The Kent School of Architecture (KSA) was founded within the Faculty of Humanities in 2005 as an entirely new department of the University of Kent. The initial objective of KSA at its foundation was to provide both the undergraduate and postgraduate programmes validated by the RIBA and prescribed by the ARB. KSA made no submission to RAE 2008.

In 2007 the University of Kent began the transition of KSA into a full research department: a key first step was the establishment of **CREAte**, a research centre in the field of history, theory and design. In 2010 the move was enshrined by the adoption of a School Strategic Plan by the Faculty of Humanities; a second research centre, **CASE**, was then established in the field of sustainable environment. KSA has grown from 3 to 12 active researchers, working in a dedicated, world-class environment. The School's research strategy is currently expanding in the fields of building conservation, landscape history, and digital architecture.

b. Research strategy

b.1 KSA's research strategy evolved through an ambitious policy of expansion and development since 2007, enshrined since 2010 in the School Strategic Plan. Our strategy comprised:

1) a wide-ranging programme of new staff appointments; 2) the establishment of active research centres in history and theory, urban design and sustainable environment; 3) encouraging and supporting high-quality major grant applications to funding bodies; 4) organising events such as conferences and lecture programmes; 5) establishing and mentoring a high quality postgraduate research community; 6) establishing KSA as an agent for change and impact internationally, and in the region; 7) embodying research by practising architects at the heart of KSA; 8) enabling teaching staff to make the transition towards research careers, all supported by 9) first-class working facilities, within an ambitious international network of research collaboration, and a transparent internal management process and system of financial support.

Since 2007 we have created a thriving research environment that has generated world-class projects and published / built outputs. Specifically, we have achieved the following goals:

1) 9 new researchers since 2008; all research staff are making a full output submission to the REF; 2) two research centres operating active programmes; 3) Over £207,000 during the REF period in direct research income from research councils and other external bodies; a variety of public / private sources support other projects; 4) two international conferences; 5) 23 registered PGR students (incl. part-time), incl. 8 from September 2013; the first three PhD students are expected to complete by end 2013; 6) wide and significant international links with academic and other institutions, detailed in (e) below; 7) one practising architect as a member of our research staff; and 8) one long-time KSA teacher, also a practising architect, currently actively transitioning into research; 9) capital expenditure, totalling £285,853 in 2008-2012, with a further £133,445 allocated up to 2014, by KSA on equipment, including world-class AV facilities and 3-D scanner, in a new dedicated space (£0.9M) accessible to researchers including PGRs.

Discussions and decisions about research strategy – themes and planning – take place through KSA's two centres, which also provide its research identity. **CREAte**, The Centre for Research in European Architecture, for research into architectural history, theory and design, was founded with the arrival of **Fontana-Giusti**, 2007; and **CASE**, Centre for Architecture and Sustainable Environment, for research into sustainable environment and design, with the appointment of **Nikolopoulou**, 2011. The Centres encourage professional discussion and collaboration, within the University and external partners, and run distinguished <u>guest lecture programmes</u> and research workshops. These events are public and are advertised to all Humanities staff and students.

The overall management and monitoring of research at KSA are the responsibility of the Director of Research (currently **Brittain-Catlin**). He represents the School Research Committee at the Faculty Research Committee and the University Directors of Research Network. It is the responsibility of the Director to assist staff; anticipating moves into research; devising courses of action; and providing guidance in making applications to Faculty or research council funds. Every member



writes an annual Individual Research Plan in discussion with the research director; this details current projects, and proposes medium and long-term project, publication and impact goals.

Over the next five years the role and activities of the research centres will expand around the research identities that KSA has developed, based on the growing expertise and reputation of its centres. These will continue to develop as lively and active organisations with a growing online presence and strong postgraduate involvement as well as workshop, lecture and conference programmes, and a strong commitment to impact in the region, nationally and internationally.

b.2. The research centres

b.2.1 <u>CREAte: The Centre for Research in European Architecture</u>. Director: Fontana-Giusti; members: Adler; Brittain-Catlin; Cardellicchio; Guerci; Haney; Karydis (ECR); Smith (ECR).

