

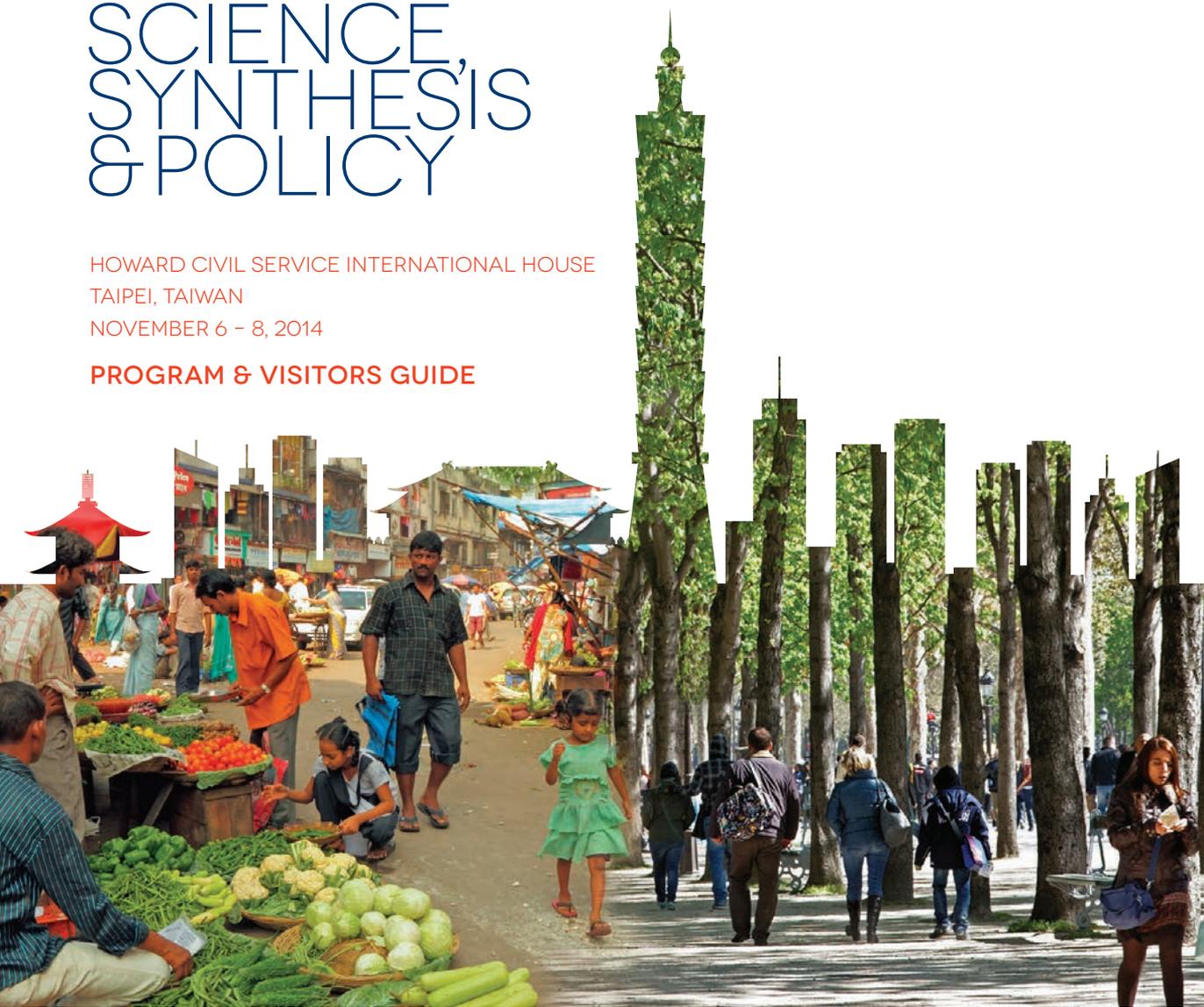
2<sup>ND</sup> INTERNATIONAL UGEC CONFERENCE

# URBAN TRANSITIONS & TRANSFORMATIONS

## SCIENCE, SYNTHESIS & POLICY

HOWARD CIVIL SERVICE INTERNATIONAL HOUSE  
TAIPEI, TAIWAN  
NOVEMBER 6 - 8, 2014

**PROGRAM & VISITORS GUIDE**



Urbanization and Global  
Environmental Change

AN IHDP CORE PROJECT



National  
Taipei University

# WELCOME! 歡迎!

Welcome to the 2<sup>nd</sup> International UGEC Conference 'Urban Transitions and Transformations: Science, Synthesis and Policy'. This conference is key event for us — a major part of our project's synthesis effort, and we appreciate your participation and contribution to its success.

Your input to the conference will help us assess the contributions of our international community to improve knowledge on the complex interactions between urbanization and global environmental change. Much has been achieved in this direction during the last decade, but we still have a fragmented basis for understanding the drivers of social transformations to sustainability and the social-environmental interactions at stake in urban areas. In order to address these complex dynamics, we urgently need to rearticulate the various disciplinary contributions into multidimensional and interdisciplinary perspectives, spanning across the social, economic, political, cultural, biophysical and environmental dimensions of transformations in urban contexts. We also need to build a better understanding of the high degree of interconnectedness between local, regional and global social and environmental processes in urban areas.

We are confident this conference will be a contribution in this direction. Thank you for joining us and enjoy!



**ROBERTO SÁNCHEZ-RODRÍGUEZ**

UGEC Co-Chair  
El Colegio de la Frontera Norte, Mexico  
University of California, Riverside, USA

Be it from scientists, policymakers or the general public, we are at a time when there is growing interest in understanding the links between urbanization and global environmental change. I am proud of the accomplishments of the Urbanization and Global Environmental Change community: your research, outreach efforts and passion for science has been fundamental in this shift in global attention. Your research has illustrated how urban areas are vulnerable to climate change, including heat waves, coastal storm surges and other extreme climate events. Our research community has been central to developing the growing body of scientific evidence that urban areas are the locus of global energy use and greenhouse gas emissions. When we started the UGEC Project nearly ten years ago, the science of urbanization and global environmental change was just emerging. We are now at a very different time.

