

<p>Institution: University of Manchester</p> <p>Unit of Assessment: 16 (Architecture, Built Environment and Planning)</p> <p>a. Overview</p> <p>Located within the Faculty of Humanities at the University of Manchester (UoM), our research draws upon expertise across the multi-disciplinary School of Environment, Education and Development (SEED) and is largely managed and delivered through three well-established research centres: the Centres for Urban Policy Studies (CUPS) and Urban and Regional Ecology (CURE) and the Manchester Architecture Research Centre (MARC). Since 2008, we have:</p> <ul style="list-style-type: none"> • attracted in excess of £4.2 million in external research grants and contracts; • won a substantial proportion of this external research funding from prestigious sources (Research Council awards account for 42% of total funding since 2008); • benefitted from significant investment in staffing, particularly to Architecture / MARC which has more than doubled in size since 2008; • provided a supportive environment for research staff, and ECRs in particular, as reflected in internal promotions and progression to academic posts here and elsewhere; • built on previous success in establishing a vibrant and supportive culture for postgraduate research and training, as demonstrated by the <i>ESRC North West Doctoral Training Centre</i>, increased PGR students / completions and subsequent PGR progression to academic posts; • benefitted from substantial investment from the University's £750M Estate Programme (including refurbished buildings with bespoke research facilities) and research infrastructure (including the Arthur Lewis Research Support Services Hub; John Rylands UoM Library); • engaged in collaborative and interdisciplinary partnerships, via our involvement in world-leading interdisciplinary centres and networks such as <i>GURC</i>, <i>BWPI</i>, <i>cities@Manchester</i>, <i>policy@Manchester</i>, <i>methods@Manchester</i>, <i>china@Manchester</i>, <i>SCI</i> and <i>Manchester Energy</i>. <p>b. Research strategy</p> <p>Our research strategy, at the time of the <i>RAE2008</i> submission, highlighted five principal goals covering the continued development of research centre synergies and collaboration within and beyond the School; extending our international research networks; further developing our links to spatial policy and practice; continuing to nurture 'early-career' researchers; and expanding on a number of substantive research themes, including evidence-based policy-making and approaches to community participation, risk and resilience in urban and natural environments, and socio-technical approaches to design and development. All these goals are reflected in our achievements and continuing research strategy post 2008. Producing internationally-leading research of the highest significance is one of the three core Goals of the University's <i>Manchester 2020</i> strategic vision and embedded in the University's associated <i>Research Strategy</i> which sets a clear framework for developing and monitoring School and discipline research activities. Since 2008, our research has been enhanced by various initiatives at School, Faculty and University level to encourage greater inter-disciplinary collaboration, such as a Faculty Strategic Investment Reserve Fund (SIRF) and central investment in collaborative networks such as <i>cities@Manchester</i>, whilst continuing to be underpinned by the activities of our three research centres:</p> <ul style="list-style-type: none"> • the Centre for Urban Policy Studies (CUPS): A long-established and successful research centre, celebrating its 30th anniversary in 2013, recognised for rigorous empirical work and in developing new analytical methods and leading-edge critiques of spatial planning. • the Centre for Urban and Regional Ecology (CURE): Created in 2000, CURE has developed innovative approaches for assessing the impacts of climate change, resilience, adaptation, flood risk and green infrastructure. In late 2013, reflecting centre's evolving focus and inter-disciplinary work, CURE was renamed as the <i>Centre for Urban Resilience and Energy</i>. • the Manchester Architecture Research Centre (MARC): MARC's inter-disciplinary agenda since 2005 connects architectural research with social science, aiming to critically understand the co-evolution of design and socioeconomic processes and explore relations between architecture and society in architectural theory, sustainable urbanism and urban design. <p>Since 2008, we have maintained and strengthened a successful structure for the management and delivery of our research, whilst developing an intellectually stimulating environment within which research can flourish from locally-based projects embedded within research centres to inter-</p>
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disciplinary research with partners across UoM and beyond. Overall strategic coordination of our research is exercised by a team comprising the research centre Directors, Heads of Planning and Architecture and discipline research directors. Our substantive research continues to evolve in line with the trajectories anticipated in our RAE2008 submission, and is focussed on four key **research themes** that will continue to provide the basis for our future activities over the next 5 years.

