Cambridge Future Cities Conference 2017
“Growing Well”
Tuesday 18th July 2017
Jesus College
West Court
Cambridge

UNIVERSITY OF CAMBRIDGE
Department of Land Economy

#FutureCitiesCam
Plan of Jesus College

Entrance at West Court

Drinks and canapes – café/terrace - West Court

Lunch is in the Hall – Cloister Court

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The Future Cities Programme

The programme brings together academic research with commercial experience & expertise and government engagement to contribute to how we design, develop, govern and thrive in cities, addressing key issues including the urgent need to unite the academic study of the social, economic, political and technical dimensions of cities and emerging technologies to build understanding and commercial practice that can be used in developing cities for the future.

After a successful first year, over the next two years the Department of Land Economy will continue to lead the ‘Future Cities’ initiative, which will capitalise on existing teaching, research and inter-disciplinary collaborations to embed future cities as a focus of strategic development within the University. The initiative has three interconnecting strands: an annual international conference, a visiting fellow and eight PhD research fellows.

The Annual International Future Cities Conference
Each year, the conference brings together an expert community of academics, practitioners, decision makers – including real estate developers and investors – and policymakers from the urban sphere. It provides a unique opportunity for creative, innovative investors and developers to look at how they can address risks and responsibilities in the context of the environment and society, how they can make the most of new technologies, and how they can discover new opportunities around future cities.

The Annual Visiting Fellowship
Creating a new Visiting Fellowship each year enables the Department to bring in an outstanding scholar and/or practitioner working in the broad field of land economy with a focus on technology, urban development and futurology, and specialist knowledge and skills in resilience and adaptability.

The Annual PhD Research Fellows
Each year eight research grants are awarded to PhD students in order to develop research in relation to the future development of cities, to produce a research paper and present at the annual international conference on ‘Future Cities’.

The programme is led by the Department of Land Economy, Real Estate Research Centre in collaboration with the Cambridge Forum for Sustainability and the Environment.

The Future Cities programme is funded through a generous gift from Capital & Counties Properties Plc.
Cambridge Future Cities Conference 2017 “Growing Well”
Tuesday 18th July 2017, Jesus College, Cambridge

8.45–9.30 am Tea/coffee on arrival

9.30–9.45 am Welcome
Nick Mansley, Executive Director, Cambridge Real Estate Research Centre
Phil Allmendinger, Head of the School of Humanities and Social Sciences and Prof. of Land Economy, University of Cambridge
Alison van Diggelen, Journalist/BBC correspondent

Session One: Technology: Intelligence and Information
How technology and innovation will shape cities in the future
Keynote Speech: Professor Carlo Ratti, Director of the Senseable City Lab, MIT ‘SENSEABLE CITIES’
Q&A Discussion with Carlo led by Alison van Diggelen

10.45 –11.10 am PhD Student Research Presentations – part 1 (1–4)
Dominik Hoehn – ‘Locating ‘the human’ in the urban laboratory of the future’
Melanie Jan-Singh – ‘Integrating vertical farming into the urban fabric’
Rebecca Love – ‘Urbanization and Obesity: A case study of Soweto, South Africa’
Alessandra Luna-Navarro – ‘Capturing façade-user interaction for holistic human comfort and satisfaction in future happier, healthier and low-energy cities’

11.10 –11.40 am Coffee break

11.40 –12.05 am PhD Student Research Presentations – part 2 (5–8)
Nicolas Valenzuela-Levi – ‘Continuous innovation in municipal public utilities: the technology adoption ladder and the link to income inequality’
Doros Nicolaides – ‘An autonomous taxi service for sustainable urban transportation’
Theodora Bowering – ‘Ageing and the City: Assembling and navigating civic spaces and practices in the London borough of Newham’

Session Two: Technology – Connectivity, Data and Networks
Alison van Diggelen, Chair
Shailaja Fennell, Lecturer in Development Studies, Dept of Land Economy, University of Cambridge – ‘Connectivity with cities in emerging markets: re-examining Linkages between Smart Villages and Smart Cities’
Mark Kleinman, Director, Economic and Business Policy, GLA – ‘Using data to improve cities’
Panel/Q&A:
Chris Choa, Director, Cities and Urban Development, Aecom
Alice Charles, Lead, Urban Development & Global Leadership Fellow, World Economic Forum
Carlo Ratti, Mark Kleinman and Shailaja Fennell
Alison van Diggelen, Summary thoughts and provocations for post-lunch session