CREAte's original scope reflected the interests of existing staff who were already research active (**Adler**, **Brittain-Catlin**, **Fontana-Giusti**). It now actively promotes and disseminates research in architectural theory and criticism; history of modernism in Britain; urban design theory; architectural historiography; and integration of critical knowledge with design work while engaging with the public and the region, nationally and internationally. **Brittain-Catlin**'s research for **CREAte** in the field of unappreciated architects from the early C19 and C20 is now reaching an international audience. Through appointments since 2007, areas of expertise now include: Renaissance architecture in England and Italy (**Guerci / Fontana-Giusti**); early twentieth-century German architecture and landscape (**Adler / Haney**); early Byzantine construction (**Karydis**); and recent developments in architectural design and engineering (**Cardellicchio**, **Smith**). **CREAte** is now actively promoting larger collaborative and interdisciplinary projects across its fields of excellence (a substantial AHRC application in the field of C19 religious architecture is currently under way).

CREAte's focus has developed into emerging and distinct research clusters. Areas of synergy include: mid-twentieth-century British modernism (Adler / Brittain-Catlin (outputs GA2-3: TBC2)) and Renaissance urban architecture and theory (Fontana-Giusti (GFG2)/ Guerci (MG2-4)). Further development of the urban design cluster will create a digital platform for research data storage, including for participatory urban design; pedestrian-friendly and smart cities; experiments in ecological urbanism; digital development of field theory; and related parametric urban design. CREAte has run two high profile international research conferences, AHRA's 'Scale' (2010) and 'New Directions in Gothic Revival Studies Worldwide' (2013), resulting in peer-reviewed books; participated in international urban design workshops / consultancies across continents; supported research funding bids; and provided a locus for new taught MA programmes (MA in Architecture and Cities. MSc in Architectural Conservation, forthcoming), and PhD and post-doctoral research studies in architecture. CREAte acts as a hub, advancing architectural research within Kent and the wider international region of Pas de Calais and south Flanders, establishing research links with institutions, networks and stakeholders in SE England, the UK, Europe, Turkey, Middle East, SE Asia, India, China, South Korea, USA and Africa. 12 PGRs are members of CREAte. Shuayb, a PGR student, has worked on campus accessibility solutions for the physically impaired with Kent's Estates. CREAte consultancy has supported Kent County Council's research activities.

CREAte members work closely with other research centres at Kent. Specific areas for expansion and development now identified within current staff research plans include: further integration of research by architect-practitioners into the daily life of the School; the growing role of KSA as an international centre for the study of the gothic revival, (optimally with a new inter-School research centre focused on religious architecture); Renaissance architecture and urban history in Britain and beyond; digital architecture and urban design; building conservation; and landscape.

b.2.2 <u>CASE: Centre for Architecture and Sustainable Environment</u>. Director: Nikolopoulou; members: Bothwell (transitioning); Renganathan; Schoenefeldt (ECR); Smith; (ECR) Watkins.

CASE was established in 2011, following the recommendations of the Faculty Review Panel and the School's strategic plan. A newly-appointed professor (**Nikolopoulou**), together with **Bothwell** and **Smith** (a design tutor since 2007 who joined the permanent staff in September 2012) created the initial core of the group in January 2011; they were strengthened with the arrival of **Schoenefeldt** and **Watkins** (2011) and **Renganathan** (2012). **CASE's** objectives and activities are to promote research in the fields of a) environmentally sustainable building design; b) climate

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change; and c) the history of environmental design. More recently, through research council funding, it has expanded to the experience of space and the effects of emerging technologies in the wider context of sustainability. **CASE** has a vibrant membership of six academic staff members, one postdoctoral researcher, and a post-graduate community with 11 PhD students. Following start-up funding (£30,000) from the University, the centre has developed a rich infrastructure of monitoring equipment and thermal simulation software appropriate for its research needs. The Centre has been awarded funding from the EPSRC, TSB, HEA, and industrial sources, as well as external support to establish collaborations with several universities in China.

