

September 2015

Details

Current position:	Co-Director, CURE (Centre for Urban Resilience & Energy), ¹ School of Environment Education & Development, Manchester University, M13 9PL
Age & status	59, married, 3 children
Qualifications:	BSc in Architecture, 1983 (University College London) Diploma in Architecture, 1987 (Manchester Metropolitan University) Professional Practice III, 1988, (Royal Institute of British Architects)
Professional roles:	2010 - Principal, SAMI Consulting (www.samiconsulting.co.uk) 1999-2007: UK Coordinator, EU Network for Sustainable Urban & Regional Development 1989-2002: Councillor, Town & Country Planning Association 1986-1994: Regional Coordinator, RIBA Community Architecture Group
Employment history	2001 – present: Co-Director, Centre for Urban Resilience & Energy, Manchester University 1997 – 2001: Research Fellow, Manchester University 1994 – 1997: Research Coordinator, Centre for Employment Research, Manchester Metropolitan University 1991 – 1994: General Manager, Settle-Carlisle Railway Company 1983 – 1991: Architect in public, private & civic sectors 1976 – 1981: North Star Design (specialist carpentry & installations)

Further information

Working site: www.urban3.net
Institution page: www.manchester.ac.uk/research/joe.ravetz/
CURE working site & blog: www.urban-energy.org
CURE main site: www.manchester.ac.uk/cure

Contact

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¹ Note: CURE (previously Centre for Urban & Regional Ecology) was relaunched in late 2013 as the Centre for Urban Resilience & Energy: see <http://urban-energy.org/2013/11/05/cure-launch-lecture/>

Summary



Resume

Joe Ravetz is Co-Director of the Centre for Urban Resilience & Energy at the University of Manchester. He has pioneered the art of strategic thinking for sustainable cities and regions, which brings together environment-climate policy, urban planning and design, new economics and governance, innovation and futures studies, systems thinking and complexity science. With a background as an architect, planner and development manager, he is also a creative graphic facilitator and foresight trainer. His main publications include ‘*City-Region 2020: integrated planning for a sustainable environment*’: ‘*Environment and City*’: and the forthcoming ‘*Urban 3.0*’ (Earthscan / Routledge). He is on the editorial boards of *Foresight Journal*, *International Journal of Sustainable Development*, and *Sustainable Mediterranean Construction*; coordinator of the Greater Manchester Policy Exchange; Principal at SAMI Consulting; policy advisor currently to Naples (Italy), and Vellore (India); and delivers training, seminars, consultancy, keynotes and reviews in many countries.

Outlook

In all this the over-arching theme is about inter-connection: the reality of cities, not as boxes labelled ‘economics’ or ‘environment’, but rather as whole systems which evolve and interact. To respond to this we need new kinds of whole-system thinking. The CURE programs have to date included spatial development, resource modelling, environmental policy & management, energy / climate change studies, land / landscape studies, policy evaluation and participation. But the strategic agenda is more about the inter-connections between them: this can be explored via complexity science, transition and innovation studies, futures and foresight methods. These and similar methods have informed a 2-decade intellectual journey, which began with exploration of the ‘inter-connectedness of *things*’, and ended with the landmark publication *City-Region 2020*. Experience from practice then shifted the focus towards the ‘inter-connectedness of *thinking*’: the process of multiple value-generation between multiple stakeholders, and the potential for ‘creative synergy and urban intelligence’ in response to global challenges. All this is set out in the forthcoming book ‘*Urban 3.0: creative synergy and social intelligence for the One Planet century*’ (Routledge / Earthscan).²

² Some early outputs & recent blogposts can be seen on:
<http://urban-energy.org/2013/11/05/beyond-the-sustainable-city-region-prospects-for-urban-intelligence/>
<http://urban-energy.org/2013/12/04/10days/>
<http://samiconsulting.wordpress.com/2014/01/24/housing-crisis-what-crisis-what-next/>
<http://cor.europa.eu/pages/EventTemplate.aspx?view=detail&id=d1e23dfc-27f1-4069-a884-fc4bbd5d63ce>

Experience & interests

Joe Ravetz is a leading thinker on sustainable futures for urban and regional development. His landmark study '*City-Region 2020 – integrated planning for a sustainable environment*' brought new insights with methods and tools, based on the Sustainable City-Region programme and the living laboratory of Greater Manchester. From this work the Centre for Urban & Regional Ecology (CURE)³ was formed in collaboration with Professor John Handley. Joe has raised over £2.5 million in research funding, and built a unique portfolio of policy-relevant research, with five main strands:

- ***Foresight, futures and information studies***: including foresight and scenario methods, information technology applications, science policy / knowledge management, and innovation studies.
- ***Environment-development studies***: urban-regional modelling, alternative economic strategies, resource flows and externalities, business-environment issues:
- ***Spatial development studies***: spatial frameworks, landuse & infrastructure planning, urban design and policy analysis at local, regional and national levels.
- ***Sustainable production & consumption studies***: business-environment issues, heterodox economics, cultural consumption and place identity.
- ***'Urban Synergistics'***: an innovative and trans-disciplinary approach to understanding and mapping the evolution of complex inter-connected and multi-layer systems of social learning and intelligence, which combine economic, environmental, social, cultural, political and spatial relationships.