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<th>Time</th>
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<td>1.10–2.10 pm</td>
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| 2.10–3.20 pm | Session Three: Governance and inclusion  
*Key challenges in delivering effective governance to help generate inclusive, prosperous and sustainable cities*  
Professor David Howarth, Chair  
Introductory remarks from panel  
Panel/Q&A:  
Paul Swinney, Principal Economist, Centre for Cities  
Phil McCann, Chair in Urban and Regional Economics, University of Sheffield  
Hugh Bullock, Chairman, Gerald Eve  
Alison van Diggelen – Summary thoughts |
| 3.20–3.50 pm | Break for tea & coffee                                                            |
| 3.50–5.15 pm | Session Four: Demographics  
Professor Colin Lizieri, Chair – Grosvenor Professor of Real Estate Finance, Head of The Department of Land Economy, University of Cambridge  
Maria Abreu, Lecturer in Land Economy, ‘Graduate migration, and the changing nature of our cities’  
Panel/Q&A:  
Lucy Musgrave, Founder, Publica  
Charlie Leadbeater, Author and former advisor to Tony Blair  
Alison van Diggelen – Summary thoughts |
| 5.15–5.25 pm | Closing Remarks  
Nick Mansley |
| 5.30–7.30 pm | Networking drinks and canapes                                                      |
| 7.30 pm      | Conference close                                                                  |

#FutureCitiesCam
Keynote Speaker and Visiting Fellow

Professor Carlo Ratti – Future Cities Visiting Fellow for 2017
Professor at The Massachusetts Institute of Technology, Director of the MIT Senseable City Lab and founding partner of the design and innovation office Carlo Ratti Associati

Professor Carlo Ratti is the Capco Future Cities Visiting Fellow for 2017 and Keynote speaker at The Cambridge Future Cities Conference 2017. As part of the fellowship Carlo, who did his PhD in Cambridge, will also spend time at the Department of Land Economy and University to share his expertise and build relationships with Cambridge researchers and beyond.

Carlo is professor at The Massachusetts Institute of Technology where he is the Director of the MIT Senseable City Lab, a research group that explores how new technologies are changing the way we understand, design and ultimately live in cities. Ratti was named one of the “50 most influential designers in America” by Fast Company and highlighted in Wired Magazine’s “Smart List: 50 people who will change the world.”

‘SENSEABLE CITIES’
The increasing deployment of sensors and hand-held electronics in recent years is allowing a new approach to the study of the built environment. The way we describe and understand cities is being radically transformed – alongside the tools we use to design them and impact on their physical structure. The contribution from Prof. Carlo Ratti will address these issues from a critical point of view through projects by the Senseable City Laboratory, a research initiative at the Massachusetts Institute of Technology, and the design office Carlo Ratti Associati.

Read more here:
Homepage: www.carloratti.com/
MIT Senseable City Lab: http://senseable.mit.edu/

The Future Cities Visiting Fellowship is sponsored by Capital & Counties Properties Plc
Master of Ceremonies

Alison van Diggelen
Journalist/BBC Correspondent

Alison van Diggelen is a Silicon Valley journalist, moderator and commentator. She is host of Fresh Dialogues interview series and a regular contributor to the BBC World Service. Alison has moderated events and interviews internationally. Venues include the University of Edinburgh, University of California Santa Cruz, the Commonwealth Club, and The Churchill Club. Notable interviews include: Nobel Prize winner Paul Krugman, tech entrepreneur Elon Musk and former Prime Minister of Australia Julia Gillard.

Alison has been nominated for a Woman of Achievement Award in communication for the Women’s Fund of Silicon Valley; and honoured by U.S. Congressman, Mike Honda. She hails from Scotland and worked for investment consultants in London and Paris before moving to Silicon Valley in 1994. She has a BSc. from the University of Paisley and an MA in Land Economy from the University of Cambridge.

Speakers and Chairs
Listed in order of appearance in the programme

Nick Mansley
Director, Cambridge Real Estate Research Centre, University of Cambridge

Nick is Executive Director of the Real Estate Research Centre in the Department of Land Economy at the University of Cambridge www.crerc.landecon.cam.ac.uk/ and a Fellow of St Edmund’s College, Cambridge. He lectures and researches on issues related to real estate investment, finance and the economy. He is co-Course Director of the part-time Masters in Real Estate programme www.landecon.cam.ac.uk/postgraduate-study/masters-real-estate. Nick is also Chair of the Lord Chancellor’s Strategic Investment Board and on the UK board of the Urban Land Institute alongside a number of other non-executive roles. Nick’s 30 year career was initially focussed on strategy and economic policy issues before moving into the investment management industry where his roles included leading Aviva Investors’ global multi-manager services across all asset classes with c$20bn of assets under management and as part of the leadership team of the real estate business (c$50bn AUM) in a Chief Investment Officer role. Nick studied economics at Cambridge, investment at the London Business School and management at CEDEP (INSEAD). Nick is an enthusiastic triathlete competing in the European and World Age Group Championships for his age group.
Philip Allmendinger
Head of School & Professor of Land Economy, School of the Humanities and Social Sciences, University of Cambridge