(i) Spatial analysis, policy evaluation and decision support: This strand of research focuses on how cities and neighbourhoods work and change over time and how this can be measured. **Wong, Kingston and Hincks** developed a web-based, interactive Housing and Neighbourhood Monitor as part of a three-year project for the Joseph Rowntree Foundation (JRF) and **Wong** led English Partnerships funded research into the links between social change and change in urban environments. **Deas** and **Hincks** were awarded funding from EuroCities to study socio-spatial mobility in European Cities. **Wong, Baker and Hincks** defined a national set of strategic housing market areas for the National Housing and Planning Advisory Unit. **Wong** was also one of three co-ordinators of the *Skills and Knowledge for Sustainable Communities* initiative for ESRC/ASC, helping to provide a research base for developing skills for sustainable communities. The *A Map for England* project (**Wong, Baker, Hincks**, for RTPI), revealed the spatial impacts of government policies and is providing a catalyst for future work on the implications of strategic infrastructure and spatial development nationally and regionally (e.g. in the Atlantic Gateway). We are also progressing our research on planning support systems and community participation. **Baker and Hincks** completed an ODPM/CLG funded study into *Spatial Plans in Practice (SPIP)* including in-depth analysis of public participation and stakeholder engagement, linking with their associated work on stakeholder involvement in the NW RSS. **Tippett** is continuing her work on innovative approaches to participation, developing *Ketso* into a spin-off company and award-winning tool for creative stakeholder engagement. **Pinto** has developed decision support tools based on complex modelling concepts to simulate land use and transport interactions in multi-scale urban systems (via the SOTUR project with colleagues at MIT and several Portuguese universities). **Kingston** developed the Interreg IVC funded *Green and Blue Space Adaptation for Urban Areas and Eco-Towns (GRaBS)* toolkit with partners across Europe, led the technical development of the EUs ICT Policy Support Programme SMARTiP and completed a 4 year EPSRC SUEII project (SUREgen).

(ii) Territorial governance, politics and planning: Work in this area involves a range of policy-related research linked to approaches to different planning and regeneration problems at a variety of spatial scales. **Wong, Baker, Hincks** and **Kingston** developed a framework for RTPI/DCLG within which spatial planning outcomes can be measured. **Baker and Hincks** are continuing to build on the earlier *SPiP* research (ODPM/DCLG) by examining the role of local planning in infrastructure delivery. The term 'soft spaces and fuzzy boundaries' was introduced to the planning literature by **Haughton** (with Allmendinger, Cambridge University), with subsequent work developing theoretical framings around neoliberalisation and postpolitics for further analysing the concept and exploring its validity in the critical interrogation of spatial planning practices. **Haughton, Hincks** and **Deas** are taking this forward with work on economic and environmental soft spaces, city regions and austerity urbanism, funded by the Hamburg Science Foundation (2011-13) and *cities@Manchester* (2013-14). **Baker and Wong's** EU funded (ECURBS) work on Chinese urbanisation and spatial planning provides a platform to further develop the international focus of this theme post RAE2014. Future work will also focus on infrastructure development and spatial planning, building on collaborative research on *Transformational Infrastructure in the North of England* by **Wong, Baker and Hincks**, funded by the N8 Consortium of Northern Universities.

(iii) Sustainable urbanism and environmental resilience: Our research has continued apace on developing innovative policy tools for assessing the impacts of climate change. **Kingston and Guy** worked on the prizewinning (EU RegioStars) *GRaBS* project, funded by the EC's INTERREG IVC Programme, and on research by CURE on climate change and green infrastructure (led by Emeritus Professor Handley) and ongoing work on *Climate Proof Cities* funded by the Dutch Government. Emeritus Professor Hebbert led related ESRC funded research on *Climate Science and Urban Design*. Our work on surface water flooding, risk and resilience continues through *Waterproof NW* on scenario construction and urban futures for the Environment Agency and United Utilities; **Karvonen's** socio-technical study of surface water flooding through the prism of