Nikolopoulou's interests cover comfort conditions of complex environments such as airport terminals, outdoor urban spaces and user experience of spaces (MN1-4). With **Renganathan** and **Watkins** she focuses on urban microclimate and climate change. **Watkins** also focuses on microclimate prediction and future weather generation for building design, while **Renganathan's** work extends to summer-time overheating in buildings, passive ventilation strategies, and dynamic thermal modelling (RW1-4, GR2). **Schoenefeldt** specialises in the history of environmental design, including the technical development of the horticultural glasshouse (HS1) and environmental experimentation in the mid-nineteenth-century at the Palace of Westminster; he is also developing research into the pedagogy of sustainable building environments, for which he is receiving external funding. **Smith** (JS1) and **Bothwell** are practising architects whose work researches sustainable architecture and environments. **CASE** members have established links with the Schools of Public Health and Anthropology in the University, in the context of climate change, health and well-being.

CASE is developing an active role on low-carbon design in the region: (i) organising RIBAaccredited CPD activities; (ii) developing Passivhaus workshops with industry; and (iii) reducing the energy consumption of campus buildings with the Estates department, through refurbishment strategies and a revision of the procurement process for new buildings. In the next five years, the Centre is looking to increase its research portfolio and impact in the region, exploiting the team's expertise in environmental diversity and climate change, as well as experience of space in the wider context of sustainability. **CASE** hosts the MSc in Architecture and Sustainable Environment.

c. People, including:

i. Staffing strategy and staff development

Adoption of the School Strategic Plan in 2010 resulted in key staffing decisions that have since been implemented: 1) the development of a new field of research at KSA, architecture for the sustainable environment, with the appointment of a professor (**Nikolopoulou**) with an established international reputation, and the subsequent addition of a team of three new research staff with overlapping fields of expertise in order to develop a critical mass of scholarship; 2) the appointment of four new staff in complementary specialisms in the history and theory of architecture; 3) the appointment of **Smith**, a long-term teacher and researcher at KSA, as a permanent member of staff active in both research centres. The total number of research staff has thus grown from 3 to 12 since 2008, and **Bothwell**, a practising architect and long-time KSA teacher, is currently transitioning into a researcher with publications and active research projects to date. All research staff teach in the undergraduate and postgraduate school. **Adler** has been promoted to Professor; **Brittain-Catlin**, **Guerci** and **Haney** to Senior Lecturer.

c.i.: **Overall staffing policy**: Kent has attained the European Commission's <u>HR Excellence in</u> <u>Research Award</u>. KSA operates within the <u>guidelines established by the University of Kent</u>, which includes and ensures annual appraisal; opportunities for staff development, for example in the form of participation in courses and workshops; recognition of the <u>Research Staff Concordat</u>; and the provision of term-long study leave, normally one 12-week term after 72 weeks' term-time service. The demographics of KSA, equality of opportunity and awareness of equality and diversity are monitored and supported by the University's HR department; because of the small size and recent foundation of the School, age and gender balance are difficult to achieve, but two of three research-active professors are women and each is one of the two research centre directors. From 2010 onwards shortlisted candidates make presentations to all staff enabling and encouraging debate. The fact that KSA now has a large number of new and relatively young staff, with three ECRs (**Karydis**, **Schoenefeldt**, **Smith**), means that succession planning is expected to be straightforward over the foreseeable future; new researchers have however been recruited at all

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levels of age and experience. ECRs enjoy additional support from the University's ECR network, Grants Factory, and other professional services such as management training. All new staff undergo probation periods with KSA supervisors and mentors as well as PGCHE mentors.

Research students

The first doctoral student registered in 2007. Recruitment of doctoral students within the School is currently growing: 8 new PGRs joined in September 2013, bringing the current total to 23. 2 are part time; 9 are funded through graduate teaching assistant scholarships; 2 by other University awards; 5 from EPSRC or national bodies in their home countries. Applicants frequently name individuals as potential supervisors, and are drawn by the international visibility and identity of the School's research centres; they are selected in accordance with the <u>University's Code of Practice on Admissions</u>. Students are allocated to one of the two research centres. All candidates accepted to the School's PhD programme enter the competition for scholarships unless they have provided funding from elsewhere. During the census period, funding for research studentships has also been received from the following bodies: EPSRC research assistant staff route (1); the Egyptian Ministry of Defence (1); the Academy of Athens (1); the Government of Nigeria (2) and the British-Arab Foundation (1). All research students are financially supported by a personal research budget of £500 over 3 years, amplified through applications to the Faculty of Humanities top-up fund.