Phil Allmendinger is Professor of Land Economy at the University of Cambridge. He is a Fellow of Clare College. Previous roles include Professor of Planning at the University of Reading and Head of the Department of Land Economy at the University of Aberdeen. He has published extensively in the areas of spatial planning, planning theory, policy and practice, land and property regulation, housing and local government. He is a chartered planner and surveyor and was a member of the Economic and Social Research Council Research Grants Board and a member of the Communities and Local Government Housing Markets and Planning Expert Panel.

Shailaja Fennell
University Lecturer in Development Studies, Director of Research at Cambridge Central Asia Forum, Department of Land Economy, University of Cambridge

Dr Fennell was an international team leader on public-private partnerships in education project within the DFID-funded Cambridge-based consortium on educational outcomes for the poor (RECOUP) from 2005-2010.

She was awarded the UGC-UKIERI grant for a collaborative research initiative, in partnership with Anglia Ruskin University, and the Indian partners were the Indian Institute of Technology-Madras and University of Punjab, Chandigarh for 2014-16. The project focussed on understanding how bottlenecks that limit Internet access for rural agricultural production and community-based tourism can be removed, using the Portolan application and android mobile phones, to collect upstream data and an innovative survey instrument to collect downstream data.

She has been a consultant on inequality and rural development with Oxfam GB (2014-15), on evidence based policy with the World Bank (2013-15), and was earlier the social science expert on agriculture and gender and a member of the five person team that authored the European Report on Development on Fragility in Africa, 2008-09.
Mark Kleinman  
**Director, Economic and Business Policy, Greater London Authority**

Mark heads the Mayor of London’s Economic and Business Policy Unit. He supports the Mayor and Deputy Mayors across the whole field of economic and business policy, including innovation, skills, apprenticeships, enterprise support, international promotion and the London Living Wage. Currently, he is leading the GLA’s work to mitigate the impacts of Brexit on Londoners and London business, and to ensure London’s needs are represented in the UK Government’s negotiating position with the EU.

Previously, Mark taught for eleven years at the London School of Economics before becoming Professor of International Social Policy at the University of Bristol. He subsequently took a number of roles in government, including in the Prime Minister’s Strategy Unit working on migration policy and as Director of Urban Policy for the Office of the Deputy Prime Minister.

He has been a consultant to the OECD, the European Commission, the UK Film Council, English Heritage, and many major private companies, government departments, and local authorities. He gave the keynote presentation at the Jane Jacobs Prize Ceremony in Toronto in 2009 as well as lectures and seminars in New York, Boston, Ottawa, Paris, Rome, Bologna, Madrid, Barcelona, Bilbao, Kyoto and Osaka.

He is currently a visiting professor at the Bartlett School of Architecture at University College London, and has been a Policy Fellow at the Centre for Science and Policy, University of Cambridge and a Visiting Scholar at the Munk School of Global Affairs, University of Toronto. Mark is the author of a standard work on European Union social policy and author or co-author of three other books and more than 100 published papers.

Christopher Choa  
**Principal, Cities and Urban Development, AECOM**

A native New Yorker, Christopher Choa leads AECOM’s Cities practice out of London. He focuses on improving urban performance and works with city and national governments to develop regional-scale strategies. Christopher is a Global Trustee of the Urban Land Institute and Chair of Urban Land Institute/UK. He is an appointed advisor to the Mayor of London’s Infrastructure Delivery Board, and an external advisor for the Sustainable Urban Development program at Oxford.
Alice Charles
Lead, Urban Development & Global Leadership Fellow, World Economic Forum

Alice Charles is the Lead for all Cities & Urban Development work at the World Economic Forum, Geneva, Switzerland. This includes managing the Forum’s Future of Urban Development and Services Initiative, its Steering and Advisory Board, the past Global Agenda Council on the Future of Cities and current Global Future Council on Cities and Urbanization, the production of all city and urban development related content and urban development events at World Economic Forum Summits (including Davos). In addition, she is responsible for managing and developing the world’s premier community of infrastructure and urban development business leaders (includes CEOs from the Real Estate, Engineering Construction and Urban Services sectors), which through engagement with government, regulatory and civil society leaders advances the critical issues facing the industry on the global, regional and industry agendas.