Each of these comprises a range of projects at the regional, UK, EU and other levels, working across sectors such as housing, transport, land-use, energy and environmental management, economic development, organizational studies and so on. This involves long term collaborations with organizations in Manchester such as the Institute for Innovation Research, Sustainable Consumption Institute, and Tyndall Centre for Climate Change: a range of Universities including Salford, Maastricht, Naples, Vienna, Versailles, and British Columbia: and inter-governmental organizations such as the WWF One Planet Economy programme and UN Industrial Development Organization.

The over-arching agendas for all this are several. One is the transition towards a more sustainable economy, society and development pattern: and the new kinds of knowledge, learning and policy processes which can enable that. These insights emerged through the Sustainable City-Region and One Planet Economy programmes, and others on the sustainability policy-research interface.

³ Note: CURE was relaunched in late 2013 as the Centre for Urban Resilience & Energy: see <http://urban-energy.org/2013/11/05/cure-launch-lecture/>

The results have produced a powerful research approach, which is demonstrated in the forthcoming book *'Urban 3.0: creative synergy and social intelligence'* (Routledge / Earthscan). This brings insights from complexity / transition theory, and innovation / enterprise policy, in the form of 'synergistic mapping' of 'value-added' – economic, social, cultural, etc – and the emergence of shared intelligence. Such combined mappings, help to design policy interventions for complex problems, as combinations of economic, institutional, behavioural, ethical and technology actions. This can then be applied to the 'grand challenges' of the 21st century: climate change, prosperity vs austerity, resilience vs fragmentation, economic growth on a finite planet, and others.

Joe Ravetz has an important role as Principal for SAMI Consulting, a strategic management and foresight company, operating in public and private sectors in the UK and EU. He is also a member of the editorial board of *International Journal of Sustainable Development*, *Foresight Journal* (Emerald Publishing), and *Sustainable Mediterranean Construction*, and Coordinator of the Greater Manchester Policy Exchange programme. In addition he delivers many training courses, seminars, keynote presentations and review services around the UK and EU. Recent initiatives include the series of Foresight training and capacity building courses for the United Nations Industrial Development Organization and Manchester Institute of Innovation Research: the United Nations Habitat Urban Forum / World Habitat Day conferences in 2006 and 2008, 2012 and 2014: the Futures Forum of the Royal Town Planning Institute, the International Human Dimensions of Environmental Change Programme Land-Ocean Interaction initiative, UNEP Man & Biosphere Programme UK Urban Forum: sustainability policy training for the UK National School of Government, etc. There are also many review and referee services: such as for the IPCC Fourth Assessment Report, European Science Foundation and European Research Council, Canadian Social Science & Humanities Research Council, together with ESRC / EPSRC in the UK.

Joe Ravetz is also a skilled graphic facilitator for foresight-sustainability type workshops and seminars, and a keen advocate of concept mapping and 'deliberative visualization'. He is interested in the potential of ICT for 'urban intelligence', and has developed two recent software prototypes, the Synergy Forum and the Local Forum.

Recent publications

Ravetz, J, (forthcoming,) *Urban 3.0: creative synergy and shared intelligence for a One Planet century*. London, Routledge / Earthscan:
<http://www.routledge.com/books/details/9780415628976/>

Ravetz, J (2015): *The Future of the Urban Environment & Ecosystem Services in the UK*: (Expert Paper for the Government Office of Science, Future of Cities programme): London, Government Office of Science. Available on:
<https://www.gov.uk/government/publications/future-of-cities-ecosystem-services>

Ravetz, J, (submitted). Foresight in cities and the possibility of a ‘strategic urban intelligence’. *Foresight Journal*

Ravetz, J, (forthcoming): Towards the next long wave? sustainable futures for the urban environment: In: Kevin Archer and Kris Bezdecny (Eds), *International Handbook of Cities and the Environment*: Cheltenham, Edward Elgar

Ravetz, J, (forthcoming): Master planning by and for urban intelligence: towards a ‘neighbourhood 3.0’. In: Husam Al Waer and Barbara Illsley (Eds): *Placemaking: Rethinking the master planning process*: NY, Routledge