In line with the University's codes of practice, summarised in its handbook, the progress of research students in the School of Architecture is regularly reviewed. All research students have a supervisory team, consisting of a supervisory chair and a second supervisor(s). The Director of the PhD Programme (Fontana-Giusti) monitors the progress of all PhD students. In addition to weekly seminars, research students in Architecture benefit from the portfolio of skills workshops offered by the Graduate School, including the Associate Teacher Accreditation Programme. In the first term of the PhD, students receive training in subject-specific research methods. They are invited to attend a series of seminars on generic skills training, which focus on the practicalities of an academic career including giving presentations, applying for grants, and securing publication. Students attend weekly seminars within KSA where they present their work in progress in the presence of their supervisors and peers. All research students on GTAs are contracted to do 96 hrs / year teaching as part of their programme, supported by the Graduate School's Transferable Skills Training Programme, while all research students are given the opportunity to teach, supported by mentoring. KSA offers research students desk space in a purpose-built room in its state-of-the-art new Digital Crit Space (£0.9M), as well as computer and photocopying facilities and, depending on the needs of their research, specialised software and / or appropriate equipment.

Research students are actively involved in University events such as the annual Research Festival. Almost all KSA PhD students have participated with oral presentations and research posters. CREAte PhD candidate Amadei (completing in Autumn 2013) won first prize in 2012 amongst the students of the Faculty of Humanities. PGR students present at international conferences in the second and third years of their research with financial support from KSA. They have participated in many and won awards in some; Berstrand, Mahdy and Vasilikou have each presented at three architectural conferences, and Amadei at four: Adekunle presented and won a prize at a student conference in UCLA California; Equere presented at a student conference at the University of Cambridge. In April 2013 Amadei, Berstrand and Vasilikou took part in the fortnight-long British-Chinese Architecture Staff and Student Collaborative project on Architectural Design for Industrial Heritage organised by the Architectural Society of China and Tsinghua University in Beijing where they collaborated with the colleagues from top 6 Chinese and 4 UK Schools of Architecture. All three won prizes there for design and innovation. PhD students have representatives at School Graduate Studies committee meetings and so help to shape policy around research. Many also play an active role in KSA activities in general, often initiating them. Vasilikou, for example, was one of the University's organisers of the Artscapes: Urban Art and the Public Interdisciplinary Conference on Art and Urban Spaces, held in the new Digital Crit Space in June 2013, while Berstrand taught at Margate's Turner Contemporary Museum in the Centre for Flexible Learning (in collaboration with the School of Arts, U.of Kent).

d. Income, infrastructure and facilities



d.1 overview / infrastructure / facilities: KSA research has strongly benefitted from the University's commitment to the sustainable, long-term growth of the School, expressed in:

1) continuing, large-scale investment in infrastructure and state-of-the-art IT and AV facilities (totalling £285,853 in 2008-2012, in a new dedicated building (a further £0.9M));

2) support and guidance for large-scale grant and funding applications, including inter-School, interdisciplinary and inter-university applications;

3) Faculty support for specific projects, conferences and the development of research links such as programmes for visiting scholars. There are two this academic year: one teacher from METU Turkey and another post-doctoral researcher from China (Wuhan U. of Technology). In addition, research staff have access to research costs from KSA's own discretionary research budget, totaling £10,000 p.a., for conference attendance or other project costs, and KSA researchers are guided in developing new ways of supporting their work through links with private sponsors.

The University's Research Services office provides a dedicated member of staff, advice and training in developing, costing, negotiating and managing research grants within the Faculty, and more broadly in supporting the University's research culture. This includes facilitating interdisciplinary working, through regular PVC Lunchtime Seminars and internal funding to support the development of large, complex and interdisciplinary projects; an ECR Network, which encourages ECRs to meet those in other Schools and share good practice; and the award winning 'Grants Factory' programme, in which staff who have been involved with Research Councils and major charities provide advice to those with less experience. KSA's Director of Research is responsible for encouraging and developing applications, including interdisciplinary collaborations.

KSA has the support of a designated professional liaison librarian at the University's Templeman Library and the School's library representative liaises directly with relevant staff. In 2007 KSA presented the Library with books / bound journals from the collection of the Architectural Press. In 2010 KSA received about 2,000 books from the collection of architectural historian Andor Gomme.

