



## The Comparative Genetics of Cities Workshop – Biographical Sketches

**Stuart Barr**, Senior Lecturer in Geographic Information Science, Newcastle University

Stuart Barr's research focuses on the spatial analysis and modelling of urban systems particularly in relation to the spatial analysis of land cover form and land use function within cities. He leads the land use analysis and modelling work in the Cities programme of the Tyndall Centre for Climate Change Research and is leading the land use workpackage of the EPSRC ARCADIA project. He has conducted extensive research on the use of Earth observation data for cities analysis and impact assessment, working on urban land use inference, thermal remote sensing of urban areas, change detection in cities and the development of integrated spatial analytical tools for GIS/RS cities-based research. Stuart Barr is a member of the editorial board of *Computers, Environment and Urban Systems*.

**Michael Batty**, Director Centre for Advanced Spatial Analysis (CASA), University College London

Michael Batty, Bartlett Professor of Planning is currently Director of CASA. He was previously Director of the SUNY Buffalo site of NCGIA (1990-1995) and was Professor and Head of the Department of City and Regional Planning in the University of Wales at Cardiff from 1979 until 1990.

He has Degrees from the University of Manchester (BA) and Wales (PhD), is a Fellow of the British Academy as well as a Fellow of the RTPI, CIT and RSA. His research is in the development of computer based technologies, specifically graphics-based and mathematical models for cities, and he has worked recently on applications of fractal geometry and cellular automata to urban structure.

He is the Editor of the journal [Environment and Planning B](#) and was awarded the CBE for 'services to geography' in the 2004 Birthday Honours List.

**David Birch** is a PhD candidate in Computer Science, Imperial College London. David got his MSc degree in Joint Math & Computing from Imperial College. His final year project looked at unifying procedural graphics. David is studying urban modelling and looking at facilitating multidisciplinary design analysis. David is sponsored by Arup foresight and innovation.

**Mark Birkin**, Professor of Spatial Analysis and Policy, University of Leeds

Mark Birkin is Professor of Spatial Analysis and Policy. His major research interest is in simulating social and demographic change within cities and regions, and in understanding the impact of these changes on the need for services and infrastructure (e.g. transport, housing, health care). He has also published extensively on geodemographics, individual-based modelling, spatial interaction, GIS and spatial decision support systems, including portal and web-based platforms for spatial and social analysis. He is founding co-editor of the journal *Applied Spatial Analysis and Policy* and a member of the editorial board of *Transactions in GIS*. Mark is also on programme committees including the European Social Simulation Association and the International Conference on e-Social Science.

**Edward Burgess** is a PhD candidate in School of Sustainability, Arizona State University. Eddie got his B.S. in chemistry from Princeton University and then worked on transportation policy issues for the



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Environmental Defense Fund in New York City before coming to ASU in 2009. His sustainability interests include climate change adaptation, transportation and land use, energy efficiency, atmospheric chemistry and urban systems. He has recently joined a research project with the Regional Plan Association in New York to address regional infrastructure decisions on a national scale.

### **Juan Carlos Castilla-Rubio**, Managing Director IBSG, Cisco Systems

Juan Carlos leads the Global Climate Change Practice of Cisco's Strategy & Innovation Group (IBSG) based out of the London office, which focuses on the unique role that collaborative networks and information can play in low carbon development. He is also involved with innovation and adaptation to climate change in partnership with National/ Local Governments, International Finance Institutions, Economics & Policy Think Tanks, Scientific Research Organizations & Universities, Space Agencies, NGOs and Corporations. He is the Cisco leader of the joint Cisco/NASA Planetary Skin initiative ([www.planetaryskin.org](http://www.planetaryskin.org)). Prior to this role in Climate Change, Juan Carlos led Cisco's Emerging Markets Public Sector innovation team focused on technology enabled national public service delivery transformation, national social/digital inclusion programs, SMB economic inclusion programs, healthcare and educational reforms in Brazil, South Africa, Mexico, Chile, Turkey, India, etc. Prior to joining Cisco, he was a Partner for Diamond Technology Partners where he led the financial services and telecom practices in Latin America. Prior to Diamond, he was CEO for a biotechnology start-up focused on next generation biofuel technologies, an EVP Operations for a large brewery group, a VP for Corporate Strategic Development of a diversified financial services group and a senior consultant for McKinsey & Company. In his tenure as a research professional in the biotech industry he acted as a personal advisor to the President of the Andean Development Bank (CAF) and to the United Nations Industrial Development Organization (UNIDO). A native Peruvian, he graduated with honours from the University of Cambridge, UK with a B.Eng. in Chemical Engineering and with a M.Eng in Biochemical Engineering. He later graduated with an MBA from INSEAD in France. He is married to a Brazilian lady and has four small children.

**Tao Cheng**, Senior Lecturer in GeoInformatics, Civil, Environmental & Geomatic Engineering, University College London. She has studied and lectured in China, the Netherlands, Hong Kong, France and the UK. Her research interests span network complexity, integrated spatio-temporal data mining, spatial-temporal data modelling and visualisation, and uncertainty and quality of geographic information, with applications in coastal zone management, environmental monitoring, epidemics and transport studies. She has over 100 publications and is a past recipient of the U. V. Helava Award for the best paper in the *Journal of Photogrammetry and Remote Sensing*. She is also a guest professor at Wuhan University and at the Institute of Remote Sensing Applications, Chinese Academy of Science. Currently she leads a team of six researchers on the EPSRC STANDARD project – Spatio-Temporal Analysis of Network Data and Route Dynamics – which is studying congestion in central London using innovative statistical and machine learning approaches (<http://standard.cege.ucl.ac.uk>). She can be reached at [tao.cheng@ucl.ac.uk](mailto:tao.cheng@ucl.ac.uk).