Ravetz, J, (2015): From ecosystems to eco-urban systems. *Environmental Scientist*, Vol 124, Sept 2015

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Ravetz, J (2013): Beyond the linear: the role of visual thinking and visualization, In: O’Riordan, T and Lenton, T, (Eds): *Addressing Tipping Points for a Precarious Future*: Oxford University Press for the British Academy: pp289-299

Ravetz, J, Fertner, C, & Nielsen, T.S, (2013): The dynamics of peri-urbanization: In: Pauleit, S., Bell, S., and Aalbers, C., (eds), *Peri-Urban Futures: Land Use and Sustainability*, Berlin: Springer. Available on http://link.springer.com/chapter/10.1007%2F978-3-642-30529-0_2

Ravetz, J & Warhurst, P (2013): Towards the new local-global: the emerging peri-urban of the Manchester city-region: In: Pauleit, S., Bell, S., and Aalbers, C., (eds), *Peri-Urban Futures: Land Use and Sustainability*, Berlin: Springer. Available on <http://link.springer.com/book/10.1007/978-3-642-30529-0/page/1>

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Ravetz, J, Miles I, Popper R (2011): *ERA Toolkit: Applications of Wild Cards and Weak Signals to the Grand Challenges & Thematic Priorities of the European Research Area*: Manchester Institute of Innovation Research, University of Manchester. <http://community.iknowfutures.eu/news/toolkit.php> (last accessed 12th Jan 2012)

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Recent initiatives

(Summary for 2009-2015)

- Foresight study completed on Horizon 2020 Third Strategic Programme, for EC DG Research & Innovation: (co-convenor with SAMI consulting).
- UK Defra Horizon Scanning project completed, as Coordinator of Expert Review Panel.
- Speaker for the UK Foresight on Future of Cities: Visions meeting, Sept 2015.
- Keynote at Dundee School of Architecture & Planning on 'Thinking cities and climate change action', Sept 2015.
- Discussant for the Independent Transport Commission HSR Greater Manchester Workshop, Oct 2015:
- Convened CURE Annual Forum on Foresighting a Future for Cities, June 2015.
- Convened workshop for the Government Office of Science Future of Cities Academic Network.
- Presented the 'synergistic governance' method at the International Workshop on "Policies supporting Sustainable Transitions in Europe": coordinated by Center for Design and Innovation for Sustainable Transitions, Aalborg University – Copenhagen Campus:
- Urban Zone national program for sustainable urban development: JR is running capacity building program in Helsinki for the Finnish Environment Agency, including

Environment Foresight workshop, Urban Zone workshop & public lecture -

[http://www.syke.fi/en-US/SYKE_Info/Communications_material/News/Dr_Joe_Ravetz_is_a_visual_thinker\(32649\)](http://www.syke.fi/en-US/SYKE_Info/Communications_material/News/Dr_Joe_Ravetz_is_a_visual_thinker(32649))

- Keynote at the Future Climate Forum – ‘State of the Climate’ Series, on Cities & Climate Change, Manchester, Feb 2015.
- Keynote on ‘Greater Manchester Futures’ for the GM Climate Change Implementation Plan – Academic Workshop at THINKLab, Salford, coordinated GM Low Carbon Hub Research Forum.
- Commissioned on ‘the Future of Urban Ecosystems’ for the UK Foresight Future Cities project: <http://www.bis.gov.uk/foresight/our-work/projects/current-projects/future-of-cities>
- Member of the winning team of the world’s 2nd largest economics prize (!!)
<http://www.policyexchange.org.uk/media-centre/press-releases/item/david-rudlin-wins-the-250000-wolfson-economics-prize-2014>
- Presentation to RCUK conference on Transport Futures, Imperial College Business School: ‘Social transport intelligence: self-organizing value chains for smarter cities & citizens’: for the Research Councils UK Sustainable Society Network+ (SSN+) and the New Economic Models in the Digital Economy network (NEMODE)
- Hosted Greater Manchester Low Carbon Research Forum workshop, May 2014.
- Keynote presentation June 2014, with interactive visual techniques, to art-science-policy conference on ‘Facing Extinction’: at University of Creative Arts, Farnham: <http://gustavmetzgerucafarnham.wordpress.com/>
- the Sustainable Consumption Institute’s first relaunched Seminar is with Joe Ravetz, entitled - “Low-carbon synergy and social intelligence – the internal logic of a transition pathway?": <http://www.sci.manchester.ac.uk/events/sci-external-seminar-series>
- Organized international workshop at the World Urban Forum 2014, Colombia, on the ‘Cities Prosperity Index’ (CPI),
- Guest speaker on ‘smart cities & climate change’: Interactive Academic Engagement with Policy Stakeholders – ESRC Knowledge Exchange Trials, <http://www.humanities.manchester.ac.uk/socialchange/events/knowledge-exchange-trials/index.html>
- Keynote for International Roundtable for UN Habitat Global Parliamentarians: ‘Urban Economics, port and historic cities’: Split, Croatia
- Keynote for Royal Town Planning Institute conference on Urban Design: ‘Urban design 3.0: creative synergy & shared intelligence’. Manchester
- Session at: x.Future.Innovation.Cities: NESTA experimental workshop exploring the impact of emerging technologies on our future urban landscapes.
- Facilitator of interactive session at – ‘Creativity & Visual Knowledge - a conversation between the Arts and Sciences’, John Rylands Library, Manchester University
- Appointed as scientific advisor to the Municipality of Naples, Italy
- Appointed as scientific advisor to the Municipality of Vellore, Tamil Nadu
- Expert advisor to UN-Habitat Secretariat of the ‘Cities Prosperity Index’ (CPI), with workshop at the United Nations Middle East Regional Centre, Tehran.

