

Institution: London Metropolitan University

Unit of Assessment: UoA16

a. Overview

The Sir John Cass Faculty of Art, Media and Design and the Faculty of Architecture and Spatial Design, merged in August 2012 following a two-year process of collaboration, to create the new Sir John Cass Faculty of Art, Architecture and Design. The Faculty merger and concurrent university-level developments have resulted in significant changes, including the restructuring of faculty management, technical resources and administration; University-wide changes to course structures, delivery and the academic portfolio.

The new Faculty includes three Schools, which deliver a total of 22 undergraduate, 15 MA and 2 Professional post degree courses, and hosts 37 PhD students, studying across a broad range of both specialist and interdisciplinary fields; it is a community of 2520 students (of whom 542 were PGT/R in 12-13) and 104 FTE staff with 279 HPLs (academic, administrative and technical) in place in 12-13. CASS Projects and CASS Works were set up at the same time to support the Faculty's project, research, making and production activities; CASS Cities and CASS Culture are currently being developed to consolidate the Faculty's more discursive aims.

The CASS School of Architecture (formerly the Faculty of Architecture and Spatial Design) provides professionally validated architecture courses, interior architecture and a range of specialist postgraduate courses. The School is home to a range of research units/groups, independent architectural and urban researcher/practitioners, and has pioneered the development of research through practice. Our unique approach underpins our success abroad, on the institutional front, opening a new school in Moscow, and through an array of projects in locations across the globe. In the RAE 2008 the former Faculty submitted 21 staff with around 70 outputs, 40% of which were graded at 3*-4*. For the REF2014, we have selected work that demonstrates the scope, rigour and excellence of our recent research achievements.

b. Research strategy

The new Sir John Cass Faculty of Art, Architecture and Design enjoys strong support from the University. The Dean of the Faculty and Director of Architecture is Professor Robert Mull, under whom the new Faculty has successfully adopted and adapted the management, pedagogic and research strategy of the former Faculty of Architecture and Spatial Design. The merger is providing exciting opportunities for expansion, consolidation, new-cross disciplinary developments and a stronger base for collaborations and partnerships. The three Schools now share a flagship building, designed by ARU (Architecture Research Unit), in an extraordinary urban location opposite the Whitechapel Art Gallery on the edge of the City of London. The values of the Faculty sit comfortably within a University mission that is committed to widening access, fighting for social justice and working to shape London.

Since 2008 the CASS School of Architecture has established a clear and increasingly strong identity that is well understood by staff, students and the wider architectural community. This identity can be formulated under our rubric 'Duty of Care' which contains three aspects: care for society, care for the environment and care for making. Our approach can be tracked through the way we do research through design: from foundation year to the vertical studio system, from PhD by Practice to research within practice, to helping launch successful new practices – and keeping established ones in the loop. It can be tracked through the way we foster projects, clients, challenges, events and situations, which significantly engage our work with social and environmental issues. It can be tracked through the way we pay attention to the physical realisation of our projects and their social and material impact on the world.

Relationship between practice, teaching and research

The critical research structure in the School follows through from practice, to teaching, to research, to research in its disseminated form as 'research'. Hence our emphasis on having practitioners embedded in our core pedagogic activities. The majority of tutors teaching our undergraduate and postgraduate design studios (ug) and units (pg) since 2008, are practicing architects, whether they



are full-time or fractional, or organised through visiting professor or lecturer posts. These practitioners bring one or all of the following attributes: they run a research-led practice; they follow a strong social, urban or landscape agenda; they have a reputation for the craft of building. Architectural practices currently working with us include: ARU, Chora, EAST, Public Works, the AOC, Cottrell & Vermeulen, DSDHA, Lynch Architects, Robert Barnes Architects, Tony Fretton, Dow Jones and Caruso St John.

The School maintains a studio or unit based design pedagogy whereby each studio/unit works with a focused topic and loose research methodology in the development of their design projects. In some cases these develop into sophisticated research projects in their own right, in others they facilitate the setting up of subsequent research projects. The design led programme is reinforced by our specialist MA's that contribute either to the broader studio/unit curriculum as options, or to the design projects themselves. Design studios/units and MA courses provide an opportunity to incorporate independent research interests into student briefs and are seen as incubators for emergent researchers. The Free Unit (tutored by Robert Mull, Catrina Beevor and Peter Carl) is designed to help students to carry out self-directed research projects that represent the first stage of their future practice rather than the last stage of their education.

