



WARWICK

GLOBAL RESEARCH PRIORITIES
SUSTAINABLE CITIES

A WAY FORWARD FOR SUSTAINABLE CITIES RESEARCH

An event to celebrate UN World Cities Day
31st October, 2016

warwick.ac.uk/sustainablecities



To celebrate UN World Cities Day, and with the approval of UN-Habitat, the Sustainable Cities GRP is holding this half-day event to showcase cities research at Warwick.

Besides offering the opportunity to hear more about the wide variety of research being undertaken in the cities space, this event also offers the opportunity to advance university-wide relationships and to learn more about research opportunities linked to cities and the Habitat III New Urban Agenda.

The New Urban Agenda

The New Urban Agenda (NUA) was formally agreed at Habitat III, the UN Conference on Housing and Sustainable Urban Development, in Quito from 17-20 October.

Habitat III describes the NUA as “an action-oriented document which will set global standards of achievement in sustainable urban development, rethinking the way we build, manage, and live in cities through drawing together cooperation with committed partners, relevant stakeholders, and urban actors at all levels of government as well as the private sector.” It sets out a shared vision, a set of non-binding commitments and a means of implementation covering a range of urban challenges.

The establishment of science-policy interfaces, practitioner's networks, and strengthening the capacity of governments to work with academia and research institutions are all implementation commitments set out in the paper.

It closely links achievement of goals to the implementation, follow-up and review of the 2030 Agenda for Sustainable Development and the Addis Ababa Action Agenda on Financing for Development.

You can download the NUA from warwick.ac.uk/citiesday and a series of 6 issue papers identifying research needs are available at habitat3.org/the-new-urban-agenda/issue-papers

The GRP will monitor the development and implementation of the New Urban Agenda with a view to identifying new opportunities for engagement and research.

AGENDA

- 09.00 **Registration and Refreshments**
- 09.30 **Welcome and Introduction**
Professor Jon Coaffee, Co-lead of the Sustainable Cities GRP
- 09.45 **Natural Hazards and Extreme Weather Events: What is the Role of Citizen Participation and Big Data for Improving the Resilience of Cities?**
Dr João Porto de Albuquerque, Centre for Interdisciplinary Methodologies
- 10.10 **Formulating Inclusive Growth Agendas for Cities: A Focus on Labour Markets**
Professor Anne Green & Dr Erika Kispeter, Institute for Employment Research
- 10.35 **Sensing the City - An Overview**
Dr Nicolas Whybrow, School of Theatre, Performance and Cultural Policy Studies
- 11.00 **Coffee Break and Networking**
- 11.20 **Urban Infrastructure Lifelines: From Risk Management to Resilience**
Dr Jonathan Clarke, Politics and International Studies
- 11.45 **Global Interaction Networks Between Cities: Topological Resilience**
Dr Weisi Guo, School of Engineering
- 12.10 **Paving the Way Towards a Warwick Humanitarian Engineering Centre**
Dr Georgia Kremmyda, School of Engineering
- 12.35 **What next?**
Professor Ian Guymer, Co-lead of the Sustainable Cities GRP
Professor David Elmes, Co-lead of the Energy GRP
- 13.00 **Lunch and Networking**

Sustainable Cities GRP Co-Leads

Biography



Professor Jon Coaffee,
Politics and
International Studies

Professor Jon Coaffee is based in Politics and International Studies (PaIS). He is the co-academic lead of the Sustainable Cities GRP, has established the Resilient Cities Laboratory, and directs the Warwick Institute for the Science of Cities. His research focuses upon the interplay of physical, technical and socio-political aspects of cities and he has worked closely with a range of private and governmental stakeholders to ensure his research has real world impact. This work has been published in multiple disciplinary areas and most notably includes: *The Everyday Resilience of the City (2008)*, *Urban Resilience: Planning for Risk, Crisis and Uncertainty (2016)* and has been supported by a significant number of UK and EU Research Council grants.

Biography



Professor Ian Guymer,
School of Engineering

Ian Guymer is Professor of Civil Engineering in the School of Engineering and co-academic lead of the Sustainable Cities GRP. His research interests are centred on the mixing of contaminants within water systems, including drinking water, urban drainage and river systems. He has undertaken work for the Environment Agency and Highways England and was co-lead on an EU AsiaLink training programme CITYBLUES: A practical implementation of ecological and engineering principles in integrated stormwater management. In January 2016 he was appointed as the 1st Academic in Residence for the Institution of Civil Engineers under their Shaping the World initiative.

Natural Hazards and Extreme Weather Events: What is the Role of Citizen Participation and Big Data for Improving the Resilience of Cities?

Abstract

Extreme weather events and natural hazards such as floods and landslides have caused significant material and human losses worldwide, affecting particularly strongly the cities in the Global South. Future environmental extremes and consequent disasters are likely to become more frequent and their patterns less predictable due to climate change.