She is also an External Board Member of the National Asset Management Agency (NAMA), Ireland, on the Advisory Board of SmartNYC and is a member of the WWF One Planet City Challenge jury. She has sixteen years’ experience working in the areas of cities and urban development, town planning, real estate, infrastructure, environment, climate change and public policy globally. She previously worked for the Department of the Environment, Community and Local Government, Ireland, Dail Eireann (Irish Parliament), Ireland, Jacobs Engineering (formerly SKM Colin Buchanan) and GVA, London, UK. She has an Executive Masters in Global Leadership from the World Economic Forum, taught in conjunction with The Wharton School of the University of Pennsylvania, Columbia University, Cornell Tech, INSEAD, London Business School and the China Europe International Business School (CEIBS), a Master’s in Business Administration from University College Dublin Michael Smurfit Graduate Business School and a Postgraduate Diploma in Town and Country Planning from Queens University Belfast and a 1st Class Honours Degree in Environmental Planning from Queen’s University Belfast. She is a Chartered Member of the Royal Town Planning Institute and a Member of the Irish Planning Institute.
David Howarth
Reader in Law, Department of Land Economy, University of Cambridge

A graduate of Cambridge (Clare College) and Yale, David Howarth joined the Department in 1987 as an assistant lecturer in Law. He was subsequently promoted to lecturer, reader and in 2015 to professor. He teaches constitutional law and economic analysis of law, having previously taught private law, business law and environmental policy. In 2012 he founded and acted as Director of Cambridge's Master's in Public Policy (based in POLIS), where he taught courses on Public Law and Public Policy and Climate Change Policy. He is currently Co-Chair of the University's Strategic Research Initiative in Public Policy. His research has covered both private law and public law topics and he is especially interested in issues of legal design (e.g. Law as Engineering (2014)). Outside the University, Prof. Howarth served as MP for Cambridge (2005-2010) having previously served as a Cambridge City Councillor for 17 years, for three of which he was Leader of the Council. Since 2010 he has been a UK Electoral Commissioner.

Paul Swinney
Principal Economist, Centre for Cities

In his role as Principal Economist, Paul leads on the data analysis undertaken by the Centre. He has a particular interest in research on the spatial development of city economies, private sector growth, and enterprise. His current work focuses on the role that city centres play in the wider city economy, the evolution of out of town employment sites and what this means for future economic growth.

Paul is a regular media commentator, including print, radio and TV, and has spoken at conferences across the UK on subjects relating to the performance of city economies. He has an economics degree from Sidney Sussex College, Cambridge and a Postgraduate Certificate in Econometrics from Birkbeck College.

Philip McCann
Chair in Urban and Regional Economics, University of Sheffield

Philip McCann holds the Chair in Urban and Regional Economics in Sheffield University Management School, and is also the Tagliaferri Research Fellow in the Department of Land Economy at the University of Cambridge 2015-2018. He is one of the world’s most highly cited scholars in urban and regional economics and his research has won academic awards in several countries. Philip has also previously been a Special Adviser to two different EU Commissioners for Regional Policy, and has also advised four OECD directorates, the European Investment Bank, and government bodies in the UK and New Zealand.
Hugh Bullock  
Chairman, Gerald Eve

Hugh Bullock is Chairman of Gerald Eve LLP, an international firm of property consultants based in the UK. Hugh is a BSc, holding an honours degree in Urban Estate Management, a Fellow of the Royal Institution of Chartered Surveyors and a Fellow of the Royal Town Planning Institute.

He has over 30 years’ experience working on regeneration and development in London and elsewhere, representing major property owners, investors, developers and public bodies including on large scale, high profile or complex development and regeneration projects.

He is a Member of the Homes for Londoners Board, the Town Planning Adviser to the Westminster Property Association and a Member of the Cambridge University Land Economy Advisory Board.

His former roles include: Commissioner on the Mayor of London’s West End Commission; Chairman of London First’s Planning and Development Advisory Forum; Member of the Mayor of London’s London Electricity High-Level Working Group; Member of the London Regional Council of the CBI, Member of the Board of Trustees of the London Academy of Music and Dramatic Art (LAMDA) and Visiting Lecturer to the University of Reading.