Yet, much more work needs to be done. New opportunities have arisen that place urbanization at the center of other global debates: How can urbanization help achieve the goals of sustainable development? How can urbanization be equitable and inclusive? How can urban areas play a larger role in biodiversity conservation and preservation of ecosystem services? Is urbanization central to the transformation towards a sustainable future? At the same time, the Future Earth initiative provides a new platform to create policy-relevant, cross-boundary knowledge in support of a transformation towards sustainability.

In short, we are at another exciting time for urbanization science. As the UGEC project "sunset" and transitions to Future Earth, my hope for this synthesis conference is that we take a forward-looking approach to new research directions, new collaborations and generation of new knowledge.



**KAREN C. SETO**

UGEC Co-Chair  
Yale University, USA



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# URBAN TRANSITIONS & TRANSFORMATIONS

## SCIENCE, SYNTHESIS & POLICY

### INTRODUCTION TO THE CONFERENCE

As humanity continues to modify our global environment, the need to understand urbanization processes and interactions with larger processes of the Earth is increasingly important. We live now in the Century of the City since the world's urban population has surpassed the fifty percent mark. The trend is only expected to continue with urbanization as a defining social, economic and environmental characteristic of this centennial. Despite the fact that cities have been loci for a number of environmental problems such as air pollution, greenhouse gas emissions, clean water accessibility, etc., cities are also centers of innovation, education and offer better accessibility to services such as health care and economic opportunities. With the majority of future growth expected to take place in smaller to medium-sized cities, particularly in the developing world, a central question is: *How can we capture the benefits and opportunities of urbanization, whilst mitigating the negative effects, in order to sustainably transform our urban future?*

Moreover, it has become increasingly clear that successful solutions to today's grand sustainability challenges require collaborative approaches from a diverse group of researchers, funders, practitioners, policy-makers and other stakeholders. This is precisely the impetus for the Science and Technology Alliance for Global Sustainability's restructuring of the research framework and organization of the Global Environmental Change Programmes and associated Projects. Underpinned by three overarching themes, research under 'Future Earth' (<http://www.futureearth.org/>) will continue to focus on the dynamics of the Earth system, sustaining our planet's resources, and understanding processes of transformation and developing strategies for sustainability. Since the closure of the International Human Dimensions Programme on Global Environmental Change (IHDP), which occurred this past summer, UGEC will be transitioning from an IHDP core project to one within the Future Earth initiative.

Urbanization is a critical component in this process towards global sustainability, evident by the numerous international research and policy communities dedicated to urban work. Over the last decade, the UGEC project has likewise contributed by expanding our knowledge and understanding of the interactions and feedbacks between urbanization processes and global environmental change at local to global scales. In 2010, the first international conference on Urbanization and Global Environmental Change took place in at Arizona State University, USA. This conference marked a midway point and offered an opportunity for stocktaking, strengthening and expanding regional and thematic networks within the community and identifying the goals and research paths for the next phase of the project. Nearing the end of its ten-year mandate, UGEC is currently sun-setting and will complete in 2016. In this final phase, the project has dedicated its resources towards activities emphasizing synthesis of research and knowledge produced by the community of urban and global environmental change scholars and practitioners. This conference is a flagship event in this process. It will not only be dedicated towards synthesis and reflection, but much of the 8+ years of work will inform the process and ways forward for the next phase of 'urban' within the Future Earth framework and beyond.

Thus, the aim of the 2<sup>nd</sup> International UGEC Conference on 'Urban transitions and transformations: Science, synthesis and policy' is two-fold:

- 1) Synthesize our knowledge of the bidirectional interactions between urbanization and global environmental changes, and to reflect on the key lessons learned.**
- 2) Identify transformative pathways for a future urban world that is increasingly complex and uncertain.**

The study and understanding of current urban transitions and transformations requires multi-dimensional approaches that explore human behavior including lifestyle changes, political and economic agendas, and the adequacy of governance structures to deliver urban sustainability – particularly in a time of uncertainty where biophysical tipping points and thresholds have the potential to curb human progress and well-being.

In order to facilitate this analysis, the conference has been divided into four integrative themes that are intended to bring together perspectives from across the social and natural sciences, and humanities to better understand urban environmental issues in a more integrated, interdisciplinary and trans-disciplinary way. The four major themes are:



## THEME 1

### URBANIZATION PATTERNS AND PROCESSES

Cities have undergone unprecedented social, cultural, economic, environmental and institutional transformations as their sizes, structures and functions change over time. We now have a better understanding of the tele-connected nature of urbanization and globalization processes which, blur the distinction between urban and hinterland areas, i.e., the distal flows and connections of people, economic goods and services, and land use change processes that drive and respond to urbanization. In this sense, cities and their regions are connected to and dependent on other regions, even in other continents as well as being connected across different spatial and temporal scales. Furthermore, global environmental changes affect these local and regional human processes and well-being, and shape the construction, form and function of the built environment.

This theme explores the driving forces responsible for transformation patterns and processes in cities – how and why urbanization today differs from urban processes in the past (i.e., as an outcome of decisions, actors and institutions), and the pathways through which specific types of global environmental change affect local and regional human processes and well-being (e.g., economic activities, livelihoods, urban life, migration patterns, social well-being and human health).

## THEME 2

### URBAN RESPONSES TO CLIMATE CHANGE: ADAPTATION, MITIGATION AND TRANSFORMATION

Cities are now at the forefront of climate change adaptation and mitigation responses. Local actions to address climate change are moving faster than our capacity to understand the effectiveness, benefits and unintended negative consequences of those actions. There is a critical need to go beyond descriptive case studies or calls for further urban responses to climate change, and to take a more analytical approach to understanding the diversity of responses that exist, the lessons to be learned from them, and the implications for city-level policies and development. This implies looking critically at governance structures and institutions by investigating the motivations behind the efforts to govern climate change, strategies and differing institutional capacities amongst cities.