Mastery of this form of practice / teaching / research comes in the shape of our well established inhouse research units, notably **ARU** (Architecture Research Unit) under Professor Florian Beigel and Assistant Professor Philip Christou who helped pioneer the genre of 'design research' and the form of the now widely emulated 'architecture design laboratory'. **ARCSR** (Architecture of Rapid Change and Scarce Resources) under Professor Maurice Mitchell has developed new methodologies for the self-empowerment of subsistence communities through collaborative architecture. Another example is **CHORA** under Raoul Bunschoten, whose research investigates new forms of urban planning, design and curatorial practices for the Anthopocene age. These three units are all operating on an international stage in completely different ways, confronting the big problems of urban design, change, uncertainty, complexity and sustainability: all three run Diploma Units.

Since 2008, the School has become a hub for urban research, now being developed under the umbrella of CASS Cities by Mark Brearley. He has been associated with the School since 1996 when he first established the urban strategy consultancy East and ran a Diploma unit. Brearley worked for the Mayor of London from 2001 and led the Design for London team from 2008-2013 where he defined and pushed forward citywide initiatives including the London Green Grid, the Mayor's Great Spaces and the Outer London Fund. He has been closely involved with hundreds of live projects, helped craft the growth of over 90 London localities, worked on the formulation of policy and the creation of planning frameworks and masterplans. He initiated the Mayor's work focused on London's high streets, led research on their significance and steered the programmes. His new 'Office' and urban research practice is now located in the School, together with Lara Kinneir's Urban Research Projects | London. Between them they concentrate on London's urban issues and development projects, providing analysis, influencing plans, and helping deliver informed urban change. Brearley and Kinneir run the MA in Spatial Planning and Urban Design and curate events such as the recent 'The Future of London Placemaking' seminar at the CASS, co-hosted by The Academy of Urbanism Young Urbanists. Brearley is involved in urban issues internationally, recently visiting Genk and Antwerp to advise on post-industrial change.

The relationship between teaching, practice and research is interdependent, discursive and at times indistinguishable. It is a highly regarded mix: we were named on the *Domus* list of Europe's top 100 Schools of Architecture and Design. It leads to a variety of outcomes, ranging from built works to policy documents to publications and exhibitions. It intersects fruitfully with, rather than being restricted to, more conventional forms of research. The intersection has become more evident with the growth of our **PhD programme** under the leadership of Professor Peter Carl since 2009. This focuses on civic culture and urban research under the rubric of 'practical wisdom'. The programme works fluently between the practice, philosophies and experience of architecture, developing innovative methodologies as well as setting new standards of excellence. It takes architecture seriously as a discipline involving several kinds of architectural practice, from primordial experiences of spatiality or materiality to the highly sophisticated and specialist discourses from the sciences or economics, and aims to situate that spectrum within a civic



culture. The course currently has 17 PhD candidates, several of whom are attached to the research units and/or engaged in teaching across the School. Kinneir, for example, is simultaneously engaged in a PhD investigating how design quality in urban projects can be achieved, and teaching the MA in Spatial Planning and Urban Design.

Anne Markey leads **CASS Projects**, under the direction of Professor Robert Mull, and its success as an enterprise model has enabled it to become a research project in its own right, developing its own research practice as well as that of the projects it supports. **CASS Projects** provides the practical armature for developing our unique programme of 'live projects' and, more generally, a framework that enables serious traffic between our pedagogic and research enterprises and the real world. A particularly satisfying achievement has been the award by the University of the commission not only to design but also to manage the recent Faculty building programme. First established in 2004 as ASD Projects, it is a RIBA chartered practice that generates, supports and promotes design research, allowing staff and students to carry out live projects and consultancy within a professional environment. It facilitates cross-disciplinary co-operation, serving as an umbrella organization providing both physical space and administrative and technical support for research projects and funding applications.