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urban water regimes; and White and **Tippett's** EU funded SMARTeST research into 'smart' approaches to flood resilience which led to the publication of *Six Steps to Flood Resilience* (2013), subsequently adopted by the National Flood Forum, LGA, Environment Agency, ABI and DEFRA. **Guy** led a series of projects in the sustainable urbanism theme including *Integrating the Senses Inside Supermarkets*, an applied project through the Tesco-funded *Sustainable Consumption Institute (SCI)* which he also helped to establish. **Tippett** led SCI funded research into sustainability skills in the workplace (Tesco and the Ellen MacArthur Foundation). Real estate company, Bruntwood, funded research on *Energy Travel and Sustainable Buildings* and the £950K *Ecocities Research Programme (Guy, Karvonen, Kingston)*. **Stein's** research (with Emeritus Professor Moser) for the World Bank and the Ford Foundation on pro-poor adaptation to climate change in Nicaragua, Kenya, Colombia and India has helped develop academic, policy and practice agendas. **Guy** was co-investigator for *Challenging Lock-in through Urban Systems* (EPSRC) and the *Sustainable Practice Research Group* (ESRC, DEFRA, Scottish Government), including *Zero-Carbon Habitation* (with **Karvonen**). **Guy** and **Karvonen** are also part of cross-university EPSRC/EDF research on *Conditioning Demand: Older People, Diversity and Thermal Experience*. Long established research on environmental assessment methodologies continued through studies of cultural issues in EIA (EU Interreg IIIB) and EIA practice within the offshore oil and gas sector (for DECC) (**Jones**). Future research and publications within this theme, beyond REF2014, will address the politics of flooding, urban resilience and the governance of climate change policies, Smart Cities, and low carbon homes as socio-technical constructs.

(iv) The politics of urban design and socio-cultural change in the built environment:

Manchester has internationally leading expertise in the field of pragmatist approaches to architecture, design cognition, and ethnographic and socio-technical perspectives to design. **Yaneva's** project *Ethnography of Design* (awarded a RIBA President's Award, 2010) was pioneering in introducing ethnographic methods in architectural discourses (publications include *The Making of a Building; Made by OMA; Mapping Controversies in Architecture*). Controversies and disputes in the built environment are also the focus of MARC's two ESRC projects on the *Urban Environment* (leading to a book, *the Radicals' City*, and a touring exhibition) and *Multi Faith Spaces* as symptoms and agents of religious and social change. **Doucet** investigated the inter/trans-disciplinarity of architecture through empirical research about architecture and urban culture in post-WWII Brussels, 1970's "counter-projects" and the early days of architectural postmodernism. This links to MARC's expertise in architectural heritage adaptation to the 21st Century, reflected in Hebbert's projects on the history of Methodist Central Halls (AHRC) and *Climate Science and Design* (ESRC) and **Sibley's** work on Islamic architecture through *HAMMAM* (EU, FP6), *HAMMAMED* (EU, Euromed Heritage IV) and AHRC funded research on historic Islamic baths of North Africa. Our critical mass in issues related to socio-cultural dimensions of the built environment in an international context is demonstrated through **Minuchin's** study of the struggle to master-plan Buenos Aires and other Argentinian cities; **Iossifova's** work on place-based identity in Shanghai; **Stanek's** examination of the transfer of socialist architecture to the Global South and his pioneering theoretical work on Lefebvre; and **Guy's** projects on community and institutional responses to the challenges facing the urban poor under global warming in Bangladesh (ESRC/DFID). Future research and publications in this theme will take a comparative approach to reveal commonalities and differences between various contexts, and to trace how knowledge about the built environment travels from one locale to another.

c. People, including:

i. Staffing strategy and staff development

Since 2008, the School has benefited from a far-reaching investment programme of new staff appointments. This has included three appointments via 'Project Diamond', the University's ambitious plan to support over 100 new academic appointments across the University. There has been major investment in MARC through the appointment of **Sibley** (as senior lecturer) and **Doucet, Karvonen, Minuchin, Iossifova** and **Stanek** (as lecturers). Following the retirement of Professors Handley and Hebbert, and promotions to senior lecturer and professorial posts elsewhere (Coaffee, White), several new appointments have also been made into Planning: **Houghton** (Chair), Carson (Senior Lecturer), **Hincks** and **Pinto** (Lecturers), and Gilchrist (Temporary Lecturer). Overall, 50% (9/18) of our UoA's returned staff are recent appointments, six