This theme will explore questions such as: What are the linkages that exist between adaptation, disaster risk reduction and resilience? What factors influence policies for urban climate change adaptation (e.g., differences between the North and South, cities of varying levels of development, political contexts, etc.); What makes effective strategies, effective, i.e., are there certain institutional/governance structures which need to be in place that are key for transformation? Contributions from the physical sciences are equally important here, for example, the understanding of urban footprints (increasing or decreasing emissions) and cities' actual effectiveness to reduce health impacts from heat waves and air pollution.

## THEME 3

### GLOBAL ENVIRONMENTAL CHANGE, URBAN HEALTH AND WELL-BEING

Global environmental changes (including climate change and biodiversity loss) as well as urbanization pressures on the environment, e.g., air and water pollution, have multiple implications for societies. An important component of this theme is the focus on how urban areas will transition to become more resilient, connecting research on poverty, food security and ecosystem services. Global environmental change affects the pool of natural resources and ecosystem services upon which urban systems rely, and urban areas depend on vast resources for the supply of critical ecological services. These include: provisioning services, such as food, water, medicinal plants and other resources; regulating services that enhance the quality of air and soil, or that provide flood, storm and disease control; habitat or supporting services, which underpin almost all other services; and also cultural and aesthetic services. However, urbanization destroys fragile wetlands, fragments ecosystems, endangers species and threatens biodiversity, and has severe impacts on the carbon cycle through changes in the net primary productivity of affected ecosystems.

This theme aims to synthesize the bi-directional interactions between global environmental changes and urban processes, and the effects these have on urban dwellers with respect to health and well-being. What have we learned in terms of how to understand, quantify and value urban ecosystem services and incorporate this knowledge into urban planning and management? What approaches currently exist for urban biodiversity conservation? How does urban design and form contribute to building healthy communities? Even more broadly, what progress has been made with respect to understanding climate change impacts on human health and vulnerability at the city scale, and preparing cities against future GEC-related risks and uncertainties?

## THEME 4

### EQUITY AND ENVIRONMENTAL JUSTICE IN URBAN AREAS

Sustainability is founded on principles of equity for present and future generations. Worldwide, more than 900 million people, approximately one out of three urban dwellers, live in informal settlements, with most living under life- and health-threatening conditions. This ratio is expected to increase in the future. In light of their importance locally and regionally, and considering their size globally, the discussion of sustainability must incorporate approaches that include informal settlements. Furthermore, just as the concept of climate justice addresses the uneven negative impacts of global climate change especially on poor countries that, for example, contribute only a small portion to global greenhouse gas emissions, an environmental justice perspective that examines the fairness of services and disservices provided by the environment brings us closer to the goal of urban sustainability.

This theme will explore what we have learned in terms of the interactions between global environmental change and human security, vulnerability and coping mechanisms of the global poor. How can we best influence growth and development policies for urban areas in both rich and poor countries alike, and assist them to better adapt to the potential negative consequences of global environmental change? What advances can be made in terms of woman and gender equality with respect to climate change mitigation and adaptation policies? This theme will more specifically address the developing urban world, its specific challenges, needs and opportunities for more livable cities.



## CONFERENCE DESIGN

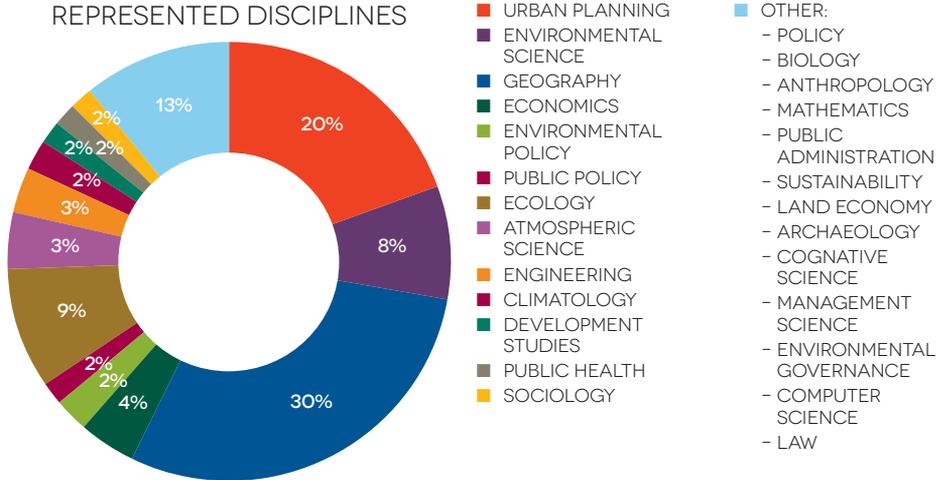
As the final synthesis conference of UGEC, the organizers sought to create a more dynamic setting conducive to dialogue. Plenary sessions will not be limited to individual speakers, but consist of a diverse panel of experts to give their individual perspectives with ample opportunity for audience participation. Conference goers also can also expect parallel sessions that include standard, roundtable and World Café formats to address salient topics under the aforementioned four main themes. They will be critical spaces for the exchange of knowledge and discussion, and will offer useful knowledge for the synthesis process and future planning. To best facilitate rich interaction, we've asked presenters and organizers to shorten presentation times to allow for more conversation and to address specific questions geared towards strengthening the focus of the conference – synthesis and looking ahead. Sessions will address the following questions:

- **What are the key lessons learned from your research as related to the session topic and the broader conference theme under which it falls?**
- **How does your research add to the broader knowledge base of Urbanization and Global Environmental Change?**
- **What are the policy/practice implications of your research? Please address relevant institutional challenges and/or opportunities to the construction of operational strategies, policies and actions.**
- **What are the knowledge gaps and needs (methodological or conceptual/disciplinary) for future research?**

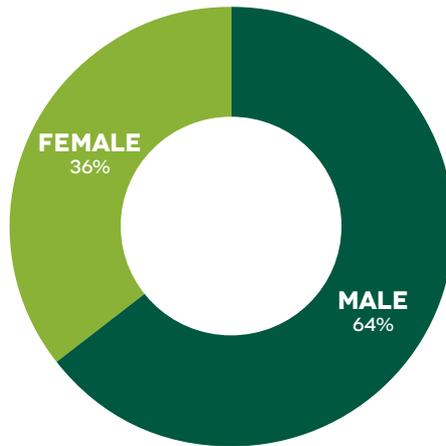
In addition to the intrinsic value of networking, meeting new faces and reconvening with those familiar, a major goal of the conference is to extract lessons learned from the research presented and discussed that can expand our current knowledge on the particular topics addressed as well as highlight key elements that should be part of an exciting future research agenda on urbanization and global environmental change.