Colin Lizieri  
Grosvenor Professor of Real Estate Finance, Head of The Department of Land Economy, University of Cambridge

Colin joined the Department in October 2009. Previously he was Professor of Real Estate Finance at the Henley Business School, University of Reading. His research interests focus particularly on modelling commercial real estate markets, international capital flows and on innovation in real estate investment and finance. His book, “Towers of Capital – office markets and international financial services”, published by Wiley-Blackwell, examines the development of office markets in global cities. Colin is chair of the World Economic Forum’s industry agenda council on the Future of Real Estate and Urbanization and chairs the European Public Real Estate Association’s research committee. He has provided expert advice for the EU, the Norwegian Government, the Bank of England, HM Treasury and a wide range of public and private sector clients and has appeared as an expert witness in the Upper Chamber (Lands Tribunal) and the Australian Federal Courts. In 2014 he was awarded the David Ricardo Medal, the American Real Estate Society’s highest accolade for academic achievement.
Maria Abreu
University Lecturer in Land Economy, University of Cambridge

Dr Maria Abreu is University Lecturer in Land Economy. Her research covers urban economics, economic development, labour markets and innovation policy. She has worked as a consultant for the European Commission, the World Bank, the UK's Department of Business, Innovation and Skills (BIS), the National Endowment for Science, Technology and the Arts (NESTA), and the Department for Enterprise, Trade and Investment (DETI) of Northern Ireland. Prior to coming to Cambridge she worked for the World Bank in the areas of poverty, education and health, in Jakarta, Indonesia.

Kenneth Howse
Co-Director, The Oxford Institute of Population Ageing

Kenneth Howse is a Senior Research Fellow at the Oxford Institute of Population Ageing. He has a background in philosophy and worked for several years as a bioethicist with the Institute of Medical Ethics. In 2003 he moved to the Oxford Institute of Ageing, and now has a broad interest in the policy implications of demographic ageing in both the developing and the developed world. Since joining the Institute he has worked on problems of intergenerational fairness and the ethical issues surrounding ageing, the determinants – and implications – of mortality decline, and the health policy challenges of population ageing. He is currently working on projects in SE Asia.

The Oxford Institute of Population Ageing was established in 1998. Based on the US Population Center, it was funded by a grant from the National Institute of Health (National Institute on Aging - NIA) to establish the UK’s first population centre on the demography and economics of ageing populations. It became an Institute within the University in 2001.

Our aim is to undertake research into the implications of population change. We are a multi-disciplinary group with demography as our main disciplinary focus, and links into the four main academic divisions of the university. Our researchers work in Africa, Latin America, Asia and Europe, and we act as a hub for networks of researchers in Africa (AFRAN), Latin America (LARNA), and Eastern Europe (EAST).
Lucy Musgrave  
Founder, Publica

Lucy Musgrave is the founding Director of Publica and a leading practitioner in urbanism and the public realm. Over a 25 year career, Lucy has played a key advisory role in policy recommendations, strategic planning and urban design frameworks, and in the advocacy of design quality. She is a member of the National Infrastructure Commission Expert Advisory Group and New London Sounding Board. Lucy was previously Director of the Architecture Foundation.

Charles Leadbeater  
Author and former advisor to Tony Blair

Charles Leadbeater is a leading authority on innovation and creativity. He has advised companies, cities and governments around the world on innovation strategy and drew on that experience in writing his latest book We-think: the power of mass creativity, which charts the rise of mass, participative approaches to innovation from science and open source software, to computer games and political campaigning.
The Future Cities PhD Prize Fellows 2017

The Future Cities Programme includes the award of 8 PhD Future Cities Prize Fellowships to support the development of research relating to future cities by some of the brightest young PhD students at The University of Cambridge.

The funding and support provided through the fellowship is intended to allow these talented young Cambridge PhD students to develop their research and produce papers summarising their ideas about how future cities may be designed, developed, operated and lived within to meet social, economic and environmental aims.

The research students will be presenting their research at the conference and will be available for discussion at their poster displays during the conference breaks. Please do go and see them in the West Court foyer.
Dominik Hoehn
PhD student, Division of Social Anthropology, University of Cambridge
‘Locating ‘the human’ in the urban laboratory of the future’

Dominik is an anthropologist of architecture and urban design and has previously worked in architectural practice. He is interested in how cities are being turned, both conceptually and practically, into urban laboratories: here, experiments in future urban living are tested, prototyped and, if successful, potentially scaled up. Dominik’s Future Cities research discusses what practitioners of human-centred architecture understand by ‘the human’ in this context.

Dominik’s PhD project is an anthropological exploration of contemporary architectural and urban design in Copenhagen, Denmark, as an urban science is being evoked and established more generally. He is about to carry out 15 months of fieldwork with architects, urban designers and other urban practitioners. Taking the invocation of science as an ethnographic starting point, his doctoral project researches practices of contemporary city-making at the intersection of design practice and scientific ambition.