**Philip Christensen** is Regents Professor in the School of Earth and Space Exploration, Arizona State University. As a geologist and geophysicist, his research interests focus on the composition, processes, and physical properties of Mars, the Earth, and other planetary surfaces. He uses spectroscopy, radiometry, field observations, and numerical modeling to study the geology and history of planets and moons. Over the past decade he has studied the growth of urban environments worldwide using satellite and aircraft data. He has built five science instruments that have flown on NASA missions to Mars, including the Thermal Emission Imaging System (THEMIS) camera on Mars Odyssey, the Miniature Thermal Emission Spectrometer (Mini-TES) instruments on the Mars Exploration Rovers, and the TES on Mars Global Surveyor and Mars Observer. Phil was awarded NASA's Exceptional Scientific Achievement Medal in 2003 for his work on infrared observations of Mars, NASA's Public Service Medal in 2005, and the G.K. Gilbert Award of the Geological Society of America in 2008. He is a Fellow of the American Geophysical Union. He completed his Ph.D. in Geophysics and Space Physics at UCLA in 1981.

**Filippo Dal Fiore**, Researcher and Head of Partners Relations, SENSEable City Laboratory, MIT  
Filippo Dal Fiore is the co-head of partner relations and technology transfer at the Senseable City Laboratory of the Massachusetts Institute of Technology. He is also the co-founder and managing director of Currentcity, a R&D foundation which explores the applicability of digital data analysis to urban monitoring. Filippo's background is in the social sciences, with a transversal focus on the implications of information technologies on human behavior. His investigations have spanned different disciplines, resulting - among others - in a textbook authored for Mc-Graw Hill on "E-learning" and on a special issue on "Communities vs. networks of innovation" for American Behavioral Scientist. In fall 2010 he will defend his PhD in Applied Economics at Vrije Universiteit Amsterdam, in the Netherlands.

**Richard Dawson**, EPSRC Research Fellow, Newcastle University

Rich Dawson recently received an EPSRC Career Acceleration Fellowship (formerly the Advanced Research Fellowship scheme) to advance research on sustainable cities. His work on sustainable cities started with a role as a researcher in the Cities Programme of the Tyndall Centre for Climate Impact Research. Since 2004, he has been a researcher at Newcastle University having previously worked at Bristol University where he also did his PhD. Rich's research has focused on the analysis and management of risks in civil engineering and environmental systems. It is a cross-disciplinary endeavour, involving collaboration with leading researchers, consultants and government agencies nationally and internationally. A remarkable feature of this work has been its application at broad scales - recognition that engineering systems have a much wider influence than their physical form and need to be considered within their broader environmental and social context. This engineering philosophy has become known as Earth Systems Engineering and I am a founding member of the Centre for Earth Systems Engineering Research (CESER) at Newcastle University.

**Jozef Dobos**, Computer Science Ph.D. candidate, UCL, studying urban modeling.



**Marcial Echenique**, Professor of Land Use and Transport Studies and Head of Department  
Department of Architecture Faculty of Architecture and History of Art, Cambridge University  
An international expert in urban and regional planning, Marcial Echenique has been involved in the development of cities across the world. He is particularly interested in the role of transport and pioneered the integration of land use and transport models. He has acted as a consultant to numerous governments and international bodies, including the World Bank and the United Nations. He is Professorial Fellow of Churchill College, Co-Director of Cambridge MIT Institute Urban Design Studio and the Director of Cambridge Futures Study.

**Pete Ferguson**, Associate, Space Syntax

Pete Ferguson is an economic geographer and urban designer. He joined Space Syntax in September 2006. Pete works on a range of master-planning and design projects in the UK and abroad including the production of a number of Area Action Plans and Strategic Development Frameworks for local boroughs, the master-planning of major commercial and retail developments, public spaces and informal settlements. He has also been involved in developing the company's visualisation and communication technologies and has a central role in the company's relations with the Academy of Urbanism. Pete worked for two years with REAL associates on the production of the second urban design compendium and for the Network Strategy department of the Highways Agency. He has been a resource researcher for urban design information (RUDI), has undertaken temporary work experience with Birmingham City Council's city design team, and was the president of the students of urban design society 2005/2006. Pete completed a BSc in Geography at the University of Birmingham and an MA in Urban Design at Oxford Brookes University in which he achieved a distinction and the 2008 Savills award for urban design. He has lectured at the University of Central England, University College London and Oxford Brookes University.

**Jonathan Fink**, Director of Arizona State University's Center for Sustainability Science Applications. Jon is also Foundation Professor in ASU's School of Sustainability and School of Earth and Space Exploration. His training is in volcanology, but his current research interests also focus on urban sustainability, conservation biology, and renewable energy. He directed ASU's Global Institute of Sustainability and was the first University Sustainability Officer from 2007-2009. He was VP for Research from 1997-2007. He is a Fellow of the American Association for the Advancement of Science and the Geological Society of America, and holds a Ph.D. in Geology from Stanford. He currently serves on the Boards of Directors of the Arizona Chapter of The Nature Conservancy, KB Home, and the National Museum of Natural History of the Smithsonian Institution.