Income: external research funding: In 2008-2013 KSA researchers received external d.2 research funding of over £207,000. Indirectly, they also received funding from the Chinese Ministry of Education through Tianjin University (Nikolopoulou); the Cambridge-Nanjing Research Centre on Architecture and Urbanism (Schoenefeldt); and from the Chinese Ministries of Education and Housing & Rural-Urban Development as part of Sino-UK Cooperation centred on the Architectural Design Project for Industrial Heritage (Fontana-Giusti). The appointment of Nikolopoulou, a proven grant holder with 3 EPSRC projects, brought a new direction of research to KSA and has resulted in a further EPSRC award (£150,000, Digital Economy Network: Communities and Culture). Bothwell managed and provided expertise to 2 TSB funded projects led by SMEs: 1) a consortium (Conker Conservation, Carbon Free Group, Ecolibrium - £1,800) and 2) Bay Trust (£18,298.33). Nikolopoulou was Co-I on the Bay Trust project, run by Bothwell, and managed a further TSB project (£60,000). Schoenefeldt (ECR) holds an HEA grant; Guerci has received four awards totalling £23,000 (British Academy; Paul Mellon Trust), while Haney was awarded a research fellowship from Dumbarton Oaks (Harvard). Private sources: the University provides a dedicated business development team to develop public, private and third sector research collaborations. Support is provided for identifying and gaining follow-on funding and support for leveraging external funding and co-funding, costing, negotiating and managing projects. Brittain Catlin (£1,000) and Fontana-Giusti (£897) have secured consultancy fees which have contributed towards the financing of their independent research projects; the former was for a Statement of Historical Asset Significance, a field of operation that CREAte encourages and the latter for the work with Hong Kong Research Grants Council by Fontana-Giusti. Both Adler and Brittain-**Catlin** were awarded private and charitable funding (£10,000, including augmentation from university match funding) for their monographs in the British Twentieth Century Architects series. Schoenefeldt received funding from industrial sources for his Passivhaus UK project.

d.3 Income: internal sources: Staff have gained a total of £45,338 internal funding from the Faculty Strategic Research Fund: CASE received £30,000 to develop its laboratory infrastructure for environmental monitoring in the built environment and specialised software for dynamic thermal simulations. Other recipients: Haney, towards his project *The Gardening State*; Fontana-Giusti, for the *Walking in Motion* collaborative project with Kent's School of Arts, and for the collaborative



research bid *Water and Cities – the Spatial Effects of Water in Urban Design;* **Schoenefeldt**, for *The Scientists of the Palace of Westminster: a study into environmental experimentation in midnineteenth century architecture.* The total includes £10,000 towards **CREAte** conferences in 2008-2013. **Nikolopoulou** and **Martin** received £1,500 from the Faculty Grant Incentivisation Fund for enhancing scholarly activity and impact pathways. From the Faculty Internationalisation Fund **Guerci** gained £1,000 for a trip to Turkey, and **Fontana-Giusti** £4,999 for a research and design workshop trip to Beijing with 3 PhD students, securing University of Kent's place in the long term Sino-British collaboration organised by the British Council and inaugurated in Beijing on 15 April 2013. A delegation comprising senior academic staff and students from all six Beijing architecture schools returned the visit in October 2013 with a view towards establishing research links.

e. Collaboration and contribution to the discipline or research base

KSA researchers are already recognised within a wide range of prestigious international networks. These collaborations are coordinated and discussed across the School Research Committee and centres to maximise academic impact in our specialist fields. All staff are required to contribute to the furtherance of their disciplines through engagement with major international academic, professional and amenity society audiences; during the current period, ³/₄ have presented invited lectures at academic events, and ²/₃ work regularly with professional, learned and amenity societies. Kent PGRs will benefit from the <u>Consortium for the Humanities and the Arts Southeast</u> <u>England</u>'s fund of £17 million for 232 PhD studentships across CHASE in the coming 5 years.