CASS Projects has assembled a broad and fast growing network of stakeholders including the Corporation of London and the Mayor's Office, the Whitechapel Gallery and the Victoria and Albert Museum, the Architecture Foundation and New London Architecture, Design Council and City Livery Companies. Completed projects range from conventional architectural commissions to participatory workshops and educational events, with projects located both in the UK and abroad. In recent years CASS Projects has helped ARCSR build schools in Sierra Leone and India, hygiene and infrastructure projects in India, designed a center for sustainability in Cuba and is currently supporting master-planning projects in Kosovo and the Ukraine. It has helped studios and units work with participatory design and community lead projects. Torange Khonsari has developed her research in participatory and relational art theories and their impact on socially engaged architecture as part of her PhD. Sandra Denicke-Polcher has focused on 'live projects', with an emphasis on public projects. Recent initiatives by CASS Projects include 'Made in Hayes', by invitation of the local MP, and the Aldgate Project as part of our commitment to London's East End. Aldgate had twenty different projects running for the academic year 2011/12, involving architecture, fine art, jewellery, furniture and textile design and animation, together with local groups, charities and stakeholders in the Aldgate area.

CASS Projects sits alongside CASSworks, another cross-Faculty initiative. It is a unique resource within the Cass offering highly skilled specialist staff in areas as diverse as textiles, rapid prototyping, jewellery and silversmithing, musical Instruments making, printmaking and many more. Within CASSworks there are specialist workshops, equipment and facilities, including Metropolitan Works, our Digital Manufacturing Centre, which are among the best in Europe. These are core facilities used across the range of our pedagogic and research activities to flesh out projects using real materials and to commercial standards of production. CASSworks and CASS Projects worked with Jonas Lundberg and the Digital Architecture and Manufacture MA, to develop the Solar Decathalon winning scheme in China.

More specialist groups specific to the School include **LEARN** (Low Energy Architecture Research Unit) run by Dr. Luisa Brotas and Professor Fergus Nicol. **LEARN** sponsors the well established **MSc in Architecture, Energy and Sustainability** and its PhD students. It is engaged in European-funded research projects as well as research and consultancy work to government bodies, and commercial architecture and engineering practices. This unit was created in 1987 to bridge the gap between architecture and research in low energy design. Its expertise includes low energy architecture, sustainability, lighting and day-lighting, building thermal analysis, adaptive thermal comfort, overheating, environmental monitoring and post occupancy evaluation.

The long running History and Theory group has developed in several new directions within the **MA Architectural History**, **Theory**, **and Interpretation**. Dr Helen Mallinson is researching the history of air in architecture and its connection to the development of science; Dr Ines Weizman is researching the ideological spectacles enacted by Soviet-era architecture and the effects of the collapse of the Iron Curtain on the urbanism of former socialist countries; Joseph Kohlmaier is researching space and sound as paradigms in design, and the parallel histories of music and



architecture. In 2008 Joseph founded **Musarc**, a choir and performance group that adds a theatrical and physical dimension to this investigation. In 2012 Weizman organised the AHRA 'Paradox of Dissidence' conference. Mallinson is currently leading the newly reorganised history and theory undergraduate programme across the faculty, **CCS** (Critical and Contextual Studies), and reviewing how this might be consolidated with the more academic areas of the postgraduate provision and work with external agencies, partners and opportunities, in a similar way to studio practice, under the working title of '**CASS** /**Culture**'.

Areas of research that currently sit outside the Faculty teaching loop but that belong to our discipline are represented by the Cities Institute, under the direction of Dr Jo Foord, in the Faculty of Social Sciences and Humanities. Set up as a specialist research centre in applied research in 2001, the **Cities Institute** undertakes urban planning and policy research for a wide range of central, regional and local government bodies, government agencies and NGO's, charities and foundations, practices and industrial clients. The Cities Institute also undertakes academic research in collaboration with UK and international universities, funded by national and international research councils, foundations and charities. The work focuses on issues relating to social inclusion, urban regeneration, quality of life and the sustainable development of cities. Current projects are clustered around four interlocking areas: local and regional economic development, sustainable urban environments, urban and cultural planning (including town and city management) and urban amenities and communities. This group includes the work of Dr Frances Holliss and her pioneering 'Workhome Project'.