**Alistair Ford**, Research Assistant, Newcastle University

Alistair Ford is a researcher in geo-informatics and spatial modelling in the School of Civil Engineering and Geosciences and the Centre for Earth Systems Engineering Research at Newcastle University. His research focuses on the application of GIS and spatial analysis techniques to the assessment of climate



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change impacts in cities. As part of the Cities programme of the Tyndall Centre for Climate Change Research he developed travel cost modelling techniques and an urban development prediction model, work which continues to be developed under the EPSRC ARCADIA project. His research focuses on the development of spatial decision-support tools and the provision of software and data to policy-makers. A key feature of his work is the integration of processes and data from disparate specialist fields to allow a greater understanding of complex, inter-linked systems.

**Matthew Fraser**, Co-Director of Research Development, Global Institute of Sustainability and Associate Professor, School of Sustainability, Arizona State University

As an Associate Professor in the School of Sustainability at Arizona State, Professor Matt Fraser directs several research projects on urban air quality. Dr. Fraser's research focuses on using organic speciation and receptor modeling to apportion ambient pollutants to their original source. To tackle this complex problem, Dr. Fraser's research group has been involved in field monitoring programs, source characterization studies, emission inventory preparation, and analytical method and instrument development projects. Dr. Fraser received his Bachelors of Science (with University Honors) in Chemical Engineering from Carnegie Mellon University and his Masters and Ph.D. in Environmental Engineering Science from Caltech. Prior to joining the School of Sustainability at ASU, Dr. Fraser was on the faculty of Rice University in the Department of Civil and Environmental Engineering.

**Eva Friedrich**, Senior Consultant & Simulations Developer, Space Syntax

Eva Friedrich trained as an architect in Germany with a special interest in urban morphology, digital analysis and design techniques. She joined Space Syntax in 2005 and became a senior consultant for research and development in 2008. She is involved in the research of new design, analysis and visualization methodologies applied to space syntax practice and the development of a GIS software platform to support consultancy projects. In application of the digital technologies, she has been working on several research and knowledge transfer projects covering the problems of urban morphology, urban network analysis, pedestrian movement and socio-economic phenomena. Eva has several years' professional experience in various practices in Germany and the UK. She has been working on projects ranging in scale from architectural to urban design. She has taken part in several architectural and urban design competitions that have been awarded and published. Since 1998 she has been involved in the research on digital methodologies and techniques for urban and architectural analysis and design.

**Arijit Guha** is a PhD student in the School of Sustainability, Arizona State University. He has a MA in geography from Clark University. His research interests are focused around urban sustainability from the perspectives of land-use and water resources management. Specifically his research examines linkages between urban spatial form and its impacts on environmental outcomes (specifically water use), how towns are differentially vulnerable to water stresses as a consequence of particular spatial development patterns, what adaptive measures are available to mitigate adverse impacts, and what factors serve to



enable or constrain effective adaptation. This research is informed by theory and practice from sustainability science, sustainable land architecture, vulnerability, and adaptive governance.

**Subhajit Guhathakurta**, Professor, School of Sustainability and Professor, School of Geographical Sciences and Urban Planning, Arizona State University

Prof. Subhrajit Guhathakurta is a Professor with appointments in the School of Geographical Sciences and Urban Planning and the School of Sustainability at Arizona State University. He has played a lead role in developing the Urban Modeling and Simulation Lab in ASU's Herberger Center where a version of UrbanSim modeling environment has been implemented for Maricopa County. He has written several papers on the theoretical aspects of planning models and the powerful communicative impact of dynamic simulation. His article on the interface between urban modeling and planning theory was awarded the Chester Rapkin Award for the best paper (1999) in Journal of Planning Education and Research. Guhathakurta helped develop an integrated urban and environmental model of the San Pedro watershed in southern Arizona, incorporating hydrologic and residential development components. His editorial contributions include books such as "Integrated Urban and Environmental Models: A Survey of Current Applications and Research" (Springer-Verlag, 2003) and "Visualizing Sustainable Planning" (Springer 2009). He has held visiting appointments at the Center for Urban Spatial Analysis at University College London, and at the Center for Sustainable Urban and Regional Futures at the University of Queensland in Brisbane. More recently, he held the German National Science Foundation (DFG) Mercator Guestprofessorship at Technical University, Kaiserslautern, Germany.

**Rashmin Gunasekera**, Catastrophe risk analyst, Analytics and Solutions Division, Willis Re

Rashmin is the coordinator of the Exposure, Vulnerability and Geo-visualisation stream of the Willis Research Network. Prior to joining Willis, he was a Research Scientist for a European Union (EU) funded project on assessing risk and decision support for EU Populations Threatened by Volcanoes (EXPLORIS). He has also conducted research at the U.S. Geological Survey in Menlo Park, California and at the Université de Savoie, Bourget-du-lac, France. He has completed a MPhil in Geographic Information Systems and Remote Sensing (University of Cambridge, UK) and PhD in earthquake seismology (University of Durham, UK). His current research interests also extend to natural disaster damage and risk assessment using remotely sensed images and GIS technology.