of whom are early career researchers (ECRs). This has provided opportunities to enhance existing research specialisms and develop new areas, as well as lowering the average age of our demographic profile. Promotion procedures also aim to reward achievement in research. Since 2008, Devine-Wright, **Yaneva** and **Baker** (to Reader) and White and **Kingston** (to Senior Lecturer) have been promoted. Two former research associates (**Hincks**, **Karvonen**) were appointed to permanent lectureships and one was awarded a prestigious *ECR Research Fellowship*. Several former research students (Gilchrist, Webb, Connolly, Viitanen, Holt) now have temporary lecturing or research assistant posts. We secured four Visiting Professorships (Heynen; Moore; Allmendinger; Rohracher) from the University's *Simon and Hallsworth* endowments and appointed Honorary professors (Goodstadt, Syms, Carbonell) to contribute to our research and practice links.

Research activities and strategy development are overseen by the heads of discipline, research centre directors and discipline research directors. Discipline research directors are also members of the SEED Research Committee which oversees the school's research strategy, determines visiting and honorary appointments, nominates key university-funded fellowships, and appraises sabbatical leave applications. Our research ethics procedures are governed by a *University Code of Good Research Conduct* and projects involving human interaction must receive approval from a Faculty/University Research Ethics Committee, with pre-vetting at the SEED Research Ethics Committee. Annual research meetings with individual staff involve discussion of publication and dissemination strategies, ideas for securing grants, developing stronger research trajectories and meeting research aspirations. Researchers and research students frequently work within one of our three research centres or wider interdisciplinary centres or networks such as *cities@Manchester*, *SCI* or *GURC*, providing a collegiate working environment and encouraging cross-fertilisation of ideas. Centre Directors and project PIs are involved in the management of researchers and postdoctoral fellows, offering constructive support and guidance on longer-term career development. The University has developed a *Concordat Implementation Plan to Support the Career Development of Researchers* and received an *HR Excellence in Research Award* from the European Commission in recognition of this work. The Faculty's Researcher Development Team offers comprehensive professional development advice and training for researchers at various stages of their careers and an annual Research Staff Conference provides funding information, publication support and networking opportunities to researchers across the University.

The career development of probationary and ECR staff is additionally supported by the assignment of an academic mentor and a reduced workload in accordance with School and University policy. The Faculty's longstanding *New Academics Programme*, accredited by the HEA, plays an important role in supporting new academics in developing their career and the University received the 2011 *Scopus Fostering Young Researchers Institutional Award* from the US-UK Fulbright Commission and Elsevier. University and School financial support to develop research projects is available through annual School Research Stimulation Fund (RSF) bids of up to £5,000 for small-scale projects, and Faculty's SIRF fund to pump-prime the development of larger interdisciplinary collaborative research applications. For both awards, special consideration is given to new career starters (our recipients include **Deas**, **Haughton**, **Hincks**, **Iossifova**, **Karvonen**, **Kingston**, **Tippett**, **Yavena**). Conference attendance funds of up to £1200 are allocated from the School Research Committee's annual budget. All academic staff are eligible to apply for one semester of sabbatical leave after six semesters of normal duties. Applicants submit a planned programme of research and, subsequently, a report detailing their outputs and achievements. Since 2008, virtually all eligible staff have benefitted from at least one period of sabbatical. UoM is committed to the advancement of equality in employment and career development. Equality data monitoring and action planning is embedded into annual performance reviews and the Faculty receives a biannual report on progress against Equality and Diversity objectives set in their operational priorities. Since 2008, 45% of our new academic appointments have been female. In the 2013 UoM staff survey (71% return), 94% of respondents considered UoM to be a good place to work, 92% felt proud to work at the University, 97% agree with the University's goal to support world-leading research and 91% agree that UoM facilities for research are good. This placed UoM highest of the 28 HEIs surveyed by Capita. The figures for our Faculty were even more encouraging, with 97% of respondents considering UoM to be a good place to work and 95% proud to work for UoM.