In the past few years, innovative data sources - such as real-time sensor data and "crowdsourced" geographic information generated by citizens - have emerged as a promising resource for improving the resilience of cities to such events. However, acquiring, processing, and identifying high-value content amidst the overwhelming emerging data streams still poses considerable challenges for research and practice. In contrast, for vulnerable urban areas in which the existing information base is scarce, the main challenge consists of how to foster citizen participation and exploit the potential of digital technologies to produce valuable information to improve resilience. From the backdrop of these challenges, the talk will give an overview of recent research results and explore future research directions regarding the use of emerging data sources in urban contexts, with particular emphasis on improving urban resilience against natural hazards and coping with the consequences of extreme weather events.

Biography



Dr João Porto de Albuquerque,
Centre for Interdisciplinary
Methodologies

Dr João Porto de Albuquerque is Associate Professor at the Centre for Interdisciplinary Methodologies at University of Warwick. João has published several peer-reviewed articles and led successful interdisciplinary projects on collaborative systems and geographic information science with focus on improving disaster risk management and urban resilience together with local stakeholders in Brazil and Germany.

He is currently principal investigator of projects related to flood risk management funded by CAPES (Brazil) and EPSRC. Joao is also affiliated with the University of São Paulo/Brazil (on leave) and holds a DFG-funded Visiting Professorship at the Institute of Geography of Heidelberg University, Germany.



Formulating Inclusive Growth Agendas for Cities: A Focus on Labour Markets

Abstract

'Inclusive growth' is increasingly invoked at international, national and city levels as offering prospects for more equitable social outcomes. With devolution presenting new opportunities to UK cities, it is timely to focus on approaches to inclusive growth at the local level. This presentation draws on case studies of selected cities in Europe and the US

and examines city strategies, policies and practices relating to inclusive growth, with particular emphasis on responses to the changing structure of the labour market and associated employment and skills issues. Particular attention is given to approaches which seek to shape the nature of the local economy.

Biography



Professor Anne Green,
Institute for
Employment Research

Professor Anne Green is at the Institute for Employment Research, University of Warwick. A geographer by background, her research interests encompass local and regional labour markets; local skills strategies; spatial aspects of economic, social and demographic change; trends in employment and non-employment; policies to address worklessness; demand for and supply of skills; labour market information and other local indicators; migration and commuting; urban, rural and regional development; and evaluation studies - including welfare-to-work and area regeneration initiatives. One of Anne's recent projects (funded by the Joseph Rowntree Foundation) is on 'inclusive growth' approaches in selected European and US cities.

Biography



Dr Erika Kispeter,
Institute for
Employment Research

Dr Erika Kispeter is a Research Fellow at the Institute for Employment Research, University of Warwick. She has a background in Gender Studies and joined IER in 2015, having worked at the University of Leeds and the Central European University in Budapest. Her main research interest is gender in/equality at the intersection of paid and unpaid work, in particular the classed and gendered effects of work-care reconciliation policies, gendered organisational practices and local labour markets. Erika has recently worked as a co-investigator on a project that examined 'inclusive growth' approaches in selected European and US cities.

