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## *CURRICULUM VITAE, 2009-08-28*

### EXPERTISE

- Strategy development for urban design, policy and governance
- Conversation support for complex, collaborative environments (simulation, scenario planning, crowd sourcing, web-enabled mass collaboration)
- Creative research support for a changing world

### EDUCATION

**PhD (ongoing)**, Massachusetts Institute of Technology, Dept. of Urban Studies and Planning, Cambridge, Massachusetts, 2006 to present

**Masters of Science in the Built Environment, Honours**, University College London, London, England, 2004

**Bachelor of Arts, Honours**, Brown University, Providence, Rhode Island, May 2000

### PROFESSIONAL EXPERIENCE

**Future of Cities Programme**, *Scenario planner*, London, England. April 2009 to present

Interviews, background research, analysis, and scenario development for University of Oxford funded project on the Future of Cities, through the Institute for Science, Innovation and Society at the Saïd Business School.

**Humanitarian Futures Programme**, *Strategy consultant*, London, England. July 2008 to present

Scenario planning, strategy development and policy research for a leading crisis response think tank. Focus on innovative techniques for crisis prevention and response in urban environments, including crowd sourcing, emergent, and swarm-based approaches.

**The Prince's Foundation for the Built Environment**, *Climate change advisor*, March 2008 to present

Climate change design and policy advice. Emphasis on climate change adaptation strategy and design, executive education and long term strategy for "deep sustainability".

**Space Syntax Limited**, *Director, North America*, London / Cambridge, MA. February 2004 to September 2009

Strategic design think tank providing decision support for public and private sector clients in urban development. Founded US office, managed a wide variety of teams on worldwide development projects.

**FutureBoston, MIT**, *Research Director*, Cambridge, MA, September 2006 to January 2008

Competitive analysis for the future of innovation in the Boston region. Pioneering use of web-based community participation tools and visualisation techniques for public engagement.

**University of California Traffic Safety Center**, *Planning Consultant*, Berkeley, California. April, 2003 to present

Practical risk assessment for local government planning, focusing on urban liveability, safety and quality of life.

**Urbitran Associates, Inc**, *Urban Planner*, Oakland, California. April 2001 to April 2003

Planning, and design of small and medium public transportation franchises in the Western US market. Client relations, project management, and community facilitation workshops.

**Kurzweil Technologies, Inc**, *Virtual Reality Engineer*, Wellesley, Massachusetts. October 2000 to August 2001

Lead developer of an advanced 3D visualization system for futurist and author Ray Kurzweil. Presented at TED 2001.

**Odeh Engineers**, *Planning Analyst*, North Providence, Rhode Island. February 1999 to October 2000

Statewide hazard mapping protocol for the Federal Emergency Management Agency (FEMA).

## RESEARCH APPOINTMENTS

### **London School of Economics**

*Senior Research Associate, Complexity Programme, February 2009 to present*

Complex adaptive systems research, focusing on non-linear change and social “tipping points”.

*Research Fellow, Cities Programme, January 2008 to January 2009*

Systemic implications of climate change; focus on decision-making scenarios under risk and uncertainty.

### **University of Oxford, Researcher, Said Business School, James Martin 21<sup>st</sup> Century School, March 2008 to present**

Catastrophic risk, systemic failure and supply chain vulnerabilities with Dr. Peter Taylor of the Future of Humanity Institute and Jerome Ravetz at the Institute for Science, Innovation and Society.

### **University College London, Honorary Research Fellow, Bartlett School of Architecture, September 2005 to present**

Participate in a variety of EPSRC funded research projects on urban form, complexity, and social policy.

## RECENT PROJECTS

**Easy and Convenient Primary Care (ECPC):** Development of a strategic estates management support process for the Department of Health (DoH) and the NHS, with the Prince’s Foundation for the Built Environment.

**Scenario development for the Economic Community of West Africa States (ECOWAS):** Creation of water pollution crisis scenarios for the ECOWAS secretariat, involving key informant interviews, analysis, synthesis, stakeholder workshops and scenario creation. Adaptation two a one day strategic decision game for senior ECOWAS administrators and staff. With the Humanitarian Futures Programme, Kings College London.

**Simulation training for the International Council of Voluntary Agencies (ICVA):** Creation of a serious game for a high level workshop on humanitarian collaboration and crisis response for senior politicians and managers.

**Role playing serious game for Food Agriculture Organization’s (FAO) Food Crisis Management unit:** Design and development of a story-based simulation role playing game for FAO’s senior management and directorship, focused on testing new organisational structures for dealing with complex food chain crises.

**Sustainable density strategy and public outreach programme:** Development of a custom statistical model and interactive educational website with the Prince’s Foundation for the Built Environment, offered as a decision support tool for the Greater London Authority, Transport for London and local Councils seeking to better understand density and housing allocations in their boroughs and administrative boundaries.

**Forecasting climate change impacts for Oxfam UK:** Quantitative simulation development for Oxfam UK, using time series analysis to provide a range of estimates on the numbers of people killed and affected by climate change in 2015. Used as inputs to policy analysis and strategic decision-making for Oxfam’s long term planning. With the Humanitarian Futures Programme.