Most recently, Dominik worked as an urban designer and anthropologist for a global architecture practice in London. Before that, he completed an EPSRC-funded MRes with The Bartlett, UCL under the auspices of the Space Syntax-led Adaptable Suburbs project. He also studied archaeology and anthropology at Jesus College, University of Cambridge, and European politics at LSE.

Melanie Jan-Singh
PhD student, Centre for Doctoral Training in Future Infrastructure and the Built Environment, University of Cambridge
‘Integrating vertical farming into the urban fabric’

Melanie is presenting a new methodology to identify the optimal location to develop urban farming within a city. For this paper, she focuses on London and uses the latest geospatial data, pollution data and national statistics to show how one-off urban farms could be scaled up in London.

Melanie is a first year PhD Student in the Centre for Doctoral Training in Future Infrastructure and the Built Environment, and part of the Energy Efficient Cities Initiative. A civil engineering graduate from Imperial College London in Civil Engineering, she completed her Masters in hydrological engineering at ETH Zurich in Switzerland. Her work draws thus from resource use and water management and from structural capacity of buildings.

The goal of her PhD is to create a tool enabling city planners, designers and engineers to harvest urban resources and integrate greenhouses into
urban infrastructure. Indeed, growing food more locally could reduce building energy consumption and improve air quality in cities.

For this Future Cities conference on urban resilience, she will present how designers and city-planners could develop urban farming within a district, and overcome initial challenges for implementation. She has identified optimal building types and characteristics of the surrounding area to model in which building a greenhouse ought to be implemented. For example, her results for North-West London identified the Maria Fidelis school’s rooftop as the most optimal location for the next urban farm.

Passionate about integrating natural processes into infrastructure, Melanie works with start-ups in the UK. Her two main case studies are Growing Underground in London, and a rooftop greenhouse in Dalston, who have repurposed a tunnel and rooftop respectively into a hydroponic greenhouse, for which she analyses the ambient climate and impact on the infrastructure. Furthermore, she is implementing novel hydroponic designs in the Department of Engineering in Cambridge, by building a greenhouse on the roof and installing hydroponic modules in the office to improve air quality.

Rebecca Love
PhD student, Centre for Diet and Activity Research, University of Cambridge
‘Urbanization and Obesity: A case study of Soweto, South Africa’

Rebecca is a doctoral candidate in epidemiology at the Centre for Diet and Activity Research and member of King’s College. Her PhD research examines the social and economic determinants of chronic disease, with a focus on children and adolescents.

Rebecca’s Future Cities research utilizes data from the Birth to Twenty (BT20) Cohort to investigate the effect of urbanization on behavioral patterns and rates of chronic disease in South Africa. The collapsing of the Apartheid State in South Africa in 1990 led to rapid urbanization, a transition concurrent with a reduction in physical activity and a higher caloric diet. Despite having been over 20 years since the end of apartheid in South Africa and ensuing transition to a constitutional democracy, enduring social disparities in health and wealth remain.

The BT20 Cohort began in 1990 to track the health and development of 3273 infants born in Johannesburg-Soweto, South Africa. Since the end of Apartheid, the township of Soweto has undergone rapid economic development yet remains a region with high rates of unemployment and poverty. Rebecca’s research uses BT20 to investigate relationships between urbanization, inequality and chronic disease health outcomes. Specifically, the presented analyses examine a) the influence of early life socioeconomic risk factors on trajectories of adiposity from childhood into adulthood and b) the epidemiological transition and changing relationship between socioeconomic status and body mass index.
Alessandra Luna Navarro
PhD student, Department of Engineering, University of Cambridge
‘Capturing façade-user interaction for holistic human comfort and satisfaction in future happier, healthier and low-energy cities’

Alessandra research interests are in adaptive façades, human comfort and satisfaction and energy efficiency for the sustainability in the built environment. The principal challenge faced in her research is to find new passive solutions to reduce energy demand of current and future cities while improving the well-being within them. One effective solution to this challenge is adaptive façades. Adaptive façades are façades that can interact with the user and vary the flow of energy through the building envelope in response to the external weather and indoor needs. The adaptive technologies range from opening a window to electrochromic glazing. In this sense, adaptive façades are “multisensory filters” between interior and external environments. It has been shown that technologically advanced adaptive façades can outperform sealed super-insulated buildings in terms of reducing energy demand and in terms of creating more natural and healthier conditions inside buildings, but the major barrier to their uptake in real-world buildings is the largely unknown relationship between occupants and technology. Consequently, her research paper investigated holistic human comfort and façade-users interaction in relation to user satisfaction in several offices in Cambridge and in London. A critical review on the topic was conducted and directions for future research were defined in order to develop a natural and intuitive integrated technology between users and façades.