Collaborative research partners and projects 2008-2013: Brittain-Catlin has launched a series of collaborations as part of KSA's strategy to become a major centre of gothic revival scholarship with KADOC, the Documentation and Research Centre for Religion, Culture and Society at KU Leuven: this has included editorship of a section of the major Leuven University Press series The Dynamics of Religious Reform in Church, State and Society in Northern Europe, c 1780-c 1920. He has also contributed to Dr Ruth Craggs' ongoing project on 'volunteering, heritage and enthusiasm', King's College London, and has various ongoing collaborations with English Heritage. Fontana-Giusti was co-instigator of the Walking in Motion collaborative project with the School of Arts and the Bauhaus, Dessau, On the Sino-UK Higher Education Collaboration on Architectural Design for Industrial Heritage, funded by the Chinese Ministry of Education and Ministry of Housing and Rural-Urban Development of China, she collaborated with Roval College of Art: Cardiff U.: and a wide range of Chinese HE institutions. Guerci: collaborations with Paul Mellon Trust; U. of Rome 'Tor Vergata'. Haney: visiting scholar, Dumbarton Oaks Research Library and Institute in Washington, DC. Nikolopoulou: EPSRC collaborations with universities of: Aberdeen; Bath; Brunel; City; De Montfort; Edinburgh Napier; East London; Essex; Leeds; Leeds Met; Loughborough: Manchester: Northumbria: Nottingham: Portsmouth: Sheffield: Sussex: Swansea: UCL; Warwick, and York; internationally: Polytechnic of Milan; Helmholtz Centre for Environmental Research; National Observatory of Athens; Agricultural U. of Athens; U. of California San Diego; and Central South U. of China. Member, Tianjin U. project 'Low Carbon City and Architecture' funded by the Chinese Ministry of Education. Schoenefeldt: works with the Nanjing-Cambridge Research Centre on Architecture and Urbanism (NCRCAU), undertaking field visits to historic industrial buildings in the Nanjing area and investigating areas for collaborative research projects.

Conference and workshop organisation: Adler, Brittain-Catlin and **Fontana-Giusti** directed *Scale*, the 7th International Architecture Humanities Research Association (AHRA) conference, 2010. **Brittain-Catlin** directed *New Directions in Gothic Revival Studies Worldwide* at Kent (July 2012), a major international event for gothic revival historians, and a key stage in the realisation of CREAte's strategy. **Martin** (PDRA) co-organised the 'Crafting urban camouflage workshop', DIS 2012 (Newcastle). **Nikolopoulou** co-organised the NCEUB International Conference at Windsor Gt Park (2012); *Mediating Heritage* (2012) (EPSRC Digital Economy network).

Invited lectures and keynote presentations: Adler: *Scale Matters*, Indesem, TU Delft; *A Study in White: Dalcroze Eurhythmics and the Birth of the Modern Movement in Architecture*, Docomomo / Dalcroze Society. **Brittain-Catlin**: *Liturgy as Muse*, the International Conference of the European Forum on the History of Religious Institutes in the 19th and 20th Centuries (RELINS-Europe); *Ethics*, U. of Nottingham; lectured, U. of Westminster. **Fontana-Giusti**:Tsinghua U. Beijing; Beijing U. for Architecture and Structural Engineering; Architectural Society of China; Chinese U. of Hong Kong; London College of Communication, U. of Arts London; Royal College of Art London. **Guerci**:

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Ruskin vs Palladio, RIBA; Tudor and Stuart History, IHR; universities of York; Reading; Warwick; Cambridge; Edinburgh; U. Rome Tor Vergata; Istanbul Technical U.; Villa Medici, French Academy of Rome; the New Walk Museum, Leicester and Taylor Institute, Oxford; and Doshisha U., Kyoto, Japan. Haney: U. of Illinois at Chicago; Boston University; The Institute of Historical Research; Gartenforum Glienicke, Berlin; Northern Architectural History Society, Newcastle upon Tyne; U. of Greenwich; Ernst May, Deutsches Architekturmuseum. Frankfurt Main; Why History?, TU. Delft; Gartenkultur, U. Paris West Nanterre La Défense; Food and the City, conference, and Travel and Translation, Garden and Landscape Studies colloquium (Dumbarton Oaks (Harvard)). Karydis: Ashmolean Museum; U. of Oxford; KCL; U. of Newcastle; U. of Pennsylvania; Koc U.; Austrian Archaeological Institute. Nikolopoulou: Sustainable Cities at Low-Carbon SW, APEC Forum of 'Low-Carbon Town Development' at Tianjin; World Renewable Energy Congress at Abu Dhabi; keynote for Ekotectura in Bogota (2014), and many research seminars and talks internationally. Schoenefeldt: talks at the universities of Cambridge: Bath; Oxford: Brighton: Sheffield: Nanjing: Teaching of Environment, Sustainability and Technology in Architecture & Design Conference, London; 3rd Cambridge-Nanjing Forum on Architectural Thinking. Watkins has lectured at the Centre for Alternative Technologies.