The School and Faculty is keen to be an active agent rather than chronicler of change. The founding of CASS Projects, the way we work with live projects and engage with our clients and audiences, has enabled us to engage with the culture we serve. The CASS website has been designed to collate and connect the wide range of activities undertaken within the Faculty, including research. Professor Mull regularly publishes an online newsletter and the site is regularly updated with news of live projects, public lectures, events and conferences, exhibitions and awards. Researchers have a profile and portfolio page linking to their key research outputs. CASS Projects helps support written dissemination, facilitating the publication of documents, catalogues, books etc. Other forms of publicly available dissemination, which exemplify our commitment to the links between teaching, practice and research, include the current 'Consequences' lecture series, as well as 'Rip it Up and Start Again' which brought together world-renowned architects and thinkers and curated by Professor Mull with Kieran Long. The series places the work of the School in relation to broader debates about the city and contribute strategically to the profile of the School as a centre of debate on architecture, its policies and academic direction. Recent examples of exhibitions include David Grandorge's photographs, 'Without Sun', at the Peter von Kant gallery; 'Again, again...', an exhibition and performance by Cass choir Musarc and artist Melanie Pappenheim at MK Gallery; 'São Paulo: working with the city' exhibition, workshop and lectures with Diploma Unit 3 at Escola da Cidade, São Paulo and 'Grimm City | An Architectural Fairytale' in which CASS tutors and students displayed a meticulously hand crafted architechtonic interpretation of Grimm's Fairytales at the Design Museum, London.

Our international outlook is reflected in new school we have established in Moscow. Our students can now participate in the London Moscow design unit. This is based on the very successful prototype we developed working with the Korean National University of Arts in Seoul. The design studio in Moscow is run by Alexander Brodsky and Xenia Adjoubei and Peter Markli is one of the Visiting Professors. Our students can also study in Sao Paulo on the Brazil Study Programme with the Diploma unit run by Dann Jessen, Julian Lewis and Richard Hall in collaboration with Escola da Cidade, FAUUSP, the São Paulo Municipality (Fernando de Mello Franco, director of MMBB and Secretary for Urban Development) as well as local architect practices.

Our international success can be measured by the large number of prizes and awards gained by staff, students and alumni. A selection from the past year includes Florian Beigel, who won the world class Berlin Grand Art Prize; David Kohn who was shortlisted for the BD magazine Architecture of the Year; Zoe Berman of CASS Projects who took part in the 'Open Office' project run by the Architecture Foundation. Among our students Team HelioMet won the RIBA Silver Medal for best Part 2 project; their SunBloc proposal was a response to the Solar Decathlon Europe. PhD architecture student Julia King was featured in ICON magazine as one of their



worldwide 'Future 50'. The work of Peter St John and Rod Heye's Diploma student, Amy Perkins, was selected for the BD Class of 2013. Among our alumni, two of the five practices on the YAYA shortlist were graduates from our Diploma course, Je Ahn & Maria Smith of Studio Weave and Hana Loftus & Tom Grieve of HAT Projects. Vernes Causevic, a graduate of the Free Unit, was honoured with the most prestigious award in Bosnia and Herzgovinia, the Collegium Artisticum Grand Prix as co-author of a project in Zagreb. Architect and former student Edward Simpson won the Rome Prize in Architecture of 2013-14.

c. People

Staffing strategy and staff development

The staffing strategy in the School follows through from our commitment to practice, teaching and research. FTE contracts include a proportion of research activity, encouraged in a number of different modes as long as it connects back to the school's pedagogy in some way. The principle behind this is that the School as a whole, and now the Faculty, should work as a broadly conceived and economically resourceful, research engine. We do not believe we can fulfil our commitments in any area of activity if we do not maintain a research ethos. Nevertheless, finding ways to do this essentially 'value added' activity remains a constant challenge.

An essential part of our staffing strategy lies in creating an attractive context in which to work, by which mean a context in which the work itself thrives. Our roll-call of studio and unit tutors are amongst the brightest, best and most interesting architects in London. This is achieved through our careful selection of studio and unit staff; the way we seed, encourage and monitor projects; the inclusion of live projects and a wide variety of clients, users, and audiences; the way we share, communicate and expose our work and ideas, from internal devices like 'Celebration Week' when we mount cross-School reviews to the end of year shows. Our exhibition programme is non-stop and includes staff and student work from across the School and Faculty as well work by external practitioners: we are a venue. We also attract and encourage a broad but particular range of staff and students because we promote a strong but inclusive identity: we tend to employ individuals who answer to our three 'duties of care'.

Our professional bodies accept that staff development can be generated through the research potential of the teaching. This affords individual staff a relative freedom to pursue their research interests. Some staff develop their individual research potential by working directly with the studios or units on specific projects, as with Denicke-Polcher's live projects, or Mitchell's work in India. Other staff have embarked on PhD's by practice, like Lara Kinneir, Torange Khonsari, Jane McAllister, Patrick Lynch. **ARU**, and more lately **ARCSR** and **CASS Projects**, have a well-established and equivalent programme of design scholars, research fellows and research assistants that provide an excellent grounding for early career researchers.