**Rajat Gupta**, Reader in Architecture and Climate Change, Oxford Brookes University

Dr Rajat Gupta is Research Director of Low Carbon Building Unit of Oxford Institute for Sustainable Development. Dr Gupta is recipient of the 2006 RIBA President's award for outstanding research related to DECoRuM<sup>®</sup>, a GIS-based software model, which helps planners and policy-makers count, cost and reduce domestic carbon emissions on an urban scale. Currently Dr Gupta is Principal investigator on: a 3-year EPSRC-funded project on suburban neighbourhood level adaptation for a changing climate (EP/G060959/1); a 3.5-year EPSRC CASE-funded project assessing the potential of heat pumps in reducing domestic carbon emissions in a changing climate (CASE/CNA/06/82); and a series of projects funded under the *Technology Strategy Board's Retrofit for the Future Programme* to reduce energy use



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and carbon emissions by 80% for a range of dwellings in UK. Dr Gupta sits on the 'London 2012 Carbon Management Strategy Advisory Group' and the BSI's Shadow Committee for energy efficiency and savings calculations. He is a steering group member for BSI's UK PAS 2060 standard on carbon neutrality. Dr Gupta has chaired a series of international conferences on *Urban Sustainability, Low Carbon Buildings and Solar Cities* held in UK and India. He is a *Visiting Fellow* in Arizona State University (USA), and a *Faculty Associate* at the Smith School of Enterprise and Environment, University of Oxford.

**Muki Haklay**, Senior Lecturer Civil, Environmental & Geomatic Engineering, University College London  
At UCL, he has been researching participatory Geographical Information System (GIS) and public access to environmental information since 1998. He has worked on a wide range community mapping projects covering regeneration, environmental awareness, environmental inequalities and community action planning. He is a director and a founder of Mapping for Change, a social enterprise dedicated to community mapping and GIS services to the Third Sector. Over the past decade he has secured funding for research on participatory and societal applications of GIS from ESRC, EPSRC, Knowledge Transfer Partnership with UnLtd, HEFCE funded UrbanBuzz programme and through collaborations with Third Sector organisations such as London Sustainability Exchange or Groundwork. He has published widely on participatory GIS, collaborative crowdsourced mapping, citizen science, public access to environmental information and the usability and accessibility of geographical information systems.

**Jim Hall**, Professor of Earth System Engineering, Newcastle University

Professor Jim Hall is Director of the Centre for Earth Systems Engineering Research in Newcastle University and Deputy Director of the Tyndall Centre for Climate Change Research. Professor Hall is a civil engineer who began his research career working on analysis of flooding and coastal risks. His research has explored the analysis of uncertainty in engineering decision problems, with particular emphasis upon the challenges of adapting infrastructure systems and cities to the impacts of climate change. Professor Hall is a member of the Adaptation Sub-Committee of the independent Committee on Climate Change.

**Tony Hargreaves**, Senior Research Associate, The Martin Centre for Architectural and Urban Studies  
University of Cambridge

Tony Hargreaves is a civil engineer with a background in transport consultancy. He joined Cambridge University to work on the Cambridge Futures study of transport options for the Cambridge Sub-region. During this period, he became involved in the SOLUTIONS study and coordinated the development of the research proposal and Project Plan. He is now responsible for testing the strategic land use and transport options.

**Tomas Holderness** is a second year PhD student at Newcastle University, where he also attained his undergraduate degree in Geographic Information Science (BSc). His research project is investigating the development of metrics based on thermal Earth observation to quantify the spatio-temporal



characteristics of urban heat vulnerability during heat waves. As such Tomas' key research interests are: GIS, remote sensing and urban (thermal) systems.

**Peter Jones**, Professor of Transport and Sustainability Civil, Environmental & Geomatic Engineering, University College London

Peter Jones is a transport and sustainable development specialist, and Director of the newly formed UK Transport Research Centre, funded by the ESRC, DfT and Scottish Government. His PhD, DIC (Engineering) Thesis from Imperial College was entitled: 'The development of a new approach to understanding travel behaviour and its implications for transportation planning'. Before joining UCL in 2005, Peter was director of the Transport Studies Group at the University of Westminster where he carried out numerous research projects funded by organisations including the Department for Transport, the European Commission, the Joseph Rowntree Foundation, and BAA. He has also acted as a consultant to Transport for London.

**Kayvan Karimi, Director Space Syntax**

Dr. Kayvan Karimi is an architectural and urban designer with more than sixteen years of professional and international experience. He received his PhD in Architectural and Urban Morphology (1993-98) from University College London (UCL). During this period, he joined Space Syntax, where he is now a Director. Kayvan has worked extensively on a wide range of projects, including: strategic city planning, city centre redevelopments, urban regeneration, large-scale urban master-planning, urban conservation/historic centers, 'slum' upgrading, major commercial/retail developments, public realm design, pedestrian movement planning and complex buildings. His work experience spans from the East, where he originates, to the West, where he has practiced for most of his professional life. By combining his professional, academic and international experience, Kayvan offers a distinct expertise in architecture, urban design and strategic design. In recent years, Kayvan has been leading a number of large-scale strategic planning projects, among them Jeddah Strategic Planning Framework is quite prominent. Kayvan maintains his research and lecturing activities in parallel to his main role in leading consultancy projects. He regularly lectures at UCL, where he also has an Honorary Senior Researcher status. He is a visiting lecturer at LSE and Oxford Brooks University.

**Grant Kopec**, Acting Program Manager, Center for Energy Studies, Cambridge Judge Business School

Grant is currently the Programme Manager at the Cambridge Centre for Energy Studies (Judge Business School, University of Cambridge), which investigates the future of energy and energy security and its links to the global environment and resource systems. His own research interests include the use of sensing methods for greenhouse gas emissions and other environmental variables, as well as evidence-based decision making. He is also interested in the geopolitics of energy supply and transport, and technology policy. Grant has earned his M.Phil. in Technology Policy from the University of Cambridge and his M.S. in Nuclear Engineering from the University of Illinois at Urbana-Champaign. Prior to coming to work at the Centre for Energy Studies, he conducted research in security studies, fuel cell design, fluid dynamics, nuclear chemistry.