# CONFERENCE STATS AT A GLANCE

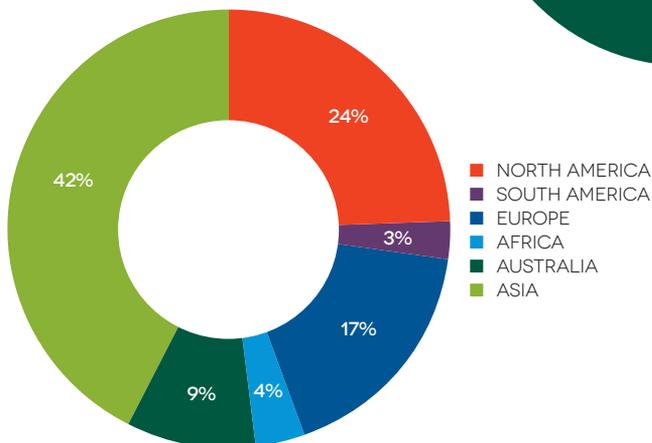
DISTRIBUTION OF REPRESENTED DISCIPLINES



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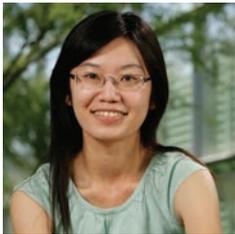
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# PANEL SESSIONS & SPEAKERS

## WELCOME ADDRESS



**DR. LUNG-BIN HAU, MAYOR OF TAIPEI**

## TEN YEARS OF THE URBANIZATION AND GLOBAL ENVIRONMENTAL CHANGE PROJECT: PAST, PRESENT AND FUTURE

**THE PANEL:** ROBERTO SÁNCHEZ RODRÍGUEZ, KAREN SETO, DAVID SIMON, WILLIAM SOLECKI

**MODERATOR:** CORRIE GRIFFITH, UGEC EXECUTIVE OFFICER, TEMPE, AZ, USA

The Urbanization and Global Environmental Change (UGEC) Project began in 2006 as a platform to co-ordinate a network of academics, political decision-makers and practitioners dedicated to providing a better understanding of the interactions and feedbacks between global environmental change and urbanization at the local, regional, and global scales. After nearly ten years, UGEC has begun its final phase, characterized by a variety of synthesis activities, including the 2<sup>nd</sup> International UGEC Conference. This panel will cover the width and breadth of the UGEC project, including the project's history, its activities and outputs, key lessons learned, ways forward, and the future of urbanization and global environmental change research.



### **ROBERTO SÁNCHEZ RODRÍGUEZ**

Dr. Sánchez-Rodríguez is currently a professor in the Department of Urban and Environmental Studies at El Colegio de la Frontera Norte, a research institution in Mexico. He is also an Emeritus professor in the Department of Environmental Sciences of the University of California, Riverside and co-chair of the UGEC Scientific Steering Committee. He also worked at the North American Commission for Environmental Studies, created under NAFTA. His research seeks to build a better understanding of the bidirectional interactions of urban areas and climate change. He studies social and urban vulnerability, adaptation to climate change multilevel

governance in urban areas in the context of climate change, and the science-policy/practice interface in urban areas with a particular emphasis on the role of spatial planning building urban responses to climate change. His research interests also include the search of new paths of growth and development in the context of global change in the 21<sup>st</sup> century.



### **KAREN SETO**

Karen Seto is Professor of Geography and Urbanization and Associate Dean of Research at the Yale School of Forestry & Environmental Studies. Prior to joining Yale, she was on the faculty at Stanford University for eight years. Professor Seto's research is on the human transformation of land and the links between urbanization, global change and sustainability. She is an expert in urbanization dynamics, forecasting urban growth and examining the environmental consequences of urban expansion. She has pioneered methods using satellite remote sensing to reconstruct historical patterns of urbanization and to develop

projections of future urban expansion. She specializes in China and India, where she has conducted urbanization research for more than fifteen years.

Professor Seto serves on a number of international and national scientific advisory committees, including as Coordinating Lead Author for the IPCC Fifth Assessment Report, Coordinating Lead Author for the UN Convention on Biodiversity Cities and Biodiversity Outlook, and Co-Chair of the Urbanization and Global Environmental Change Project. She also currently serves on the U.S. National Research Council (NRC) Committee to Advise the U.S. Global Change Research Program (USGCRP), the NRC Geographical Sciences Committee, and the U.S. Carbon Cycle Scientific Steering Group.



### **DAVID SIMON**

David Simon is Professor of Development Geography at Royal Holloway, University of London, UK and Director of Mistra Urban Futures, Chalmers University of Technology, Gothenburg, Sweden.. He is a former Rhodes Scholar (1979-82) and in 2009 was elected as an Academician of the Academy of Social Sciences in the UK. He is a longstanding trustee of the Canon Collins Education and Legal Assistance Trust, where he currently chairs its Resources and Governance Sub-committee. He is a member of the African Studies Association of the UK and Royal Africa Society as well as a long-standing member of the Urbanization and Global Environmental Change Project Scientific Steering Committee. His particular research interests

include development theory, policy and practice; the development-environment interface including sustainability and climate/environmental change; cities, urbanization and urban-rural interaction; and transport and regional and national development planning. He is a specialist on sub-Saharan Africa and also has research experience in the Sri Lanka, Thailand, the Philippines, UK and USA. He is a former editor and current chair of the editorial board of the Journal of Southern African Studies, serves on the Editorial Working Group of the Review of African Political Economy and on the boards of several other African, geographical and development studies journals.



### **WILLIAM SOLECKI**

Professor William Solecki's research focuses on urban environmental change and urban spatial development. He is the Director of the CUNY Institute for Sustainable Cities and has served on several committees for the U.S. National Research Council including the Special Committee on Problems in the Environment (SCOPE). He is currently a member of the International Geographical Union (IGU) Megacity Study Group and is a long-standing member of the Urbanization and Global Environmental Change Project Scientific Steering Committee. He also serves as the co-leader of several climate impacts in the greater New York and New Jersey region.