- Nominated as expert representing the British Academy, for the European Commission Horizon 2020 Advisory Groups, on themes related to sustainable development.
- Keynote for Royal Town Planning Institute conference: “The urban-rural challenge: planning for in-between spaces”. Leeds Metropolitan University.
- Keynote lecture at the University of Sharjah, Dubai, UAE, School of Architectural Engineering, on ‘a synergistic approach to built environment design’.
- Launched the results of the National Research Foresight in Mauritius on 21st March, with the Minister for Education & Science and various expert working groups. http://www.mrc.org.mu/in-house_projects/national_research_foresight_exercise
- public lecture at the Glasgow Institute for Contemporary Arts, on: “inter-connected policy for inter-connected problems in healthy cities”. Following this Joe Ravetz ran a ½-day expert workshop at the Glasgow Centre for Population Health, with public health & related professionals. <http://www.gcph.co.uk/events/126>
- Joint Co-Chair of the Smart Cities Roadmap, part of the Smart Cities & Communities European Innovation Partnership: building a ‘rolling agenda’ for IT-driven innovation in urban mobility, energy efficient housing and smart grid power – <http://eu-smartcities.eu/>
- Joe Ravetz gave the keynote address to the UN Habitat parallel event World Urban Forum international conference on Port Cities – Magnets for Sustainable Development, Naples, Sept 2012
- Joe Ravetz is coordinating the EPSRC funded *Manchester Energy Foresight* project under the KTA programme (www.energy.manchester.ac.uk): and also the *Manchester Security Foresight* project (www.mbs.ac.uk/securityforesight)
- Joe Ravetz and Magda Sibley gave a joint keynote presentation to the UNESCO International Scientific Committee on the Economics of Conservation, at the conference in Malta on ‘Ports as New Magnets for Urban Sustainable Development’
- Joe Ravetz is a panellist at the EPSRC workshop ‘Energy & Complexity: the Way Forward’, at the Environmental Change Institute, Oxford.
- Joe Ravetz gave keynote presentations on ‘Foresight Scoping and Mapping’, and ‘Cities, Megacities, Ecumenopolis’, for the International Foresight Training Course, at the Manchester Institute of Innovation Research, MBS.
- Joe Ravetz is giving the keynote on ‘Sustainable Cities – the European Experience’ at the Scottish Parliament expert workshop on ‘Coordinated Agenda for Marine, Environment and Rural Affairs Science’, Edinburgh.
- Joe Ravetz is giving a keynote to: **ICLEI** Informed Cities Forum 2011: Rio+20, local performance and the role of research: 26-27 October 2011, Naples, Italy
- Presentation on ‘city futures and synergistic thinking’ at the UN Habitat World Urban Forum consultation workshop on ‘Futuring and city futures’, Naples, Sept 2012
- Keynote & paper to EU Committee of the Regions: Available on: http://urban-intergroup.eu/wp-content/files_mf/corurbangoverancefinal.pdf
- Keynote address & working papers to the EC DG -Regio Urban Expert Group on Cohesion Policy, June 2010: http://ec.europa.eu/regional_policy/conferences/citiesoftomorrow/programme_june.cfm