**Paul Longley**, Professor Dept of Geography, University College London

Paul Longley (B.Sc., Ph.D., D.Sc., AcSS) has been Professor of Geographic Information Science at UCL since July 2000. He was previously Professor of Geography at the University of Bristol, and has also worked at the universities of Cardiff, Reading and Karlsruhe. His research interests are grouped around the use of geographical information systems (GIS) and quantitative methods in urban analysis. This includes: information integration within GIS (notably remote sensing - GIS integration); geodemographics; fractal geometry; local taxation; housing and retail market analysis; discrete choice modeling; and social survey research practice. He has held over 30 research grants, totaling c. £2m; supervised 30 Ph.D. students (19 funded by research councils); published ten books; and made over 100 contributions as refereed journal articles and book chapters. He is Editor-in-Chief of [Computers, Environment and Urban Systems](#) and reviews editor of [Environment and Planning B](#). His teaching experience includes the role of UCL Site Director of a £3.9m Centre of Excellence in Teaching and Learning that is addressing Spatial Literacy in Teaching (Splint).

**Matthias K. B. Luedeke, Senior scientist, Potsdam Institute for Climate Impact Research (PIK)**

Matthias is in the research domain "Climate Impacts and Vulnerability", focusing on climate change impacts on urban functions and global patterns of climate- and global change vulnerabilities. Originally educated as theoretical physicist, wide expertise in mathematical modeling approaches for socio-ecological systems (contributions to the COST action for advancing foresight methodologies; model types and their appropriateness in policy advice), concentrating on urban systems. Initialization of and major contributions to various urban modeling related projects at PIK, including Hyderabad (BMBF), URBS PANDENS (EU) and Vulnerability Archetypes (PBL). Lead author of UNEP's Global Environmental Outlook, lecturer for Environmental Sciences at the University of Potsdam, reviewer for Global Environmental Change, Environmental Modeling and Assessment, EU's Research Directorate-General, the Swiss National Research Foundation and the German Federal Environmental Agency.

**Patricia McCarney**, Founding Director Global Cities Program, University of Toronto

Professor Patricia McCarney received her Ph.D. in International Development and Planning in the Department of Urban Studies and Planning from M.I.T. in 1987. Most recently, she served as Associate Vice President, International Research and Development at the University of Toronto. She is currently Associate Professor of Political Science and Director of the Global Cities Programme at the University of Toronto. She is also Director of a new initiative – the Global City Indicators Facility – a Program funded by the World Bank to build a body of internationally comparative data on cities. Before joining the University of Toronto, Professor McCarney worked as a professional staff member in a number of international agencies, including the International Development Research Centre in Ottawa, the World Bank in Washington, and the United Nations Centre for Human Settlements (UN-HABITAT) in Nairobi. In addition to four books – *Cities and Governance: Asia, Africa and Latin America in Comparative Perspective*; *The Changing Nature of Local Government in the Developing World*; *Governance on the Ground: Innovations and Discontinuities in Cities of the Developing World*; and, *Creating Knowledge, Strengthening Nations: The Role of Higher Education*, Patricia McCarney is the author of numerous



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articles and papers on these subjects. Her newest books (three forthcoming) are titled, *Peri-Urban Water and Sanitation Services: Policy, Planning and Method*; *Cities and Global Governance*; *Cities at Risk: Implications for Governance*.

**Genevieve Metson**, Degree program: PhD in Sustainability, Arizona State University

Genevieve is a PhD candidate at the School of Sustainability at Arizona State University. She is from Quebec, Canada and received her B.S from University of California San Diego in Environmental Systems (Earth Science track) where she conducted research at Scripps Institution of Oceanography in paleoecology. Genevieve is interested in sustainable food systems in general, and at the moment is focusing on urban agriculture and urban ecology. She is also interested in biogeochemistry (especially phosphorus) and how the food system can be managed to aid in the sustainability of these global cycles.

**Shane Mitchell**, Program Manager Internet Business Solutions Group, Cisco Systems

Shane Mitchell is global program manager for the Urban Innovation practice within the Cisco Internet Business Solutions Group ([www.cisco.com/ibsg](http://www.cisco.com/ibsg)). The practice leads engagements with leading global cities, such as those under the Connected Urban Development (CUD) program ([www.connectedurbandevelopment.org](http://www.connectedurbandevelopment.org)), to help cities reduce carbon emissions by applying innovative, technology-based approaches and networked strategies. Applications such as the Urban EcoMap ([www.urbanecomap.org](http://www.urbanecomap.org)), the Personal Travel Assistant, distributed work applications and many other building, energy, mobility and urban infrastructure pilot projects have resulted from global engagements with cities and urban innovators. Before joining Cisco, Shane worked extensively in the networking and service provider markets, including start-ups and global business ventures. He has particular experience in the areas of IP-based business models and business and marketing strategies, enabling organizations transition to next-generation IP networks. Shane has a B.A. Economics from Kingston University, London and an M.Sc. International Business from Birkbeck, University of London, majoring in innovation and technology policy.

**Chandana Mitra**, Ph.D. candidate, Dept of Geography, University of Georgia

Chandana's research interests are urban climate, growth dynamics in developing countries, urban growth models, mesoscale weather processes and modeling, climate change, satellite remote sensing and GIS. Her dissertation, on "The dynamics of urban growth in Kolkata, India and potential impacts on pre-monsoon precipitation," directed by Dr. Marshall Shepherd, investigates trends and spatial extent of urban land cover growth in Kolkata over a 100 to 300 year period; characterizes its future growth pattern; and determines its influence on the regional precipitation climatology. The linkage of an urban growth modeling study coupled with an atmosphere-land model is a unique application with far reaching implications in parts of the developing world like Asia. This work is funded by the NASA Precipitation Measurement Missions program and is directly related to several key issues discussed in the 2007 Intergovernmental Panel on Climate Change report.