ii. Research students

We were one of the strongest performing RAE2008 units in terms of PhD student numbers, awards and RCUK studentships per capita and we have subsequently enhanced our performance and vibrant research support environment through our involvement in the *ESRC NW Doctoral Training Centre*. Our recruitment strategy focuses on the intellectual calibre of the students and the potential for their research topics to reinforce the key themes and strategies of the disciplines and the School's core research themes. Success in research training is evident in our 33.5 PhD awards during this REF period, with a further 49 research students currently in years 1-3 (fte) of our PhD programme or 'submission pending' year (including 9 new recruits in Sept 2013). 17 of our post 2008 doctoral students received RCUK studentships. Prestigious awards have also been held by overseas students, including ORS, British Council, Ford Foundation, Social Sciences and Humanities Research Council of Canada; China Scholarship Council; Commonwealth; FINCyT (Peru) LASPAU (Harvard) Science & Technology Program Scholarships. The *President's Doctoral Scholar Award* is a £2.5m flagship UoM funding scheme offering around 100 elite studentships per year across the University; two of our students have been recipients since it was launched in 2011. Several of our students have also received Studentships from the School/University, demonstrating strong financial support for postgraduate research. These include one student who was awarded a new Research Impact Scholarship, explicitly aimed at encouraging research that addresses some of the most challenging problems we face today. Our commitment to cultivating links with policy and practice is evident in our collaborative funding of ESRC CASE studentships in partnership with Taylor Young, Regional Studies Association, CLES, AGMA, MERCI, MDDA. Research students are also eligible for SEED's Graduate Teaching Assistant awards which provide financial assistance and opportunities to engage in teaching, enhancing their skills and career development.

Strong support mechanisms at discipline and school level are in place to guide the academic progress and development needs of research students. These operate through a panel supervision structure (two supervisors and an additional Panel Advisor). Progress is reviewed via 6-monthly and annual review panels and progress reports. Students are expected to make a seminar presentation within the discipline and a paper or poster at the annual School PhD Research Conference. The *Manchester Doctoral College* oversees all aspects of the University's doctoral training and researcher development, integrating PGR support with career development. The online monitoring system, *eProg*, sets out critical milestones for their research degree, recording student's engagement with training and progress on their research. Our commitment to quality training is further evidenced by our successful application for an *ESRC Doctoral Research Training Centre* for the North West in partnership with Liverpool and Lancaster Universities. Our interdisciplinary outlook and track-record of working with colleagues beyond our School and Faculty extends to research training. We are currently a partner in a new AHRC's Doctoral Training Partnership, recently awarded to a North West Consortium led by UoM, and in the UoM's successful bid to host an EPSRC's Power Networks and Energy Centre for Doctoral Training for the next 10 years. Our *MSc in Planning and Environmental Management (Research)* provides foundational research training for prospective research students. The Faculty organises a structured programme of methods training comprising compulsory and elective modules, including *methods@Manchester* courses. Longstanding arrangements with Civic Design at Liverpool University (reciprocal attendance at research student seminar sessions and subject specific training) have been enhanced as an integral part of the joint DTC. Doctoral students are an important part of our wider research community and participate in School-wide seminars and other research activities. The latest joint PhD student conference (May 2013), organised primarily by the students themselves, involved presentations from around 50 PhD students across the School. Our students have also participated in international summer schools, involving highly regarded international academics, run by *BWPI*, *Institute of Social Change*, *cities@Manchester* and *methods@Manchester*, and in the *Regional Studies Association's* annual Student Conference which we helped run in Manchester three times in recent years (2010/11/13).

Research students are encouraged to disseminate findings to external audiences via conference presentations, with financial assistance (at least £600 each) from School and Faculty conference funds. They are encouraged to produce refereed journal articles from their research and to participate in the activities of the research centres to which they are affiliated. This strategy has

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proved to be effective, with numerous refereed journal articles (e.g. *Regional Studies*, *Town Planning Review*, *Urban Studies*, *Urban Policy and Research*, *International Journal of Biodiversity Science and Management*, *Landscape and Urban Planning*, *Geoforum*) published by our doctoral students since 2008. Concerted effort is made to nurture the next generation of researchers by supporting the career development of research students. A recent survey revealed that 26 (96%) of our research students (graduating 2008-12) felt doing a PhD in SED helped to advance their career; 20 (74%) were employed within six months of graduation; and 22 (81%) subsequently took up academic posts. For example, a significant number of our students subsequently became researchers at UoM or other universities (e.g. Webb; Connelly; Headlam, Hopkins, Viitanen, Holt) and our doctoral students and post-doctoral researchers have progressed to lectureships within SEED (e.g. Hincks, Gilchrist, Lombard) or gained lectureship posts elsewhere in the UK and abroad (e.g. Newcastle, UWE, Sheffield, Pretoria, Nanjing, Hunan, Chile). Others have applied their skills in research posts in various public/private sector organisations (e.g. EC DG Regional and Urban Policies; Korean Presidential Council on National Competitiveness; Alstom Holdings). The UoM's Careers Service was voted best in the country three years running by the Association of Graduate Recruiters. Postgraduate support is a central component of their work. Their *Academic Career* website won the 2011 *Times Higher Education Award* for outstanding support for ECRs.