Sensing the City - An Overview

Abstract

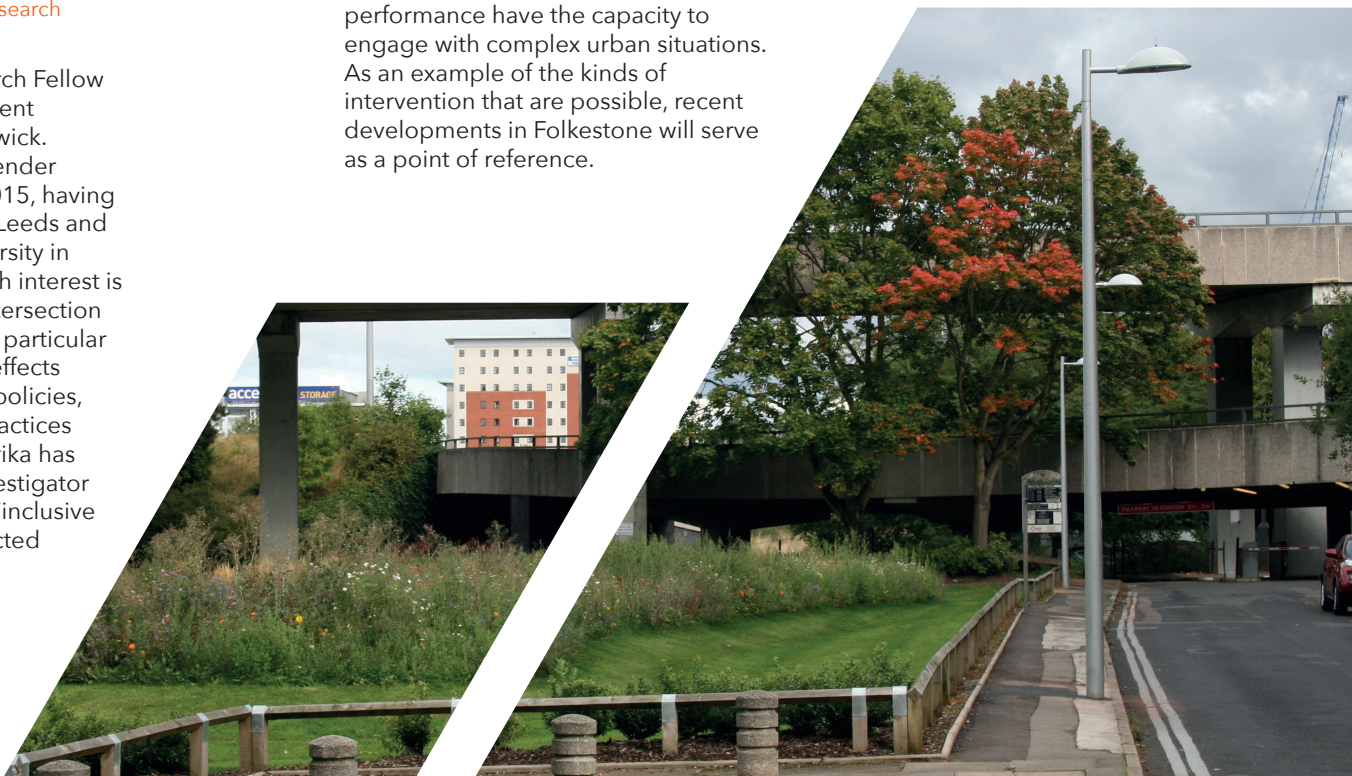
Taking place over a period of three years the practice-based research project Sensing the City: an Embodied Documentation and Mapping of the Changing Uses and Tempers of Urban Place, which is funded by the Arts and Humanities Research Council (AHRC), will undertake a series of site-specific studies of urban rhythms, atmospheres, textures, practices and patterns of behaviour in the city of Coventry (UK). It will make use of models of urban data capture using the human body as sensor and will culminate in an interactive digital mapping of the city. In the light of Coventry bidding in 2017 to become UK City of Culture in 2021, the project will afford the opportunity to reflect on ways in which art and performance have the capacity to engage with complex urban situations. As an example of the kinds of intervention that are possible, recent developments in Folkestone will serve as a point of reference.

Biography



Dr Nicolas Whybrow,
School of Theatre,
Performance and Cultural
Policy Studies

Nicolas Whybrow is Reader and Head of the School of Theatre, Performance and Cultural Policy Studies at the University of Warwick, UK. His most recent books are Art and the City (2011) and the edited volume Performing Cities (2014). He is the principal investigator in a 3-year AHRC-funded research project entitled Sensing the City which commences in April 2017.



Urban Infrastructure Lifelines: From Risk Management to Resilience

Abstract

Cities are celebrated for their concentration of innovation, creativity and economic activities, but their accumulation of social infrastructure and critical lifelines leaves them vulnerable to shock events. Recent years have been notable for a number of high-profile urban disasters, such as the impact of Hurricane Sandy upon New York, which have highlighted the need to keep citizens safe by addressing these emergent risks. Drawing upon international case studies and recent EU-funded research projects, I explore how resilience can extend existing risk management practices and serve as a progressive agenda for wider integration and transformation; as a means to survive and thrive against the 'new normal' levels of urban risk.

Biography



Dr Jonathan Clarke,
Politics and
International Studies

Dr Jonathan Clarke is a Research Fellow in the Department of Politics and International Studies at the University of Warwick, where he contributes to the to the Horizon 2020-funded RESILENS (Realising European Resilience for Critical Infrastructure) project. His work considers the roles of design, planning and governance in identifying and responding to future urban challenges.

In addition to his academic work, Jonathan is an experienced urban designer, planner and chartered landscape architect, specialising in regeneration, masterplanning and environmental impact assessment. He is a professional practice examiner for the Landscape Institute, a design expert for MADE and an external tutor at the University of Sheffield.

Global Interaction Networks Between Cities: Topological Resilience

Abstract

Cities form spatial networks through interactions. Complex networks have been studied intensely for different networks, such as collaborations, food webs, and transportation. When we analyse a global spatial network between cities, initial results indicate that places with rich topological connections are at peace, and places which occupy an important pathway are at war. In this initial study, we do not infer causality, but the results seem to indicate that the global flow of "energy" is closely related to the stability of cities. As such, we can provide an analytical framework to promoting urban resilience through the construction of new cities and links.