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**Alex Nickson**, Strategy Manager for Climate Change Adaption and Water, Greater London Authority  
Alex Nickson is the Strategy Manager for Climate Change Adaptation and Water at the Greater London Authority, where he is developing the first Climate Change Adaptation Strategy for a world city. Alex's role at the GLA is to raise the awareness and capacity of Londoners to respond to the impacts and opportunities of climate change. Previously, Alex worked for the Thames Gateway London Partnership (TGLP), where he was the Sustainability Manager.

**Rob Pahle**, Assistant Professor of Research, Decision Theater, Arizona State University  
Dr. Pahle works with a variety of 3D modeling technologies and databases to support researchers and activities at the Decision Theater. He holds an engineering diploma (master's degree) in architecture from the University of Siegen, Germany, and has taught classes in building structure and design at ASU. He has a Ph.D. in environmental design and planning, focusing on dynamic, real-time informative warning systems and intelligent buildings. Robert is fluent in German and English.

**Alan Penn**, Dean The Bartlett School of Graduate Studies, University College London  
Alan Penn is Professor of Architectural and Urban Computing at [The Bartlett School of Graduate Studies](#), University College London, and Director of the [VR Centre for the Built Environment](#). His research focuses on understanding the way that the design of the built environment affects the patterns of social and economic behaviour of organisations and communities. How is it that architecture and urban design matter for those that inhabit them? How is it that the spatial design of cities and neighbourhoods leads to the generation of cultural and community identity? Under what conditions do vital and thriving creative communities occur, and under what conditions does crime and urban malaise develop? In order to investigate these questions he has developed both research methodologies and software tools. These are known as 'space syntax' methods. Current research includes the development of agent based simulations of human behaviour, the development of spatio-temporal representations of built environments, investigations of urban spatial networks and the application of these techniques in studies of urban sustainability in the broadest sense, covering social, economic, environmental and institutional dimensions. He is a HEFCE Business Fellow, a founding director of [Space Syntax Ltd](#), a UCL knowledge transfer spin out with a portfolio of over 100 applied projects per year, including whole city masterplans, neighbourhood development plans and individual buildings. He was the founding Chair of the RIBA's Research and Innovation Committee, and served in that role until 2006. He is Chair the Architecture & the Built Environment sub-panel 30 for the UK National Research Assessment Exercise 2008, and is a member of its Main Panel H. He is also lead academic on the £5m [Urban Buzz: Building Sustainable Communities](#) knowledge exchange programme which is promoting more sustainable forms of urban development and intensification in London and the greater South East Region of the UK. He is Principle Investigator on the [City History and Multi-scale Spatial Master-planning](#) UK-China Research Network, 国 ▪ 研究网 ▪ : 城市 ▪ 史与多尺度的空 ▪ 整体 ▪ 划, funded by the UK's Engineering and Physical Sciences Research Council, will develop UK-Chinese academic research collaboration. He is a trustee of the [Shakespeare North Trust](#).



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**Andy Perkins**, Head of Science & Innovation, British Consulate-General, Los Angeles

Andy Perkins is the Head of the Science & Innovation (S&I) team at the British Consulate-General in Los Angeles. The Los Angeles S&I team is part of a wider global network with nearly 100 people in 25 countries. The network serves as a resource for UK Government, Academia, and Industry to tap into world-leading scientific efforts outside the UK. The Los Angeles team ensures that UK policy is fully informed by west coast science and technology developments and works to promote awareness of the UK as a world-class leader in science and technology. Through contacts in academia, research institutions, and industry, the S&I team identifies and supports opportunities for UK-US research collaboration.

**Sebastian Petsch**, Exchange Scholar, Herberger Centre for Design Research, Arizona State University  
Sebastian Petsch is an exchange student from Kaiserslautern (Germany) who works on 3D visualizations for future urban scenarios. He earned an engineering diploma in spatial and environmental planning at the University of Kaiserslautern, Germany. He is currently a member of the International Research Training Group Kaiserslautern, funded by the German Research Foundation DFG, and working on his doctorate in computer science.

**Cathy Pickering**, IBM, North East Europe Smarter Planet Leader, Value Creation Team

Cathy has spent over 20 years in the financial services industry focusing on the alignment of business and IT, multi-channel distribution and customer relationship management. Cathy joined IBM in 2000 from her role as Director of Financial Services (Europe) for DMR Consulting. Currently Cathy is developing new value propositions based on Smarter Planet topics including Smarter Insurance and Smarter Cities with a particular focus on key 21st century challenges including climate change. After graduating from University College London, Cathy worked for British Telecom in international planning and finance and then became Export Sales Manager for a British retailer in Switzerland, Germany and Austria.

**Lela Prashad**, Director 100 Cities Project, Arizona State University

Lela Prashad directs ASU's 100 Cities Project and is Chief Technology Officer for the NGO NiJeL.org | Community Impact Through Mapping. She develops research applications of urban remote sensing for scientists and decision makers and designs participatory mapping systems for NGOs and non-profits. Previously, Lela initiated a water policy advocacy program at the Arizona Public Interest Research Group, analyzed air pollution with Arizona's Department of Environmental Quality, and helped adjudicate water conflicts with the Department of Water Resources. Earlier she was a member of the U.S. Geological Survey's Earthquake Hazard Team in California. In 2004, Lela received her M.S. in Geological Sciences from ASU, studying spatial variability of the heat island effect in Phoenix. She also holds a B.S. in Geosciences from Trinity University in Texas.