d. Income, infrastructure and facilities

Since 2008, our researchers have attracted in excess of £4.2m in external research grants and contracts from British and European research councils and foundations, international agencies, central and local governments, and commercial and voluntary bodies. The largest proportion comprises awards by UK Research Councils (£1.78m: 42%) and EU Government Bodies (£1.4m: 33%). Additional University financial support includes the Faculty's SIRF awards and the *University of Manchester Research Institute (UMRI)*, which have provided support funding to *Sustainable Cities* and *BWPI* within our School, and the *Simon and Hallsworth Endowments*, already mentioned above. Examples of some of the more significant external grants and awards, which also reflect the diversity of our research themes and external sponsors, include:

- **Research Councils:** *Multi Faith Spaces* (ESRC); *Climate Change in Urban Design* (ESRC); *Conditioning Demand in Older People* (EPSRC); *SURegen* (EPSRC SUEII); *Historic Islamic Baths of North Africa* (AHRC).
- **European Commission:** *GRaBS* (INTEREG IVC); *SMARTiP ICT, EU Cost Action C22 Urban Flood Management, Smart Resilience, Technology, Systems and Tools (SMARTeST)* (EU FP7); *HAMMAMED* (EU Euromed Heritage IV).
- **International and National Government Bodies:** *Waterproof NW* (Environment Agency, United Utilities); *Strategic Housing Market Areas* (NHPAU); *Social Change and Change in Urban Environments* (HCA); *Measuring Outcomes of Spatial Planning* (DCLG/RTPI); *Climate Proof Cities* (Dutch Government); *Pro-Poor Adaptation to Climate Change* (World Bank).
- **Professional Bodies & Charities:** *Housing and Neighbourhood Monitor* (JRF); *Map for England* (RTPI); *RoundView Educational Tool* (Ellen Macarthur Foundation); *Urban Asset Planning in the Global South* (Ford Foundation).
- **Private Sector:** *Integrating Senses inside Supermarkets, Supermarket Adaptation to Future Environments, Sustainability Skills in the Workplace* (Tesco/SCI); *EcoCities* (Bruntswood).

The UoA is supported in its research by the Arthur Lewis Research Support Services Hub, staffed by a team of research support managers and officers, an impact support officer and finance officers who provide support for all aspects of research activity within SEED. *Manchester 2020*, the University's strategic plan (2010), has permeated all levels of the organisation and, together with its research strategy, has been driving recruitment and investment for research. By 2015, UoM will have completed the largest capital construction programme (£750 million) in the history of British higher education. This has been of direct importance to our research activities as it included the School's Arthur Lewis Building together with extensive refurbishment of the neighbouring Humanities Bridgeford Street Building. These provide bespoke research accommodation and facilities, including staff offices, research centre bases, computer clusters, studio spaces, architectural workshop, Kantorovich Library and a student resource centre. Estate developments also include expansion of the John Rylands UoM Library which, as a designated National Research Library, directly underpins research at Manchester, providing access to a vast range of

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electronic resources (over 40,000 e-journals), research databases and bespoke training services and, via Manchester e-scholar, a premium resource to deposit and disseminate research outputs.