- Keynote address to the French Ministry of Sustainable Development, Housing & Planning, January 2011: <http://www.developpement-durable.gouv.fr/Le-colloque-Faire-la-ville-durable.html>
- Session facilitator at UK Sustainable Development Commission final conference March 2011: <http://bigsustainability.org/tag/joe-ravetz/>
- Keynote to the Leeds City-Region conference, April 2011: <http://www.leedsmet.ac.uk/as/cudem/3D40B9DCADAC4037A499B69826DB346F.htm>
- Prizewinner in the ‘Guardian Report’ climate change policy innovation portfolio, presented to the Copenhagen IGCC, 2009, awarded for the ‘Carbon Mortgage’ scheme. <http://www.guardian.co.uk/environment/2009/jul/13/manchester-report-mortgage?intcmp=239>
- Keynote address to the Institute for Environmental Science, April 2009: <http://becominggreenblog.blogspot.com/2009/04/language-of-sustainability.html>
- Greater Manchester Policy Exchange, (coordinated Joe Ravetz): www.manchester.ac.uk/policy-exchange
- Keynote address on ‘Pathways to a One Planet Economy’ at the ESRC interdisciplinary workshop on ‘Complexity economics’, Leeds, May 2009, http://www.see.leeds.ac.uk/research/sri/projects/esrc-research-seminars/Complexity%20Economics%20forSustainability_seminar_2_summary_final.pdf
- Coordinator of international workshop on ‘Post-Normal Science: Retrospect and Prospect’: St Annes College, Oxford, June 2009
- Coordinator of workshop at the International Society for Human Ecology conference, June 2009, on the theme of ‘*the meaning of human ecology: a multi-layer exploration*’

Funded projects

From 1997: shaded areas show medium-larger projects (over £50k net value to CURE)

DATES		SPONSOR / CLIENT	PROJECT TITLE	ROLE
From	To			
2015	2015	EC – DG Research & Innovation	Foresight study on Horizon 2020 Third Strategic Programme	Partner
2015	2015	DEFRA	Horizon Scanning	Partner
2014	2015	Government Office of Science, Foresight Unit	Future of Greater Manchester	Partner
2014	2014	Government Office of Science, Foresight Unit	Future of Cities Foresight: commissioned report on ‘Urban Ecosystems’	Expert
2014	2017	European Commission, DG Research, FP7	CASI: Common Assessment for Sustainability Innovation	Partner

2013	2013	European Commission, DG Energy (CEPS / GOPA)	Smart Cities & Communities Stakeholder Platform	Partner
2012	2013	EPSRC Knowledge Transfer Action	Manchester Energy Foresight	Lead
2012	2013	EPSRC KTA	Manchester Security Foresight	Lead
2012	2013	EU Occupational Safety & Health Agency (coord.SAMI)	Green Jobs scenarios project	Partner
2011	2013	Mauritius Research Council	Mauritius National Research Foresight Exercise	Lead
2011	2012	Natural England (coord.SAMI)	Scenarios for the Natural Environment 2060	Partner
2010	2012	European Commission, DG Research, FP7	IKNOW – interconnecting knowledge	Partner
2010		UNIDO (United Nations Industrial Development Organization)	Foresight for Low Carbon Automotive Sector in Turkey & Eastern Europe	Lead
2010		DEFRA (coord.SAMI)	Future proofing for CAP reform trade negotiations	Partner
2010		European Commission, DG Trade	Trade impact assessment for the Andean & Libyan trade agreements	Partner
2008		Rockefeller Foundation / Institute for Alternative Futures	Foresight for Smart Globalization	Partner
2007	2012	European Commission, DG Research, FP6	PLUREL – ‘peri-urban land use relationships’	UK lead
2007	2009	Environment Agency (England & Wales)	Application of futures methods to policy intelligence	Lead
2007	2008	Welsh Assembly Government (WWF-Cymru)	One Planet Wales	Lead
2007	2008	World Wildlife Fund UK	Sustainable communities in the West Midlands	Lead
2006	2007	World Wildlife Fund UK	One Planet West Midlands	Lead
2006	2007	Yorkshire Forward (Regional Development Agency)	Leeds 2050	Partner
2006	2010	UNIDO (United Nations Industrial Development Organization)	Technology Foresight: training & capacity building	Lead / Partner
2006	2011	EPSRC (SUE-2 program)	SUREGEN – Sustainable Urban Regeneration	Partner
2005	2009	WWF-UK	OPEN - One Planet Economy Network	Lead
2005	2008	South East England Development Agency / DEFRA	One Planet Economy Regional Assessment (OPERA)	Lead
2005	2008	World Wildlife Fund UK: Biffaward	Eco-Budget UK / One Planet Economy	Lead
2005	2007	Sustainability North West for Biffaward	Eco-Region NW: An interactive toolkit for resource productivity	Lead