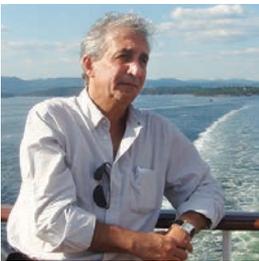
## GUIDING FUTURE GROWTH: URBAN TRANSITIONS IN THE 21<sup>ST</sup> CENTURY

**THE PANEL:** ROBERTO GUIMARÃES, ALEJANDRO NADAL, HARINI NAGENDRA

**MODERATOR:** ROBERTO SÁNCHEZ RODRÍGUEZ, EL COLEGIO DE LA FRONTERA NORTE, ENSENADA, MEXICO

The dynamic socioeconomic and biophysical processes of transition occurring thus far this century have introduced changes in key components of development and sustainability at regional, national and local levels. Urban areas are playing an important role in many of these transitions given their influence as centers of production and consumption, innovation and wealth. At present it is difficult to estimate the extent to which these transitions are creating regional and local urban transformations and their meaning for economic growth, social wellbeing and the environment. However, it is essential to integrate the analysis of these global processes in the study of future urban growth and its interactions and implications for global environmental change.

This panel session will discuss key socioeconomic processes (e.g., financial crisis, collapsing and failing states, increasing inequality, emerging economic sectors, and trends in the appropriation of natural resources) and biophysical processes (e.g., changes in the climate and water cycle, loss of ecosystem services, acidification of oceans) that have influenced urbanization in the first half of this century and will aim to identify pathways for more sustainable urban trajectories.



### **ROBERTO GUIMARÃES**

Dr. Guimaraes holds a B.A. in Public Administration, M.A. and Ph.D. in Political Science. His current functions include Principal Investigator in Research Dimension III: Socio-Ecological Dimensions of DesiguALdades.net (Germany), Member of the Board of Directors of IFE — *Initiative for Equality* (EUA) and Visiting Professor of the Doctoral Program on Environment and Society of the State University of Campinas, in São Paulo (Brazil). Previously, he acted as Vice-Chair and Chair of the Scientific

Committee of the IHDP-International Program on Human Dimensions of Global Change (sponsored by the ISCC-International Social Sciences Council and ICSU-International Council of Scientific Unions of UNESCO). Between 1983 and 2006, Dr. Guimaraes was a Permanent Staff Member of the United Nations, having served, among others, at the Economic Commission for Latin America and the Caribbean in Santiago, Chile. His last position before returning to Brazil in 2007 was Chief of Social and Policy Analysis at the UN Headquarters in New York. He served as Technical Coordinator of all UN International Conferences on the Environment (Rio-92, Rio+5, Johannesburg-2002), and is the author of over 200 publications in 20 countries on political development and the formulation of social and environmental policies, including *The Ecopolitics of Development in The Third World* (winner of international awards, including best book published in 1991 on International Environmental Politics, and Outstanding Academic Book of 1991), and *The Inequality Predicament* (submitted to the UN General Assembly as the *2005 Report on the World Social Situation*).



### ALEJANDRO NADAL

Dr. Alejandro Nadal is Professor at the Centre for Economic Studies of El Colegio de México. He received his Ph.D. in Economics from the University of Paris (Nanterre) in 1981. His publications cover a wide variety of subjects, from technical change and resource management, to macroeconomics and general equilibrium theory. His most recent book is *Rethinking Macroeconomics for Sustainability* (Zed Books 2011). He is Chair of the Theme on the Environment, Macroeconomics, Trade and Investment (TENTI) of CEESP-IUCN. He is Co-editor of the online academic journal *Economic Thought* of the World Economics Association. Professor Nadal publishes a weekly column in *La Jornada*, one of Mexico's national newspapers.



### HARINI NAGENDRA

Harini Nagendra is a Professor at the School of Development, Azim Premji University in Bangalore, India. She is also the Asia Research Coordinator at the Center for the Study of Institutions, Population, and Environmental Change (CIPEC) at Indiana University, and was recently the Hubert H Humphrey Distinguished Visiting Professor at Macalester College, Saint Paul, Minnesota. Her research examines issues of social-ecological sustainability in forests and cities in the global South.

A major focus of her research is to assess the impact of rapid urbanization on ecological sustainability in India, drawing on a long term program of research, education and outreach conducted across multiple Indian cities. Her research also engages with policy through her participation on the Scientific Steering Committees of DIVERSITAS, the Global Land Project, and the Programme for Ecosystem Change and Society; and as a Lead Author of the recent Intergovernmental Panel for Climate Change (IPCC) 5th Assessment Report, Working Group III.

## OVERCOMING THE CHALLENGES: WAYS FORWARD IN URBAN INTERDISCIPLINARY RESEARCH & PRACTICE

**THE PANEL:** HSIN-HUANG MICHAEL HSIAO, GORDON MCGRANAHAN, JOHN ROBINSON

**MODERATOR:** KAREN SETO, YALE UNIVERSITY, NEW HAVEN, CT, USA

The study of urbanization and global environmental change is an interdisciplinary and trans-disciplinary endeavor. Given the urban sustainability challenges that face humanity, more effort is required to build holistic research frameworks and approaches. With such a wide array of agendas and backgrounds, communication within and between academics, decision-makers and other stakeholders is a difficult process, but also an increasingly important one.

This panel will focus on the challenges and ways forward in fostering and maintaining inter- and trans-disciplinarity in urbanization and global environmental change research, and the science-policy-practice connections that are required for achieving impactful urban solutions at a diversity of levels and scales in the decades to come. Panelists will draw from their extensive experience working on such issues in the realm of interdisciplinary/trans-disciplinary research and practice.