Individual staff development is also supported through the Researcher Development Programme (explored in more detail below) and CELT (the Centre for the Enhancement of Learning & Teaching) which hosts events such as the annual Learning and Teaching Conferences, a running programme of research courses for staff and students, and provides a range of online resources including staff guides, frameworks and policies. The University's e-Learning Matrix brings together the most up to date digital learning resources and CPD e-learning and e-teaching. Research in the public domain carried out by the majority of our visiting teaching staff comprises books, journal articles and too many built works and urban design projects to list; some prize-winning examples are listed in the Impact Statement.

Research students

The CASS School of Architecture has expanded its PhD programme and the number of research units / groups / offices capable of sustaining our particular brand of 'design scholars', as ARU invented them, as well as research fellows and research assistants. As described, the boundaries between practice, teaching and research are extremely porous. The concept of 'student' is particularly elastic, given that one of the primary attractions of teaching is that is provides the opportunity to be in effect a student. This now tends to be formalised by joining the PhD programme under Professor Carl. The PhD dissertations in this programme are either traditional (80,000 word dissertation) or 'by practice' (design project and 40, 000 word dissertation). In both cases the research topic guides the research as this keeps alive the communication with the



ethical issues. For example, just as in the traditional PhD Dissertation the Palazzo Farnese might be a window into social and political practices in Renaissance Rome, so a communally constructed meeting-room in an Indian slum would be a window into the nature of 'civic' life in such a setting. The methodology sections of our PhD's are often significant aspects of the contribution to knowledge since the methods are inevitably 'mixed' and it is among the discoveries to understand what of the 'wisdom' of practice comes from local customs, from materials and working-practices, from the exigencies of collaboration, from the conception of architecture, from the urban topography, and so forth.

PhD supervision is drawn from the teachers in School, thus assuring continuity with the other parts of the School's teaching and research programme, plus additional supervisors as needed from outside the School or University. The students are seen by at least one of the supervisors once every two weeks. There is a weekly 2-hour seminar, with presentations by Carl on the general philosophical issues, by supervisors and members of staff on related topics, by guest speakers and by the students themselves. Students undergo a formal review their progress annually, with submissions of research-plans, substantial written/drawn segments, etc. All three readers provide a written commentary on approach, quality, ideas for further or clarifying research, etc. The committee responsible for this review is also responsible for ensuring research ethics compliance.

The PhD Programme under Professor Carl is three years old. Collectively the students have produced 3 books, 17 articles or chapters (about 75% peer-reviewed), presented 24 conference papers, given 51 public lectures, mounted 18 exhibitions (two at the Venice Biennale), completed or started 12 architectural projects. The prestigious Tavora Prize was awarded to one of the students, another was awarded a £10,000 Holcim Award as well as nominated for a World Design Impact Prize, another received a Slovene Sustainability Award, and another chairs the 'governance' panel of the UN Habitat research on Cities.

d. Income, infrastructure and facilities

Infrastructure: CASS Projects plays a primary role within the School and in the encouragement and support of research. It plays a particular 'start up' role in developing briefs and contracts, researching, procuring and inaugurating projects, such as the Aldgate Project. It also responds to external agencies, staff and students who come with a design, research or dissemination project. CASS Projects can help with advice, funding, administration, contracts, and management, as part of its larger role in providing a professional framework. At the University level support for research activities comes in a range of forms. First, the Researcher Development Programme (RDP) provides a range of training and development opportunities for research staff and postgraduate research students. Courses are available for all levels of experience from established and advanced researchers to new researchers and are designed to support researchers in developing a full range of transferable professional, personal, research, and career skills and knowledge. Second, the Funding Support Office help researchers identify funding opportunities and offers practical advice and guidance for funding applications, costing and pricing and funder's terms and conditions.

Income: Research income comes from a number of sources, both institutional and external. These include charities, from UK, EU and overseas government agencies, and from industry in revenue generated from live projects and consultancy. Since 2008, we have generated more than £800,000 in non-HESA income. For more details of income refer to REF 4B.