2005	2007	European Commission 6 th Framework Programme	EUROCOOP: European Cooperation for regional innovation strategies	UK lead
2005	2006	SE Regional Assembly	Stabilizing the Ecological Footprint in the SE Strategy	Lead
2004	2007	European Commission 6 th Framework Programme	INTELCITIES: 'Intelligent Cities'	Partner
2004		University of British Columbia, Canada ,SDRI	Georgia Basin Futures Project	Expert
2004		Stockholm Environment Institute / North West Regional Association	A Preliminary Ecological Footprint of the NW Region	Partner
2004	2005	Ecosys / White Young Green Environmental Ltd /	ASSESS: benchmarking for env. business & waste management	Partner
2004		ONS (Office of National Statistics)	UK Material Flow Accounts: methodologies for TMR & overburden	Partner
2003	2006	European Commission 6 th Framework Programme	INSURE: regional sustainability indicators & systems dynamics model	UK lead
2003	2005	European Commission, 5 th Framework Programme	REGIONET – evaluation of regional sustainable development	UK lead
2003	2004	Environment Agency (England & Wales)	'Scenarios': futures studies methodologies & applications to policy& management	Lead
2003	2004	DEFRA (Department of Environment Food & Rural Affairs)	DEFRA science Forward Look 10 year strategy	Partner
2003	2004	Stockholm Environment Institute / Ecosys / SEEDA	Taking Stock: a mass balance & footprint analysis of the SE Region	Lead
2003		NWRA - climate	Spatial implications of climate change	Lead
2003		ESRC & Institute of Alternative Futures,	Scenarios for rural economies & landuse	Sub/c
2003		Manchester City Council	Building Schools for the future: Ecological footprint appraisal	Lead
2002	2005	Environment Agency: with Cambridge Econometrics	REWARD - Regional & Welsh Appraisal of Resources & Development	Partner
2002	2004	Enviro-Centre / Biffaward	Intermodal transport for waste & recyclables	Lead
2002	2003	Irish Environmental Protection Agency	National Spatial Strategy: sustainable settlements modelling programme	Lead
2002		North West Regional Association	Sustainability communications framework	Lead
2001	2002	UK Countryside Agency	Sustainable Development in the Countryside Around Towns	Lead
2001	2002	Sustainability NW	Application of the Atlas NW	Lead
2001	2002	United Nations University Tokyo, Institute of Advanced Studies	Urban Environmental Transition – scaling from local to global	Expert

2001		EU-DG Environment / JRC-ISPRA (Sustainable Towns & Cities)	Review of Local Sustainability Indicators	Lead
2000	2001	RTPI (Royal Town Planning Institute)	UK Spatial Planning Framework	Partner
1999	2000	Irish Environmental Protection Agency / University of Limerick	National Spatial Strategy: methodologies for sustainable settlements planning	Lead
1999	2000	Yorkshire & Humber Regional Assembly	Regional Climate Change Strategy Development	Partner
1999		EU-JRC-Ispra	Integrated assessment concepts & methods	Lead
1998	2001	EPSRC	Regional interactive Sustainability Atlas	Lead
1998	2000	SNW / NCBS / Biffaward	Regional resource flow audit	Lead
1997	2000	European Commission 4 th Framework	Integrated Visions for a Sustainable Europe	UK lead
1997	1999	ESRC (Global Environmental Change Fellowship)	Integrated assessment & economic evaluation	P.I.

Teaching, training, tools & techniques

Under graduate / post-graduate teaching

In 2005-7 I completed a new module in Urban Design for the first semester of the post-graduate Masters in Planning. This was challenging to organize, as it involved students from no less than 8 different course combinations, full and part time. It was also running in the newly formed School of Environment and Development. The course brought together experiences from various teaching roles over the last 15 years:

- Problem-based learning approach in studio format, using peer evaluation techniques.
- Close coordination with visiting lecturers to provide every student with individual tutorials.
- Focus on visualization and mapping techniques, IT and other practical studio skills.

Doctoral supervision & examination

Dates	Location	Student	Topic	Role
2008-14	UoM	Michal Miedzinski (PT)		1 st supervisor

2011-15	UoM	Elnaz Ghafoori	Urban micro-publics as a social regeneration strategy: exploring the socio-cultural dimensions of retail marketplaces in Greater Manchester	1 st supervisor
2008-10	UoM	Kai Zhou		2 nd supervisor
2004-6	UoM	Joanne Tippet		2 nd supervisor
2014-	Univ Liverpool	Peter Fawcett		Advisor
2013-	UoM	William Lamb		Advisor
2011	Univ Hull	Tony Hodgson		Advisor
2011	MMU	Cristina Rodriguez		Advisor
2013	UCL	Tom Cohen		External examiner
2006	ETH Zurich	Alexander Walter		External examiner
2004	UoM	Jemma Williams		Internal examiner
2003	Univ Salford	Zhaonang Chang		External examiner
2001	Univ Surrey	Alex Lucas		External examiner

Other teaching

I have been involved with occasional teaching at undergraduate & masters level, both complete course units and one-off contributions, including:

- planning for regional sustainability: (new course unit)
- environmental science & management:
- urban design module (new course unit)
- urban regeneration project (new course unit, involving active resident participation)
- Analytic & professional skills: (revised course)
- urban policy & practice:
- research methods:

The techniques mentioned above have been developed and used in these courses. , including problem-centred learning, interactive class forums, studio group exercises, problem mapping techniques etc.