e. Collaboration or contribution to the discipline or research base

We have a strong tradition of collaborative and interdisciplinary working, with staff involved in numerous research partnerships and collaborations within and beyond the University. Our Faculty is home to world-leading interdisciplinary research centres and networks of direct relevance to our research, supported by central investment from the Faculty and University. Our staff are active in the management and running of these networks, including: the **Sustainable Consumption Institute (SCI)**, established in 2007 (**Guy, Karvonen, Tippett**) to undertake research on environmental sustainability and consumption; **policy@Manchester (Wong)**, Board Member), showcasing the contribution of UoM academics to public policy development in the UK and linking one of the largest collections of scholars engaged in public policy issues in the world; **cities@Manchester (Wong and Karvonen Co-Directors)**, drawing on Manchester's unique place at the epicentre of industrial capitalism and post-industrial futures and engaging with a range of global, national and local stakeholders; and **methods@Manchester (Wong)** on Management Board), highlighting Manchester's strength in social science research methods and promoting interdisciplinary and methodological innovation. We are also working within the Faculty on interdisciplinary research on global sustainability and inequality issues through the **Global Urban Research Centre (GURC)**, jointly managed by staff from Planning (**Stein, with Haughton, Baker** on Advisory Board) and Development Studies; the **Brooks World Poverty Institute (BWPI) (Guy, Management Board)**, an international centre of excellence established to create and share knowledge to end poverty in both the global North and South; and **China@Manchester (Wong, Board Member)**, a leading interdisciplinary research centre on contemporary China. Staff (**Guy, Karvonen**) are also active in **Manchester Energy**, a cross-disciplinary consortium of engineering, business and social science researchers, and the **Centre for Infrastructure Development (CID)**, created by Manchester Business School in 2010 (**Wong, Baker, Guy, Hincks, Karvonen**). Interdisciplinary and inter-institutional collaboration also strongly features in our research student experience through the joint North West Doctoral Training Centre, annual School PhD conference and international summer schools (see cii).

Beyond UoM, the high reputation of our research has facilitated extensive collaborative partnerships, leading to our involvement in a wide range of innovative, agenda-setting, interdisciplinary research projects, networks and activities. Examples include:

- **joint disciplinary collaboration** with Planning and Architecture colleagues in other UK Universities such as: **Wong** et al's work with academic colleagues at Glasgow and Ulster (for JRF), Newcastle and Herriot-Watt (for NHPAU), Sheffield (for DCLG/RTPI) and Strathclyde and Warwick (for ESRC/HCA); **Haughton's** collaboration with Allmendinger (Cambridge) for ESRC funded research on *Soft Spaces*; **Doucet's** research partnership with the Archive of the Architectural Association and (with **Stanek**) collaboration with the European Architectural History Network (Europe) and the Society of Architectural Historians (USA).
- **interdisciplinary collaborations** across different universities and disciplines, such as: **Wong's** leadership of Manchester's involvement in the N8 Consortium of Universities across Northern England on Transformational Infrastructure and Interdependencies, including civil engineers, transport planners, energy and business experts; collaborative research into planning support systems and climate change adaptation with engineers, designers and technology manufacturers (**Kingston, Tippett, Guy, Karvonen**); and interdisciplinary collaboration with History of Art, UoM (**Doucet, Yaneva, Stanek**), web technologists and media studies scholars at Media lab, Science Po, Paris (**Yaneva**), computational designers at Aedas R&D London (**Yaneva**) and floods research with a scientist and historian at Hull University (**Haughton**).
- **European and International partnerships**, such as: **Kingston's** EC funded INTERREG GRaBS Project; CURE's EUFP7 *Smart Resilience, Technology, Systems and Tools* project, bringing together ten different European Partners to design and test ways to make urban areas more resilient to flood risk; **Pinto's** research with MIT and several Portuguese Universities on developing decision support tools; **Haughton, Deas and Hincks'** work on *Soft Spaces* for the Hamburg Science Foundation with partners from Paris, Sorbonne, TU Delft and Cambridge Universities; **Guy** et al's collaboration with partners in Bangladesh on climate change and poverty; **Baker and Wong's** partnership with Nanjing University (China), initially involving four

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European partners (Manchester, Paris 12, Utrecht, Liverpool) as part of the EU FP7-PEOPLEIRSES funded Euro-Chinese Urban and Regional B-Continental Research Scheme (ECURBS) (2009-12) and extended to ongoing collaboration on Chinese urbanisation and spatial planning (including strategic masterplanning of the cities of Changsha and Shantou); and **Yaneva's** collaboration with an international consortium (France, Belgium, Germany, Netherlands, Italy, USA, UK) on controversies studies, established by Bruno Latour with initial EU funding (2008-2010) and ongoing support from the French National Science Foundation.