### HSIN-HUANG MICHAEL HSIAO

Hsin-Huang Michael Hsiao is Distinguished Research Fellow and Director of the Institute of Sociology at the Academia Sinica and Professor of Sociology at National Taiwan University and National Sun Yat-sen University. In addition, he is also Chair Professor of Hakka Studies at National Central University. He had previously served as a National Policy Advisor to the President of Taiwan between 1996 and 2006, and as Executive Director of the Centre for Asia-Pacific Area Studies in Academia Sinica. His areas of specialization include civil society, new democracies, the middle class

in Asia, local sustainable development, Hakka studies, and NGO studies. His most recent publications include: *Writing Taiwan's Third Sector History* (editor). Kaohsiung: Chu-Liu Book Company, 2014; *Democracy or Alternative Political Systems in Asia: After the Strongmen* (editor). London & New York: Routledge, 2014; *Chinese Middle Classes: Taiwan, Hong Kong, Macao and China* (editor), London & New York: Routledge, 2013; *Ethnic Economy of Vietnamese Spouses in Taiwan* (co-editor with Deng-Shing Huang and Ching-Lung Tsay), Taipei: Center for Asia-Pacific Area Studies, Academia Sinica, 2012; *Changing Faces of Hakka*

*in Southeast Asia: Singapore and Malaysia* (editor), Taipei: Centre for Asia-Pacific Area Studies, Academia Sinica, 2011; *Cross-Border Marriage with Asian Characteristics* (co-editor with Hong- Zen Wang), Taipei: Centre for Asia-Pacific Areas Studies, Academia Sinica, 2010; *Japan-Taiwan Relations in East Asia's New Era* (co-editor with Jun Nishikawa), Tokyo: Akashi Shoten, 2010; *Non-Profit Sector: Organization and Practice* (co-editor with Yu-Yuan Kuan and Lucia Lu), Taipei: Chiu-Liu Books, 2009; and *Rise of China: Beijing's Strategies and Implications for the Asia-Pacific* (co-editor with Cheng-Yi Lin), London: Routledge, 2009.



### **GORDON MCGRANAHAN**

Dr. Gordon McGranahan is Principal Researcher in the Human Settlements Group at the International Institute for Environment and Development (IIED). Trained as an economist, he works on a range of urban environmental issues, with an emphasis on addressing poverty and environmental problems in and around the home, including water and sanitation deficiencies. He also researches relations between these local environmental burdens and larger scale environmental transitions, and was the convening lead author of the urban systems chapter of the Millennium Ecosystem Assessment. Among many other publications, he was a lead author of: *The Citizens at Risk: From urban sanitation to sustainable cities* (Earthscan, 2001) and *The rising tide: Assessing the risks of climate change and human settlements in low elevation coastal zones* (Environment and Urbanization, 2007). He has also co-edited and authored chapters in books, including: *The new global frontier: Urbanization, poverty and environment in the 21<sup>st</sup> century* (Earthscan, 2008) and *Urban growth in emerging economies: Lessons from the BRICS* (Routledge, forthcoming 2014).



### **JOHN ROBINSON**

John Robinson is the Associate Provost, Sustainability at The University of British Columbia (UBC) and is a professor with the UBC's Institute for Resources, Environment & Sustainability and Department of Geography. Dr. Robinson is responsible for leading the integration of academic and operational sustainability on UBC's Vancouver campus. In that capacity, he directs the UBC Sustainability Initiative (USI) and provides leadership for UBC's academic, research and operational activities and programs in sustainability. He also represents UBC's sustainability activities to the broader local and international community. Dr. Robinson's research focuses on the intersection of climate change mitigation, adaptation and sustainability; sustainable buildings and urban design; the use of visualization, modeling, and citizen engagement to explore sustainable futures; creating partnerships for sustainability with the private, public, non-governmental and research sectors; and, generally, the intersection of sustainability, social and technological change, behaviour change, and community engagement processes.

Previously a Fellow of the Trudeau Foundation, he has been a Lead Author in the last three reports of the Intergovernmental Panel on Climate Change, which won the Nobel Peace Prize with Al Gore in 2007. Last year, *Canadian Geographic* magazine named Professor Robinson Canada's Environmental Scientist of the Year and he was the recipient of the Metro Vancouver Architecture Canada Architecture Advocacy Award.

## TECHNOLOGY AND INNOVATION: TRENDS, CONFLICTS & CONSEQUENCES FOR URBANIZATION

**THE PANEL:** FEDERICO CAPROTTI, S.K. JASON CHANG, COLIN HARRISON

**MODERATOR:** PETER MARCOTULLIO, HUNTER COLLEGE – CITY UNIVERSITY OF NEW YORK, NEW YORK, NY, USA

The late 20<sup>th</sup> century saw the rise of an impressive array of technological innovation in urban areas, which appear to have the capacity to solve diverse and complex urban problems and at the same time help address key environmental challenges like climate change and manage risk. The so-called Smart (or Intelligent) City refers to systems that collect and process large amounts of data through information and communication technologies to improve urban economic, social, and infrastructure development. These Smart Cities are promoted as responses to current and future development and sustainability challenges, yet little attention has been given to the socioeconomic and biophysical processes associated with urbanization and constraints they might impose on the construction of Smart Cities in developed and developing countries. Adequate attention has also not been given to the unintended consequences of these technological innovations on social equality within and among societies worldwide. The panel will discuss and debate the potential contributions of Smart Cities, technological innovation and the use of big data in urban areas including their future potential for sustainability as well as their unintended consequences.



### FEDERICO CAPROTTI

Dr. Federico Caprotti is a Senior Lecturer in Cities & Sustainability at the Department of Geography, King's College London. His main interests are in the links between nature and the city, and he has carried out historical work as well as more contemporary research on eco-cities in China and the Gulf. His most recent book, *Eco-Cities and the Transition to Low-Carbon Economies*, is due to be published by Palgrave in 2014. Federico's research has been funded by the British Academy, the Royal Geographical Society, and the Nuffield Foundation. In 2013, he was

an academic writing fellow at the Rockefeller Foundation's Bellagio Center, working on eco-cities in partnership with a collaborator from a Chinese university. Federico has previously been a member of faculty at various UK institutions, including Oxford University, University College London (UCL), the University of Leicester, and Plymouth University. He holds a DPhil from Oxford University.