Professional, learned and amenity societies: Adler: AHRA (steering group); RIBA and ARB (as examiner); the Heinrich-Tessenow-Gesellschaft; RIBA Research awards, Tessenow Award and Queen's Anniversary Prize for HE (jury member). Brittain-Catlin: The Victorian Society (building committee member; lecturer); The Twentieth Century Society (trustee; publications chair); Thanet District Council. Fontana-Giusti: Architectural Society of China; AHRA (steering group); Society of Leon Battista Alberti, Paris; AA London; Urban Design Group; UIA and AIA; Kent County Council (2 Seas' project). Karvdis: architectural consultant for Building D, with the Harvard Art Museums in the Archaeological Exploration of Sardis. Nikolopoulou: CIBSE; DCLG Behavioural Research Network (with the RIBA and Royal Academy of Engineering). Schoenefeldt: TP Bennett; Aedas; Eurobuilt; the Passivhaus Trust; the Construction History Society. Lectures: Institution of Structural Engineers; Institute of Civil Engineers; RIBA; the Prince's Foundation. Smith: collaboration with Espace Info Energie de Tarn-et-Garonne (part of CAUE, conseil d'architecture, d'urbanisme et de l'environnement). Watkins has spoken at the UK Climate Impacts Programme (UKCIP) Adaptation and Resilience to Climate Change Co-ordination Network. CASE staff contribute to various planned refurbishment strategies: House of Commons Commission (Schoenefeldt); London City Airport (Nikolopoulou); U. of Kent School of Art (Nikolopoulou and Watkins). Watkins: CIBSE; AECOM – for a Defra-funded project; Hoare Lea – for two TSB projects (Design for the Future call). Renganathan: Skanska (for energy use at the New Papworth Hospital).

Editorial boards: Brittain-Catlin KADOC (U of Leuven Press), from 2013; publications chairman, Twentieth Century Society, from 2013; editor, the peer-review journal of the Pugin Society 2004-12. Fontana-Giusti: Architecture + Culture (AHRA). Nikolopoulou: guest editor, Advances in Meteorology. Referees – Research Councils: Nikolopoulou, member, EPSRC Peer Review College (three times). Reviewed proposals for: UK MRC; Qatar National Research Fund; Portuguese Foundation of Science and Technology; Framework Programme for Research, Technological Development and Innovation, Cyprus; Hellenic Research Council; EU FP7 SME Programme. Fontana-Giusti: Vienna Science and Technology Fund; consultant to Research Grants Council of Hong Kong. – Publishing houses: staff reviewed for 5 academic publishers. – Peer-reviewing for journals: Staff refereed for 33 journals. Conferences: Brittain-Catlin, Liturgy as Muse, KU Leuven; Fontana-Giusti, 3 AHRA conferences; Instant Cities American U. of Sharjah, UAE. Nikolopoulou: Sustainability in Energy and Buildings (Morocco); The changing context of comfort in an unpredictable world (Windsor); Sustainability in Energy and Buildings (Stockholm); SAUD: Int. Conference on Sustainable Architecture & Urban Development.

PhD Examining: Staff have examined PhDs at 12 HE institutions in the UK and internationally.

Esteem Indicators: Haney: Elisabeth Blair MacDougall Book Award, Society of Architectural Historians [of the US], 2013, for *When Modern Was Green*. **Karydis**: RIBA President's Commendation, Outstanding PhD Thesis, 2010. **Nikolopoulou**: Elsevier award, 2009, most-cited author; PLEA Best Paper Award at the Passive and Low Energy Architecture International Conference, 2009; panel member EPSRC College; Hong Kong RAE 2014. **Watkins**: CIBSE Napier Shaw Bronze Medal, co-winner for best research paper, November 2013.