In 2013, she graduated with distinction in Building Engineering and Architecture at Università degli Studi “La Sapienza” in Rome. She is a chartered civil engineer in Italy and worked in building services engineering, fire safety and building design for a broad range of large buildings. In 2016, she successfully completed an MPhil in Energy technologies at the Department of Engineering at the University of Cambridge, and she joined the gFT research group, in the same department, to pursue a PhD on adaptive façades and human comfort and satisfaction. Her PhD research is funded by Permasteelisa, Arup and EPSRC.
Linda Gichuyia  
PhD student, Department of Architecture, University of Cambridge  
‘Indoor overheating risk management: An integrated assessment method for temporal building-adaptation decision support’

Linda is an architect, and holds an MPhil in Environmental Design from the University of Cambridge. Before commencing her PhD, she worked in multiple architecture firms, and as a tutorial fellow at the University of Nairobi. Her scholarly interests revolve around building physics and decision analytics to inform design and space use strategies in our carbon constrained environment.

Linda’s PhD thesis focuses on developing and testing a building adaptation decision-making framework. The decision aid provides a systematic means to meet the demand for decision-relevant information when deciding at particular moments of a space and/or buildings’ lifespan, preferences, as well as heat mitigating trade-off options. Through the framework’s application to a case study region, the study makes a significant contribution to increasing the transparency of the indoor overheating management dimensions of prevention, coping and adapting capacities for buildings to support a multiple spectrum of decision actors.

Her research topic for the Future Cities conference brings to focus a major aspect of the developed decision aid. That is the importance of an integrated assessment and a systematic means to generate decision-relevant information for a heterogeneous urban landscape; a landscape whose characteristics change with time, in an unpredictable world. The proposed method has the potential to provide a wider scope of analytical leverage needed to identify optimised decision pathways in our very unpredictable future. The method’s potential has been demonstrated through its application to free-running office buildings in Nairobi, Kenya to support Urban-level decision-making strategy in managing indoor overheating risk.

Nicolás Valenzuela-Levi  
PhD student, Department of Land Economy, University of Cambridge  
‘Continuous innovation in municipal public utilities: the technology adoption ladder and the link to income inequality’

Nicolás is a first year PhD student at the Department of Land Economy. Previous to his current research, he obtained an MPhil degree in Development Studies also in Cambridge, and a Master in Urban Development as long as his architecture degree from the Pontifical Catholic University of Chile (PUC). Before coming to Cambridge, he served as Director of Planning in one of the central boroughs of Santiago de Chile, was a lecturer in Urban Planning at PUC, and was co-
founder and president of the NGO Reconstruye after the 2010 earthquake in Chile. The latter was selected by UN Habitat among the world’s ‘best practices’ for its outstanding contribution towards improving the living environment’ in 2012.

Nicolás’ research interest is the link between social inequalities and network infrastructures and services. His PhD research focuses on the influence of income inequality on technology adoption within network industry sectors such as transport, telecommunications, water, energy distribution, and waste management. He uses mixed quantitative and qualitative methods to explore these phenomena at cross-country, city and firm levels.

He is usually exploring related issues as side research. In this conference will be discussing his experience as civil servant in regard to technology adoption in municipal public utilities, using LED streetlights and recycling projects as case-studies.

Doros Nicolaides
PhD student, Department of Engineering, University of Cambridge
‘An autonomous taxi service for sustainable urban transportation’

Doros Nicolaides is a PhD Candidate in the Department of Engineering at the University of Cambridge. He has been working on the electrification of road transportation, with a particular emphasis on ‘charge-on-the-move’ technologies and on autonomous operations for public transportation. He is currently investigating the implementation of an Autonomous Taxi Service for the city of Cambridge UK. Such a system involves driverless vehicles that are capable of navigating a route in open space without physical guidance within an existing urban context. A critical review was conducted to examine whether the proposed technology can alleviate the negative side effects of urban transportation. The study investigated issues related to environmental impact, social sustainability and required infrastructure. A methodology was proposed to estimate the levels of demand and define the system performance requirements for an autonomous taxi to serve Addenbrooke’s, which is a medical and research campus at the University of Cambridge UK. The size of the fleet, the capacity of the on-board battery and a charging infrastructure were suggested. Implications for the electricity supply network were also explored. A financial analysis showed that such a system is financial viable.