**Diana Reckien**, Potsdam Institute for Climate Impact Research

Since 2000, Diana Reckien has been working at the Potsdam Institute for Climate Impact Research (PIK) where she completed her Diploma and Doctoral Thesis. She has contributed to research projects dealing with the vulnerability of coastal zones in Europe (DYNAS-COAST), the impacts of urban sprawl on sustainability in selected European urban regions (URBS PANDENS), adaptation and mitigation to inform climate change policy in Europe (ADAM), as well as with sustainability of urban areas in a developing context (Sustainable Hyderabad, India). For her PhD she worked in two case study areas (Liverpool and Leipzig) assessing the causes and consequences of urban sprawl in these old-industrial areas, along with investigating possible planning answers to resulting problems, e.g. with qualitative modeling. Her background covers the geography of urban studies, urban planning and the interactions of urbanity and climate change. She started studying at the University of Greifswald with a focus on the geography of tourism, changing to the University of Utrecht and continuing at the Technical University of Dresden, having included studies of GIS, Economics, Sociology and Ecology. Her interest in Climate Change was evoked during the work in a planning department in Bassetlaw/UK where she was responsible for a study of the impacts of climate change on the region. She is now project leader in the research network “Sustainable Hyderabad/India” striving for urban sustainability in a developing context, where she concentrates on the integration of possible adaptation efforts resulting from climate change impacts and mitigation options in her post-Doc research.

**Conor Riffle**, Head of Carbon Disclosure Project Cities Programme

Conor Riffle is charged with developing the CDP Cities program. Previously, he served as Global Program Manager for the Clinton Climate Initiative (CCI), a program of the Clinton Foundation dedicated to reducing greenhouse gas emissions in the 40 largest cities in the world. During his tenure at CCI, Conor led the Foundation’s engagement with the world’s major cities and managed greenhouse gas reduction programs in urban areas in North America, Europe, Africa, and Asia. His work included the launch of a \$5 billion dollar energy efficiency loan to city governments. Prior to his work on climate, Conor served as Foreign Policy Fellow in the Office of President Clinton, where he assisted the implementation of two nascent Foundation programs, the Clinton Hunter Development Initiative and the Clinton Global Initiative. Conor holds a BA from Connecticut College and an MA from London School of Economics.

**David Satterthwaite** is a Senior Fellow at the International Institute for Environment and Development (<http://www.iied.org/>) and Editor of the international journal *Environment and Urbanization*. A development planner by training with a Doctorate in social policy, he also teaches at the Development Planning Unit, University College London. His recent books include: *The Earthscan Reader on Sustainable Cities* (editor), Earthscan, 1999; *Environmental Problems in an Urbanizing World* (with Jorge E. Hardoy and Diana Mitlin), Earthscan, 2001; and *Adapting Cities to Climate Change* (co-editor with Jane Bicknell and David Dodman), Earthscan, 2009. He was a member of the Intergovernmental Panel on Climate Change for the Third and Fourth Assessments (1998 to 2007) and has been contributing to preparations for the Fifth Assessment. In 2004, he was awarded the Volvo Environment Prize and made an Honorary Professor at the University of Hull.



## The Comparative Genetics of Cities

**Alvise Simondetti**, Foresight and Innovation, Arup. Alvise Simondetti has been formally educated in architecture, town planning, conservation and computation. He is an individual who believes that successful design cannot be separated from tools. He is a graduate of Turin Polytechnic, a Fulbright Scholar and a graduate of Massachusetts Institute of Technology under the supervision of Prof. William J. Mitchell. In 1997 he was Assistant Professor of the School of Design, Hong Kong Polytechnic University with Professor John Frazer. In 2000, Alvise join the global design powerhouse Arup in the Research and Development team under the direction of Dr. Chris Luebke. He is an Associate in Foresight, Innovation + Incubation team, leads the global virtual design community within the firm (Virtual Design Network) and chairs the senior management group setup to transition to modelling (BEM taskforce). Alvise is responsible for the business development of Realtime Synthetic Environments. Alvise is registered architect in Milan.

**Alex Singleton**, Research Fellow, Centre for Advanced Spatial Analysis (CASA), Univ. College London

Alex is concerned with how the social and spatial complexities of individual behaviours can be represented and understood within a framework of quantitative social science and computer modelling. His research extends from a geographic tradition of area classification and he has developed a broad critique of the ways in which geodemographic methods can be refined through modern scientific approaches to data mining, geographic information science and quantitative human geography. A series of themes which have emerged through this research include: Optimisation of the algorithms used to create geodemographic classifications; Making the specification, estimation and testing of geodemographic classifications explicitly spatial; Devising bespoke geodemographics that are appropriate to particular applications; Enabling public participation in area classifications; The computation of online geodemographics that are updateable in real time using diverse data sources scattered in remote locations, and the ascription of appropriate labels to the resulting classes; and Development of methods to assess the performance and intersection between different types of area classification

**Duncan Smith**, PhD Researcher, Centre for Advanced Spatial Analysis (CASA), Univ. College London

Duncan studied Geography at the University of Edinburgh, obtaining a MA in Geography and an MSc in Geographical Information Science. His research interests include using GIS in urban and transport planning, and encouraging public participation in planning through web-based GIS.