### **S.K. JASON CHANG**

Dr. S.K. Jason Chang has been actively involved in many professional societies and activities, including Vice-President of Intelligent Transportation Society of Taiwan, and has been on the board of directors of the World Congress on Intelligent Transportation Systems, the Eastern Asia Society for Transport Studies, and is a member of the America Society of Civil Engineers and ITE. As an advisor to Taipei City Government since 1994, Professor Chang has promoted and implemented his “BBMW” green mobility strategies: integration of Bike, Bus, Metro, and Walk. He has also served as a member in urban planning and urban design committees for various city governments.

In the past twenty years, Professor Chang has been invited to be an advisor for the promotion of sustainable urban and transport development in the Asia/Pacific region by various international institutes and NGOs. He is now an advisor for the China Urban Transport Development Strategy Partnership and Demonstration Project, sponsored by the Global Environment Facility, working in more than 18 Chinese Cities to demonstrate public transport-oriented development, bus rapid transit, bike sharing programs, ITS applications for safety, and sustainable mobility. He is also a Visiting Professor at the China Academy of Transportation Sciences in Beijing, China. Professor Chang’s research focuses on public transport oriented development, transport economics and policy, and active mobility.



### **COLIN HARRISON**

Dr. Harrison retired in January 2013 from IBM. He is an IBM Distinguished Engineer Emeritus and was the inventor of IBM’s Smarter City technical programme. He was previously Director of Strategic Innovation in IBM Europe and Director of Global Services Research. He is an IBM Master Inventor and a Member of the IBM Academy of Technology. His current activities are focused on applying systems methods to resilience solutions for cities and regions.

He spent 1972-77 at CERN developing the SPS accelerator and its distributed, real-time control system. In 1977 at EMI Central Research Laboratories he led development of the first clinical MRI system. At IBM since 1979 he worked on micromagnetics, medical imaging, parallel computing, mobile computing, intelligent agents, telecommunications, knowledge management, and Smarter Cities. In 2011 he spent several months working in Tohoku, Japan on plans for the region’s recovery from the 3/11 earthquake and tsunami and has increasingly focused on Resilient Cities. He studied at Imperial College, London and the University of Munich, earning a Ph.D. in Materials Science. He is Fellow of the Institution of Engineering and Technology, Senior Life Member of the Institution of Electronic and Electrical Engineers, and Founder Member of the Society for Magnetic Resonance in Medicine. He is an Expert Advisor to the Swiss Academy of Technical Sciences and has been a Visiting Scientist at MIT, Harvard Medical School, and Lawrence Berkeley National Laboratory. In 2013 he was appointed Technical Expert on smart cities for the European Commission. He has published some 60 articles and has been awarded some 35 patents. He speaks worldwide on smarter cities and is leading a team that is writing a book on smart cities from the perspective of municipal administrators.

## GOVERNING THE URBAN SYSTEM: TOWARDS NEW FRAMEWORKS & INSTITUTIONAL APPROACHES

**THE PANEL:** SOUMYA CHATURVEDULA, SUE-CHING JOU, SUSAN PARNELL

**MODERATOR:** DAVID SIMON, ROYAL HOLLOWAY UNIVERSITY OF LONDON, EGHAM, SURREY, UK

The impressive growth and importance of urban areas in recent decades have resulted in an interconnected system of global cities that is fostering and diversifying governance processes such that urban governance cannot be considered just a local phenomenon, but instead operates at multiple geographical and temporal scales. However, urban institutions have experienced difficulty adapting to these new conditions and urban growth continues to be framed in isolation, as a local process only. Currently, urban governance and institutional structures are more often than not outmoded and siloed in their approach to address development and GEC-related issues. How to minimize institutional and policy gridlock as they try to keep up with change is a fundamental concern.

This panel will consider the increasing gap between good urban governance and urban institutional capacities in both developed and developing countries. The panel will also reflect on the consequences these trends have had on urban development and sustainability, and also the opportunities for developing and implementing new frameworks of governance during the first half of this century.



## **SOUMYA CHATURVEDULA**

Soumya Chaturvedula joined ICLEI South Asia in September, 2008 as the Manager of our Southern Center in Hyderabad. She has over four years of design engineering experience in the field of solidwaste and water resources management and over 6 years of experience in the field of environmental studies and impact assessments. With a Masters in Environmental Engineering and a MBA in Environmental Management, she brings relevant technical expertise to ICLEI South Asia. She has

been involved in designing municipal sanitary landfills and hazardous waste landfills in various locations in India, Canada and Barbados. She is also specialized in the design of storm drainage systems and hydrological modelling. She brings with her strong project development and management skills coupled with technical strengths. She is involved in developing capacity building projects with local Government and research Institutes in the fields of sustainable development and environmental management.

Soumya was/is involved in the following projects: ACCESSanitation, Urban Climate Project, Service Level Benchmarking Pilot project, realising DReAMS, EMP Compliance Monitoring in ISWM Facilities, Awareness Programme for Climate Change in West Bengal, Urban LEDS and other projects.



## **SUE-CHING JOU**

Dr. Sue-Ching Jou is a Professor of Geography and Associate Dean of College of Science at National Taiwan University. She is a national member of the International Human Dimensions Programme on Global Environmental Change (IHDP) — Taipei and is a council member on the Professional Advisory Committee of Disaster Reduction (PACDR) for the Taiwan government. She is also a member of IGU commission on Hazard and Risk (2012-2016). Her research interests are mainly in the fields of urban studies, including political economy of urban development, urban

and regional governance and geographies of sustainable city governance. Her recent research focuses are on urban climate governance and participatory river governance.