Facilities: As part of the CASS merger, studios, teaching rooms and offices of the new faculty are in the process of being located in the newly refurbished Central House building in Aldgate. Our new central London location gives easy access to the creative and cultural hub that surrounds the Aldgate Campus. Our many specialist facilities include wood and metal workshops, laboratories, TV and recording studios, editing suites, darkrooms and CASSworks, our digital manufacturing centre (formerly MetWorks).

ARU have led the architectural design team for the first phase of remodelling works to Central House, completed in October 2012. ARU have been asked to redesign the remaining floors of Central House and during the summer of 2013, all five floors of have been remodelled to accommodate new studio and teaching spaces as well as office space for staff. The ground floor (formerly the Habib Bank) has been converted into The CASS Gallery on Whitechapel High Street,



providing two new permanent event and gallery spaces directly opposite to the Whitechapel Art Gallery and a high profile location for exhibitions and events. A new cafe / bar will been built next to the Gallery as a meeting place for the whole Faculty and the public at large. This will give a new public face to **Central House**, opening up to the Whitechapel High Street.

Architecturally the new lecture hall and a number of new seminar/teaching spaces, strategically located across the first floor, make a sequence of large open spaces between the rooms that have views out to the city. These interior spaces are thought of like 'courtyards' that have the external quality of small public spaces or squares. Open access computer spaces and staff offices are located in these 'courtyards' and the rooms leading off them. The current computer, AV and printer provision in Central House will be significantly increased. There is a large shared 'Boulevard' space connecting a tapestry of different studio and seminar / teaching spaces on the second and third floors, making three complete, yet slightly different 'Boulevard' floors, similar to the spatial model already deployed on the fourth floor, completed during phase 1 and brought into use during the academic year 2012/13. Two new domestic stairs link the first and second floors to the third floor, making for a continuous promenade through the studio spaces of the entire building between the first and fifth floors. In a year from now, a new generous stair between ground floor and basement will open up the basement to the rest of the building, allowing for the construction of a whole landscape of workshop facilities, including ceramics, woodworking and metal working, photography facilities and a new digital printing facility. The stage one was reviewed by Ellis Woodman in BD (Jan) and Will Hunter in AR (June) 2013.

CASSworks provides a unique resource within the CASS offering specialist workshops, equipment and facilities including Metropolitan Works, our digital manufacturing centre. It provides a range of new technology for prototyping, manufacture, research and experimentation, including rapid prototyping machines, 3D scanning, laser and water-jet cutting and CNC routing. As well the open access computer rooms in Central House, Metropolitan Works offers CAD desks and a wide range of commercially licensed software (including major CAD programmes used in industry, Adobe Creative Suite 6 and ArcMap GIS). CASSworks is London's leading Creative Industries Centre helping researchers develop ideas through access to digital manufacturing, craft workshops, knowledge transfer, advice, courses and exhibitions. We have highly skilled specialist technical staff to assist with research projects in areas as diverse as textiles, printmaking, woodworking, photography, metalworking, and many more. Unlike most schools, the CASS School of Architecture has retained its craft culture and we attract students who work between analogue and digital making. Our core philosophy is to realise the potential of the workshops and technical facilities as unprecedented places for research through designing and making.

e. Collaboration or contribution to the discipline or research base

CASS Architecture has always been run as a fruitful cross-fertilisation between practice, research and teaching. The division between what is a 'contribution to the discipline', what is a 'collaboration' and what is an 'impact' is not clear cut and, as a result, much of the material which might pertain to the above title can be found in the Impact Statement. Indeed we may be regarded as pioneering forms of impact led research. This ethos permeates all levels and in all areas, even the PhD programme is devoted to understanding the special nature of 'practical wisdom' that works with people as well as on their behalf. We seek to build on the established success of the present research and impact strategy (of which CASS Cities and the collaborations with international schools of architecture is a part), whilst augmenting the research output of our practice-based research.

The School is seen as a mediating institution between actual architectural practice and its possibilities, as developed by the research of the design studios and explicit published research. This happens at a number of levels: through research, conferences and cross-disciplinary live projects and in the studio, the site of topics and testing through critique. Key examples of this mediation in amongst our REF outputs include Mark Brearley's 'Green Grid' and Diploma 4's Solar Decathalon (for more information see CASS Projects by Anne Markey). International conferences hosted by CASS Architecture, such as *Rip It Up and Start Again*, or the *Architecture and Dissidence* conference and publication similarly stress the social and political aspects of architectural design, making, use, and re-use.