Duncan came to CASA in October 2006 to undertake a PhD supervised by Professor Mike Batty and Dr Andrew Hudson-Smith. He holds an ESRC CASE award sponsored by London Connects for researching '3D GIS for e-planning and e-democracy' which he is researching in the context of CASA's Virtual London project.

**Kiril Stanilov**, Marie Curie Research Fellow, CASA, University College London

Kiril Stanilov holds a Professional Diploma in Architecture from the University of Architecture, Civil Engineering and Geodesy, Sofia; a Master of Community Planning from the University of Cincinnati; and



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a PhD in Urban Design and Planning from the University of Washington. From 1998 to 2008 he was an Assistant and an Associate Professor in Planning at the University of Cincinnati where he taught courses in urban design, physical planning, and contemporary urbanization. His research interests are centered on explorations of contemporary patterns of urban growth and change, and the role played by public policies in shaping urban form transformations. His book publications include “Twenty Years of Transition: Urban Planning in Eastern Europe and the Former Soviet Union” (United Nations Human Settlements Programme, forthcoming); “The Post-Socialist City: Urban Form and Space Transformations in Central and Eastern Europe after Socialism” (Springer, 2007); “Suburban Form: An International Perspective” (Routledge, 2003); and “Confronting Suburbanization: Urban Decentralization in Post-Socialist Central and Eastern Europe” (Blackwell, forthcoming).

**Carl Steinitz**, Visiting Professor (Graduate School of Design, Harvard University), Centre for Advanced Spatial Analysis (CASA), University College London

Carl Steinitz is the Alexander and Victoria Wiley Research Professor of Landscape Architecture and Planning at Harvard University Graduate School of Design, where he has taught since 1966. He was an original participant in the Harvard Laboratory for Computer Graphics and Spatial Analysis. His research interests and teaching include theories and methods of landscape planning, and visual resource analysis and management. He has directed many landscape planning studies of highly valued landscape regions under pressures for change. Among other honors, he received the 1996 Distinguished Practitioner Award from the International Association for Landscape Ecology (USA).

**Emmanouil Tranos**, Research Associate, Newcastle University

My current research in the frame of the ARCADIA project focuses on climate change impacts on urban functions and the urban economy. For the needs of this project, I attempt to systematically map direct and indirect climate change impacts, but also the adaptive mechanisms to these changes at the urban level. At a second stage, together with the rest of the research team, we are trying to quantify these impacts using the city of London as a case study. Prior to this, I completed my PhD on the ‘Geography of the Internet Infrastructure in Europe’ analysing the (uneven) spatial distribution of the Internet backbone networks, explaining the factors which shape this distribution and shedding light on the impacts of this infrastructure on the economic development of European city-regions.

**Nick Tyler**, Head of Department (Civil, Environmental & Geomatic Engineering) and Professor of Civil Engineering, University College London

Nick Tyler is Chadwick Professor of Civil Engineering, and set up the Accessibility Research Group within the Centre for Transport Studies, with a team of researchers investigating many aspects of accessibility and public transport. The group has a total research budget of more than £7million for projects including the PAMELA pedestrian environment laboratory, which is being used to develop models for accessible pedestrian infrastructure. Nick is also the Director of the UCL CRUCIBLE Centre, which is a multi-Research Council funded Centre for interdisciplinary research on lifelong health and wellbeing and involves researchers from all 8 faculties in UCL. Nick holds a PhD from University College London, where



his thesis was on a methodology for the design of high capacity bus systems using artificial intelligence. He was on the winning team for the EC-funded 'City Design in Latin America 2000: The European City as a Model' competition, for the design of the transport interchange at Federico Lacroze in Buenos Aires, Argentina.

**Paula Vandergert**, Senior Research and Futures Advisor, Commission for Architecture and the Built Environment (CABE)

Dr Paula Vandergert is senior advisor in the sustainable and inclusive design team at CABE. She manages CABE's sustainable cities programme, which provides support to local authorities in sustainable urban design and management. In March 2009 CABE launched the website [www.sustainablecities.org.uk](http://www.sustainablecities.org.uk). This is the result of a two-year research programme by CABE with the eight English core cities and 30 of the UK's most influential built environment and sustainability experts. Prior to joining CABE, Paula was a consultant working on a range of projects, from a sustainable construction and planning research project to sustainable forest management research for an international NGO. Before that she set up and ran an NGO for 12 years. Paula has a PhD from the LSE and is a licensed eco-homes and code for sustainable homes assessor. She has 20 years' experience working on sustainability and environmental policy programmes.

**Alan Wilson**, Professor of Urban and Regional Systems, Centre for Advanced Spatial Analysis (CASA), University College London.

Professor Sir Alan Wilson is best known for his work on spatial interaction methods and dynamical systems theory in transportation and urban modeling. Trained originally as a mathematician, he converted in the 1960s from theoretical physics to the social sciences through research on the mathematical modeling of cities and this has been his research field ever since. He had research posts in Oxford and London before being appointed as Professor of Urban and Regional Geography in the University of Leeds in 1970. He was Vice-Chancellor in Leeds from 1991 to 2004. He is a Fellow of both the British Academy and the Royal Society. His research interests are concerned with many aspects of mathematical modeling and planning in relation to all aspects of cities and regions – including demography, economic input-output modeling, transport and locational structures. His recent work concerns general and comprehensive urban models in a dynamic framework, links between urban and ecological systems, and various developments of information theory within spatial interaction modeling.