**London Olympic Legacy Master Plan advice:** Spatial modelling and design advice for the London 2012 Olympics, with Space Syntax, Arup, EDAW, FletcherPriest, and Stanhope PLC and Westfield.

**City of Seattle Pedestrian Master Plan:** Policy and technical advice on the City of Seattle’s first pedestrian master plan, using Space Syntax spatial modelling and advanced transport simulation. With Space Syntax Ltd.

**Jeddah unplanned settlements:** Slum upgrading strategies and design for the Municipality of Jeddah, Saudi Arabia. Part of an ongoing high level relationship with the City, examining all aspects of the Municipality’s growth and planning strategies. With Space Syntax Ltd.

**Alternative futures planning for South Florida:** Long term urban growth management and simulation services, using web-based and face to face scenario planning techniques to augment urban simulation modelling. Focused on multi-party collaboration and impact assessment of climate change. With MIT, the United States Geologic Service, Florida Fish and Wildlife, and the University of Florida.

**Business planning and strategy redevelopment:** Market analysis, service offer review, and long term strategy redevelopment for Space Syntax Ltd.

## SELECT PUBLICATIONS

- Raford N and Hillier B, "Measurement and description in socio-spatial analysis", *The Sage Handbook of Measurement*, Oxford University Press, forthcoming book chapter in 2010
- Geyer J, Raford N, Pham T, "The Continuing Debate about Safety in Numbers—Data from Oakland, CA", *Proceedings of the 85<sup>th</sup> Annual Meeting, Transportation Research Board*, Washington, D.C., January, 2006
- Raford N, "Pedestrian Movement and the Urban Experience in Fractured Spatial Systems: The Case of Boston, Massachusetts", *World Architecture: Special Issue on Space Syntax*, Shanghai, China, November 2005
- Raford N, Hillier B, "Correlation Landscapes: A New Approach to Sub-Area Definition in Low Intelligibility Spatial Systems", *Fifth International Space Syntax Symposium*, Delft, Holland, June, 2005
- Raford N, Chiaradia A, Gil J, "Critical Mass: Emergent Cyclist Route Choice in Central London", *Fifth International Space Syntax Symposium*, Delft, Holland, June, 2005
- Raford N, Ragland R, "Space Syntax: An Innovative Pedestrian Volume Modeling Tool for Pedestrian Safety", *Proceedings of the 83<sup>rd</sup> Annual Meeting, Transportation Research Board*, Washington, D.C., January, 2004
- Raford N, "Looking Both Ways: Space Syntax for Pedestrian Exposure Forecasting and Collision Risk Analysis", *Proceedings of the Fourth International Space Syntax Symposium*, London, England, June, 2003
- Odeh D, Raford N, Jackson R, Pogue P, "A Model for Earthquake Risk in Statewide Mitigation Planning" *Proceedings of the 7<sup>th</sup> US National Conference on Earthquake Engineering*, Boston, Massachusetts, July 2002
- A Chiaradia, N Raford, "Alternative Tools for Accessibility Planning", Guest editorial, *Local Transport Today*, London, England, March, 2005
- N Raford, A Chiaradia, C Stutz, "Network Analysis of Multimodal Transport Systems", White paper, *17<sup>th</sup> Annual TRICS Conference: Understanding Transport Development, Achieving Sustainable Development*, London, England, November, 2005
- Stonor T, Stutz C, Raford N, Chiaradia A, "Towards Evidence-Based Urban Design", *Planning in London: the Journal of the London Planning and Development Forum*, October, 2004
- Raford N, "Making Neighborhoods More Friendly to Bicyclists and Pedestrians", contributing author to chapter in *Geographic Information Systems: A Tool for Improving Community Livability*, Local Government Commission, Sacramento, California, March, 2003

## RECENT LECTURES AND PRESENTATIONS

- "Positive strategies for times of rapid change", Radio interview, KZYX / KZYZ California, 2009
- "Collapse dynamics: phase transitions in complex social systems", London School of Economics, 2009
- "Scenario planning for social complexity", USGS working group on climate change, Miami, Florida, 2009
- "Complexity approaches to urban disaster management", Rome, Italy, 2009
- "Alternative futures modeling", Royal Technical University, Stockholm, Sweden, 2009
- "Scaling adaptation: urban climate change adaptation", Congress of the New Urbanism, Austin, Texas, 2008
- "Emerging technologies and evidence based approaches to place making", RUDI, London, 2008
- "Scenarios and simulation for climate change adaptation", London School of Economics, London, 2008
- "Post-climate change urbanism", Royal Technical University, Stockholm, Sweden, 2007
- "Form and consequence in urban design", Roma III University, Rome, Italy, 2007
- "Sustainable design as a process", Colorado University Denver, Denver, CO, 2007
- "Confusing risk with safety: probability and policy in urban transportation planning", Sacramento, CA, 2007
- "Complex adaptive systems in urban planning", MIT, Cambridge, MA, 2007
- "Agent based modeling in urban decision support", MIT, Cambridge, MA, 2007