Our researchers have contributed to the wider disciplinary and research base in numerous ways. Research excellence has been recognised with **international prizes**. **Yaneva** won the RIBA President's Award for Outstanding Research (2010). The *GraBS* project (**Kingston et al**) won a European Commission *RegioStars* Award (2011). **Tippett** was awarded an AESOP Prize (2011) and commendation by the RTPI NW (2013) for *Ketso* as an innovative engagement method, and a HEFCE/UNLTD social enterprise award. **Wong** was elected as an Academician of the Academy of Social Sciences (2009). Staff have acted as **Editors** of international journals (*Town Planning Review*, *Progress in Planning*, *Planning Perspectives*) and as **Editorial Board** members for numerous journals: e.g. *European Planning Studies*; *Building Research and Information*; *Foresight Journal*; *Sustainability*; *International Journal of Sustainable Society*; *Footprint Journal*; *Australian Geographer*; *Urban and Landscape Perspectives*; *Green Futures*; *Journal of Architecture*; *Arch-net*; *City, Culture and Society*; *Global Built Environment Review*; *Environment and Urbanisation*.

Staff have been invited to act as **Expert Reviewers** for many national and international research bodies, including Panel Member for the 2008 RAE31 Town and Country Planning Panel (**Wong**) and REF2014 UOA16 (**Wong**); ESRC Peer Review College (**Wong**, Brand, **Yaneva**, **Karvonen**); AHRC Peer Review College (**Yaneva**); ESRC Research Seminar Competition Commissioning Member (**Wong**); the US National Science Foundation (**Yaneva**, **Karvonen**); Swiss National Science Foundation (**Yaneva**); Vienna Science and Technology Fund (**Yaneva**, **Doucet**, **Karvonen**); Portuguese Foundation for Science and Technology (**Karvonen**) and Public Research Funding Agency (**Baker**, **Wong**); Israel Science Foundation (**Haughton**); WOTRO Science for Global Development (**Yaneva**); Netherlands Organisation for Scientific Research (**Karvonen**); Swedish Research Council (**Wong**); Taiwanese Ministry of Education (**Wong**); Hong Kong Research Grants Council (**Wong**); Romanian National Council for Research (**Yaneva**). Other prestigious research **invitations** include visiting professorships / fellowships to Twente (**Wong**); Nanjing (**Baker**, **Wong**); Princeton (**Yaneva**); Osaka (**Yaneva**); Hong Kong (**Baker**, **Wong**) and invited keynote speeches at numerous international conferences. Staff have been appointed as **Expert Advisors** to an extensive range of Governmental and Professional Bodies at home and abroad: e.g. House of Commons Select Committee; DCLG Housing and Planning Expert Panel; Egyptian Supreme Council of Antiquities; Moroccan Ministry of Habous and Religious Affairs; Saudi Commission for Tourism and Antiquities; Ellen Macarthur Foundation; GM Police; NWDA; Comic Relief Programme Advisory Board; EU DG Regional Policy Urban Audit II; UN Habitat; RTPI Spatial Planning Task Group; Sciences Foresight; TCPA; ODPM Neighbourhood Renewal Strategy; RUDI Advisory Board; Aedsa, R&D; UNESCO; UK Man and Biodiversity Forum; NW Climate Change Partnership; Brussels Regional Planning Department; GM Wetlands Partnership.

Since 2008, we have held numerous **studios** and **exhibitions** to promote and disseminate our research. Highlights include **Minuchin's** Studio on *Social Materialities in the Global South*, bringing together social movements, public agencies and Universities in Argentina; MARC's touring exhibition on *Urban Radicalisation*; two exhibitions at the Museum of Modern Art in Warsaw on the export of architecture and architecture after socialism (**Stanek**); Exhibitions in London on urban scarcity (**Iossifova**); *Mapping Controversies* at the Digital World Festival Futur-en-Seine (Paris), Novela (Toulouse) and InSight Risk (Lausanne) (**Yaneva**); *Hammamed* exhibitions in Damascus (Syria) and Fez (Morocco) (**Sibley**). **Media appearances** include Radio 4's *Today Programme*, *Wales Today* and *Drive-Time Wales* on the JRF Housing and Neighbourhood Monitoring project; extensive media coverage of the RTPI sponsored *A Map for England* work on *BBC Radio 4*; *Moroccan Radio* and *Algerian TV* on the *Hammamed* project; and videos on *Ketso* commissioned by ESRC as part of *Celebrating the Social Sciences*, *VITAE* and *Manchester Beacon Network*.