Biography



Dr Weisi Guo,
School of
Engineering

Dr Weisi Guo is an assistant professor at University of Warwick and part of the Warwick Institute for Science of Cities. He graduated from the University of Cambridge with MEng, MA, and PhD degrees. He works in the area of networks and information, and has published over 80 peer-reviewed papers in recent years and won prestigious international awards and recognition from the IET, IEEE, and Bell Labs.

Paving the Way Towards a Warwick Humanitarian Engineering Centre

Abstract

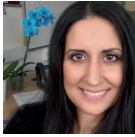
'Humanitarian Engineering' refers to the use of science to invent, create, design, develop, or improve technologies which promote the well-being of poor, marginalised, or under-served communities. The 21st century humanitarian challenges are complex phenomena manifested at variable temporal and spatial scales; affecting society through disruption in economic, political, cultural and institutional systems - these can

therefore not be treated in isolation. There is need to develop a co-evolutionary conceptual education framework, in which global challenges can be seen as complex 'emergent systems' which require input from a variety of disciplines and stakeholders to promote proactive communication, diversity and considerable organisational and cultural changes.

continued...



Biography



Dr Georgia Kremmyda,
School of Engineering

Dr Georgia Kremmyda is responsible for the delivery and management of teaching at undergraduate and MSc level in Civil Engineering, providing leadership in curriculum development, administration, and liaison with industry.

Dr Kremmyda is Trustee and Director of Education in Women's Engineering

Society (WES), and is the Chair of WES Engineering Student Conference. She is ECU Athena SWAN panellist and mentor in the 'Women in Engineering' and 'Arkwright Scholarship' schemes.

Her research interests are oriented but not limited to earthquake engineering, reliability analysis and probability of failure of structures. In teaching her interests lay in the development of innovative interdisciplinary student-driven education programmes with emphasis in mapping best practices and challenges in interdisciplinary collaborations and partnerships.

What Next?

Biography



Professor David Elmes,
Warwick Business School

David is a Professor of Practice at Warwick Business School and co-lead of the Global Research Priority for Energy that brings together research into the supply & use of energy across the University of Warwick. He joined WBS in 2008 after more than 20 years working in the energy & management consulting industries. After graduating in Natural Sciences from Christ's College, Cambridge, David joined BP, working in the UK then the US. He then joined Gemini Consulting in 1995 and, after various mergers, was Vice President with the

UK Energy, Utilities & Chemicals team of CapGemini. In 2004 he joined Schlumberger as Vice President & Director in the team who created the firm's management consulting arm, Schlumberger Business Consulting. With WBS he led development of the WBS Global Energy MBA. He works on a number of externally funded research programmes such as the I-STUTE centre, part of the UK Research Council's programme on end use energy demand.

David will join the final session of the event, exploring what Warwick can do collectively, using the campus as a demonstrator of sustainable local systems for energy and perhaps also water and transportation.

Why cities?

Warwick has designated sustainable cities as a global research priority (GRP).

For the first time in history more than 50% of the world's population lives in cities, expected to rise to 70% by 2050. Harnessing Warwick's expertise in this area, the GRP builds collaborative links across all four faculties.

Following the traditional pillars of sustainability, or sustainable development, the work of the GRP is divided into three interconnected themes linked to economic, socio-cultural and environmental concerns and two cross cutting issues that impact across the themes.

This structure reflects the ongoing work at Warwick and international efforts to promote sustainable cities, notably the Sendai Framework for Disaster Risk Reduction 2015-2030; the UN Sustainable Development Goals released in September 2015; the UN Framework Convention on Climate Change; and the Habitat III New Urban Agenda that aims to be a concise, action-oriented, forward-looking, and universal framework of actions for sustainable cities.

What if?

What if Warwick's research could help people to live happier, healthier, safer, prosperous and more environmentally friendly lives by contributing to the development of more sustainable cities? That is our aim. If you want to collaborate with us on exciting research in this field, get in touch!

Themes

- Economic Sustainability
- Social and Cultural Sustainability
- Environmental Sustainability

Cross-cutting issues

- Risk and Resilience
- Urban Data and Knowledge

Our programme includes

- Events and networking opportunities
- Communications
- Pump-priming new research

Our goals

- To enhance **interdisciplinary** working across Warwick
- To support the development of new research and associated **income**
- To increase the **impact** of cities research

If you are a researcher working in the cities space, we want to help you.

If you are working in the public or private sector, or civil society and have a challenge you'd like to explore, we'd love to hear from you.



Join the conversation!

To receive a monthly electronic newsletter, invitations to events, information about research at Warwick and new funding opportunities, or to join the GRP, please visit warwick.ac.uk/sustainablecities/people/join

We welcome contact from the private sector, public sector, civil society and the local community about research at Warwick and encourage people to get in touch.

This event is supported by



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Institution of Civil Engineers



Shaping The World
Past | Present | Future



warwick.ac.uk/sustainablecities



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