Extra-mural teaching

Various teaching and training assignments have been carried out 1998-2013, in the UK and abroad, with full details in the summary below.

The teaching roles in university situations have each contributed to the teaching and curriculum agenda as detailed below. The professional training roles have overlapped with the many keynote presentations and seminar leads around the UK and EU. Since the publication of the keynote book *City-Region 2020* in 2000, the demand for seminars and

training from the UK and overseas now exceeds available time. Significant teaching / training experiences have included:

- UN Industrial Development Organization, Technology Foresight training
- Manchester Institute of Innovation Research, International Foresight Training Courses
- Urban Institute Ireland, Dublin, seminar series
- Manchester Business School overseas programme:
- Northwest Regional Development Agency (NWDA), sustainability training
- IDPM environmental management programme:
- PREST foresight training programme, 2001-03
- DFID overseas training projects:
- Cheshire County Council / NWRA senior management programme:
- Forum for the Future regional futures programme:
- Manchester Metropolitan, Dept of Applied Community Studies.
- Chalmers University of Technology, Goteborg: Graduate Course in Urban Development, 1996 – 1999
- Hull Business School, Systems Research Unit
- MA in Third World Studies, 1993-96, Institute of Advanced Architectural Studies, York

The professional training approach has followed the principles of ‘integrated planning for sustainable development’ as in City-Region 2020. The application of this has emerged as a pedagogic method which is loosely titled ‘*interactive agenda-centred mutual learning*’. This is a further development of the widespread ‘problem-based learning’ approach, dealing with situations typical of the sustainable urban development agenda, where problems and opportunities often overlap. The seeds of this were sown in my early 1973 paper ‘*Practical Deschooling*’, and then followed up in my organization of a UCL student conference ‘Urban Futures’ in 1975. The approach includes the following elements:

- Baselines / futures: thinking strategically about the definition of problems, organizational tasks, dynamics and trends, and how these may evolve into the future.
- Linkages: the bigger picture in time, space, and cause/effect, for the problems falling between sectors and organizations, and the goals and targets which emerge.
- Opportunities – techniques for thinking ‘beyond the box’, to find new solutions for the bigger picture, in a continuous process of organizational learning and personal development.

Innovative work & curriculum development

The ‘Knowledge Capital Inter-professional Studio’ was a prototype programme run jointly between the School of Planning & Landscape and the Manchester School of Architecture, in 2002-2003, with the help of Curriculum Innovation funding. The studio project work focused on the urban sector which links the 4 HEIs of Manchester and Salford. The agenda concerned knowledge-based and creative industries as a key to urban

regeneration, and this was also part of a real-time policy and development initiative – the *Manchester Knowledge Capital* project. The project also aimed at producing a ‘template’ for use in similar inter-professional course developments in the future and in other disciplines. Overall, the project demonstrated four distinct types of innovation, each concerned with collaborative learning:

- *Inter-professional theme*: The project demonstrated how the roles and contributions from different professions could be brought together in a creative studio setting, with an emphasis on visualization and mapping.
- *Stakeholder interaction theme*: There was a constructive linkage with a high level policy initiative, including for direct feedback from policy makers at Pro-Vice Chancellor level.
- *Agenda-based learning theme*: This approach extended the well known ‘problem-based’ learning to a more exploratory and multi-disciplinary focus on complex problems and potentials in the urban system.
- *Evaluation theme*: there was a process of reflective analysis in several stages, as below. The results were seen in enhanced contributions from the majority of students.

Also, I had previously developed for the department in 1999 a prototype structure for a 3 year BSc in Urban Regeneration & Development. In the event this proposal was overtaken by the changes resulting from the RTPI professional accreditation process.

Statement on teaching

As a professional researcher, the teaching and training activities above are seen as an extension of the knowledge development process, rather than as a competition. In particular the ‘*interactive agenda-centred mutual learning*’ approach above has shown itself as a learning experience for myself, as much as the students. The focus on visualization, multi-level problem scoping, futures studies, systems analysis, actor / network / organizational mapping, and creative opportunity design, is a direct implementation of the principles of sustainable urban development, as set out in various books and papers.