Previously he was an MPhil student in the Department of Engineering at the University of Cambridge attending the course “Engineering for Sustainable Development”. His undergraduate studies were completed in the Department of Electrical and Computer Engineering at the University of Cyprus.
Theodora Bowering  
PhD student, Centre for Urban Conflict Research, Department of Architecture, Cambridge  

‘Ageing and the City: Assembling and navigating civic spaces and practices in the London borough of Newham’

Theodora Bowering is an architect, Gates Cambridge scholar and PhD Candidate in the Centre for Urban Conflict Research (UCR) at the Department of Architecture at Cambridge.

Her doctoral research interrogates the conditions and experiences of marginalisation and resilience of older people within cities, looking specifically at civic spaces – streets, squares, transport infrastructures, markets, community centres – in the London Borough of Newham. A questioning of what it means to grow older in cities is of increasing importance as world population ageing and urbanisation continue to accelerate. Globally, in 2015, one in eight people were over 60, whereas this will rise to one in five by 2050 (UN, 2015). This demographic change is most concentrated in urban areas, with approximately 58% of over-60s living in cities in 2015, up from 51% in 2000 (UN, 2015). Regardless of statistics, due to these trends older people and the cities within which they live face numerous challenges across areas of health and social care, housing, transport, infrastructure, and the built environment. Key issues for older people, which cut across these areas, are mobility and visibility, linking to growing experiences of isolation, loneliness and fear. It is those at the lower end of the socio-economic spectrum that are the most vulnerable, and cross-disciplinary and multi-levelled approaches are essential in the development of solutions.

Investigations into the role of a diversity of civic spaces in the constitution of the city provoke questions of sociability, adjacency and conflict, and the need for social, political and spatial accessibility. As such, civic sites offer a fertile ground for investigating their importance in supporting, and rendering visible, the elderly. A critical architectural approach will transcend current limitations in debates about older people in architectural and planning discourses that largely present the challenges in broad technical and regulatory terms, which while important need to be complimented by qualitative research. Focusing on one or two key older people, empirical ethnography and spatial mappings will reveal how ordinary urban spaces are transformed, through their quotidian occupation, into civic places. It will then be revealed how fundamental these places are to the elderly, especially when vulnerable, and how they impact their ability to resist their marginalisation and be a part of the city.

In order to envisage and prepare for our future cities it is imperative that we have a comprehensive understanding of current conditions. Qualitative research on the lived everyday will assist in opening up new understandings of how older people are already existing, surviving and thriving within these complex urban contexts. Civic spaces, and their assemblages across the fabric of the city, offer insights into how their
future development can address questions of community, contestation and contradiction. This knowledge will help to prioritise the allocation of resources, focus areas of further research, and target the implementation of policies and technologies. Ultimately, the cities of the future need to be cities for all, and addressing the inequalities of access for older people needs to be a fundamental part of this agenda.
About the Department of Land Economy, University of Cambridge

The Department of Land Economy is a leading international centre within The University of Cambridge, providing a full programme of taught courses within an intensive, research-oriented environment. In the 2014 Research Excellence Framework assessment, 50% of the Department’s research work was described as “World Leading” and a further 38% as “Internationally Excellent”.

The Department currently has over 40 teaching and research staff and approximately 320 students and addresses contemporary problems as well as more fundamental analysis. This includes both the role of governments in establishing regulatory frameworks within which land and related markets operate and the role of private organisations in owning, managing and developing physical and financial assets within those markets. This combination gives the Department of Land Economy a unique and valuable perspective of critical public and private issues. www.landecon.cam.ac.uk.

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The Cambridge Real Estate Research Centre acts as a focus for all real estate related research in the University of Cambridge. A primary aim of the centre is to deliver world class research on real estate and real assets. It acts to bridge the gap between academia and commercial practice provide a hub for industry liaison, networking with other academic organisations, professional bodies and industry and aims to ensure its research is relevant and has maximum impact. Main areas of research include the analysis of investment and capital flows, the performance of real estate assets and the drivers of real estate markets.

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The Cambridge Forum for Sustainability and the Environment is an interdisciplinary Forum in the University of Cambridge and currently has 27 members from 19 departments. It aims to bring together people to discuss some of the most pressing sustainability challenges we face in the future and the research we need to do to help to prepare for and address those challenges. The Forum’s core activity centres on monthly discussions where a panel of expert ‘witnesses’ provide their perspective on a series of topics related to sustainability and the environment. The overarching theme for the Forum is ‘sustainability in an uncertain future’.

For more information, please see our website: www.cfse.cam.ac.uk
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