The same approach has also inspired recent academic initiatives, such as the organization of the international conference on ‘evaluation of sustainable regional development’ for the EU project REGIONET in 2003. This was structured around an intensive case study process which aimed to accelerate the group learning process beyond the normal process of an academic conference. It also underlies policy-oriented research such as the REWARD programme on modelling regional production and consumption, which also involves an organizational learning / professional training programme for regional policy-makers. In this light, my future strategy for teaching involves a further development of this approach of the ‘*interactive agenda-centred mutual learning*’. This would aim to include the following:

- Application to a range of undergraduate and postgraduate courses.

- Further development of agenda-oriented and student-centred teaching and learning techniques, particularly using ICT and participative techniques
- Fostering a portfolio of postgraduate and doctoral studies which contribute directly to the research programme on sustainable urban / regional development.
- Equipping other members of the research and academic team in relevant professional training techniques.

Consultancy & collaborations

Joe Ravetz Associates is a flexible and mobile consultancy resource, for small-medium projects, operating in tandem with the academic work of CURE. We offer a custom-made service to clients who are committed to moving forward the state of the art on sustainability in urban and economic development, social policy, and environment/climate issues. Details on <http://urban3.net/joe-ravetz-associates/>

Joe Ravetz is a Principal at SAMI Consulting, a premier resource on strategic futures, innovation management and organization change. Various projects over the years include major government contracts with DEFRA, BIS, Environment Agency, Natural England, EU Occupational Safety and Health Agency (details on www.samiconsulting.co.uk)

Other major collaborations / networks currently include:

- Manchester Institute for Innovation Research <https://research.mbs.ac.uk/innovation/>
- International Creative Cities Laboratory (<http://www.creativecitylab.org/>)

Foresight & graphic facilitation

Joe Ravetz is an experienced futurist & graphic facilitator, with experience in visualization processes in deliberation and visioning.

He previously worked with the Institute for Alternative Futures using interactive techniques for a series of high level scenario workshops for the UK Government's Economic and Social Research Council (ESRC). Recent samples of graphic facilitation output can be found on:

- <http://www.altfutures.org/vulnerability2030>
- <http://www.rockefellerfoundation.org/blog/foresight-smart-globalization>
- <https://osha.europa.eu/en/topics/green-jobs>

Related projects and freestanding materials can be found on (temporary site)
<http://urban3.net/visual-thinking/>

Informatics & interactive urban intelligence

Joe Ravetz is keen on the potential of ICT for enabling of ‘urban intelligence’, and has developed two software prototypes since 2011.

One is the ‘*Synergy Forum*’, which enables structured dialogue for social collaboration and learning on the synergistic model (<http://www.synergy-demo.hedtek.com/>). This is designed for discussions on complex problems, using futures and foresight methods, where collaboration is the best way forward. The Synergy Forum creates a round table meeting in virtual space: not to replace the human factor, but to extend it for more effective results. We can map the patterns of agreement, analyse key words, vote on common questions, and find new collaborators and synergies in a larger Forum.

Another is the ‘*Local Forum*’ which enables multi-lateral dialogue between stakeholders with local interests: <http://sed-gis1.humanities.manchester.ac.uk/tus/>. This ‘proof of concept’ prototype brings together community discussion forums with google maps platform, and standard geo-spatial data, all based on the Tellus social/spatial technology. With this, local communities can better organize neighbourhood initiatives, plans, projects or networks: policy-makers and service providers can consult on local needs and wishes, using spatial overlays in combination with locally based dialogue (spatial data is currently based on Greater Manchester, to be extended to the whole UK).

Joe Ravetz was in the development team for the i-Know EU-funded platform for horizon scanning and Grand Challenge thinking, (<http://community.iknowfutures.eu>): and continues collaboration through www.futuresdiamond.com. Earlier, he was also a member of the team which produced the award-winning REAP software <http://www.sei-international.org/reap>. Previously he was PI for the EPSRC funded ‘Regional Interactive Sustainability Atlas’, 1999-2002. This provided (in DVD format) a combination of multi-layer GIS, an interactive scenario model adapted from the Vancouver-based Metroquest (<http://metroquest.com/>): and a ‘time-machine’ scenario visualization tool for 2050. A follow-on project ‘Eco-region NW’ is online (but without interactive functions): http://hosting.creativeconcern.com/ecoregion/index_summary_role.php

Overall this development track follows the use of ‘informatics’ (IT plus knowledge management) to enable inter-connected thinking. It’s clear that informatics has huge potential as a catalyst for social learning and ‘urban intelligence’.