## **SUSAN PARNELL**

Susan Parnell is an urban geographer in the Department of Environmental and Geographical Sciences at the University of Cape Town (UCT). She is centrally involved in the African Centre for Cities, serving on its executive committee. Prior to her appointment at UCT she taught in the Wits University Geography Department (Johannesburg) and the School of Oriental and African Studies (London). She has held academic fellowships at Oxford, LSE, Durham and University College London. Recent books include: A Routledge Handbook of Cities of the South (co-edited with

S. Oldfield), Routledge; Africa's Urban Revolution (co-edited with E. Pieterse), Zed; Global Urbanisation, Biodiversity and Ecosystem Services, Springer. (co-edited with Elmqvist, T., Fragkias, M., Güneralp, B., Marcotullio, P., McDonald, R., Sendstad, M., Seto, K., Wilkinson, C. (Eds); Climate Change at the City Scale: Impacts, Mitigation and Adaptation in Cape Town, (co-edited with A. Cartwright, G. Oelfse and S. Ward), Earthscan, London; and Key Issues in the 21<sup>st</sup> Century: Urban Studies – Society (4 volumes), (co-edited with R. Paddison, McNeill, D., Ostendorf, W. and S. Teisdell).

## CLOSING PANEL: REFLECTIONS AND MOVING FORWARD FOR UGEC

**THE PANEL:** ANDRÉS LUQUE-AYALA, GORDON MCGRANAHAN, SUSAN PARNELL

**MODERATOR:** PATRICIA ROMERO LANKAO, NATIONAL CENTER FOR ATMOSPHERIC RESEARCH, BOULDER, CO, USA

This final conference panel will reflect on the discussions and key topics addressed over the span of the last three days. Selected panellists will provide their feedback and reflections from their own individual perspectives on the key synthesis issues and messages they took note of, any gaps, and overall general reflections on the conference. Audience participation is encouraged. The goal is to end with some key synthesis messages and hopefully encouraging ideas for moving forward as a UGEC community.



### ANDRÉS LUQUE-AYALA

Andrés is a Post-Doctoral research associate at the Geography Department at Durham University (United Kingdom), where he lectures on cities and climate change. He coordinates the ESRC funded International Network on Comparative Urban Low Carbon Transitions (INCUT), a global network of researchers examining how urban environments around the world are engaging with climate change. His particular research agenda revolves around the development of a critical geography of energy, and the interface between urban energy systems, low carbon

narratives and issues of social justice in cities of the global South. By looking at these issues from a post-structuralist perspective, he is exploring ideas around 'post-development carbon': the mobilization of low carbon towards challenging dominant development paths and proposing alternative understandings of collective futures. He is also working on the development of a critical understanding of notions of 'smart urbanism'; assessing the different forms of political configurations present around smart city initiatives. Andrés has worked on environmental governance issues for over 15 years, combining professional practice with academic research. Between 2004 and 2010 he worked alongside architects and engineers advancing principles of sustainable urbanism within masterplanning and eco-city projects. Over part of this period he coordinated the sustainability approach of Arup's urban design team, a London-based practice of engineers and planners. More recently he has been involved in municipal and regional initiatives towards climate change mitigation and adaptation, as well as doing research on the emergence of a local energy regime in the São Paulo and Mumbai metropolitan regions. Andrés has first degrees in anthropology and political science, as well as an Master in Environmental management (Yale), an MSc in City Design (LSE) and a PhD in geography.

### GORDON MCGRANAHAN

Biography on page 15

### SUSAN PARNELL

Biography on page 19

## THURSDAY, NOVEMBER 6

TIME	DESCRIPTION	SPEAKERS / ORGANIZERS	LOCATION
7:30 – 8:30	REGISTRATION & COFFEE/TEA		2F OUTSIDE CONVENTION HALL
8:30 – 9:00	WELCOME/OPENING STATEMENTS	CORRIE GRIFFITH, LUNG-BIN HAU, ROBERTO SANCHEZ RODRIGUEZ, AND KAREN SETO	2F CONVENTION HALL
9:00 – 9:30	OPENING PANEL SESSION: TEN YEARS OF THE URBANIZATION AND GLOBAL ENVIRONMENTAL CHANGE PROJECT: PAST, PRESENT AND FUTURE	ROBERTO SÁNCHEZ RODRÍGUEZ, KAREN SETO, DAVID SIMON, AND WILLIAM SOLECKI   MODERATOR: CORRIE GRIFFITH	2F CONVENTION HALL
9:30 – 11:00	PANEL 1: GUIDING FUTURE GROWTH: URBAN TRANSITIONS IN THE 21 <sup>ST</sup> CENTURY	ROBERTO GUIMARÃES, ALEJANDRO NADAL, AND HARINI NAGENDRA   MODERATOR: ROBERTO SÁNCHEZ RODRÍGUEZ	2F CONVENTION HALL
11:00 – 11:15	BREAK		
11:15 – 12:30	<b>UGEC SYNTHESIS SESSION:</b> INTERDISCIPLINARY UNDERSTANDINGS OF URBANIZATION AND GEC: REGIONAL PATTERNS, PROCESSES AND TRANSITIONS	UGEC SCIENTIFIC STEERING COMMITTEE	1F 101 1F 103 2F 203
12:30 – 13:30	LUNCH		2F OUTSIDE CONVENTION HALL
<b>13:30 – 15:30</b>	<b>PARALLEL SESSIONS - GROUP A</b>		
	<b>#26</b> URBAN SOCIAL AND INSTITUTIONAL RESPONSES TO GLOBAL ENVIRONMENTAL CHANGE	SUE-CHING JOU AND MARC WOLFRAM	2F 203
	<b>#34</b> CO-BENEFITS OF ADDRESSING GLOBAL ENVIRONMENTAL CHANGE IN URBAN AREAS	WAN-YU SHIH	2F 202
	<b>#40</b> URBAN LAND TELECONNECTIONS: FROM CONCEPT TO IMPLEMENTATION	MICHAIL FRAGKIAS, BURAK GÜNERALP, AND DAGMAR HAASE	1F 101
	<b>#64</b> INFLUENCES ON URBAN HEALTH IN THE GLOBAL SOUTH: IDENTIFYING THE CHALLENGES	CARSTEN BUTSCH AND FRAUKE KRAAS	1F 103
15:30 – 16:00	BREAK		
<b>16:00 – 18:00</b>	<b>PARALLEL SESSIONS - GROUP B</b>		
	<b>#14</b> HUMAN DIMENSIONS OF URBAN HEAT ISLANDS	WEN-CHING CHUANG, DAVID HONDULA, AND MATTHIAS RUTH	2F 203
	<b>#16</b> BUILDING RESILIENCE IN ASIAN CITIES	DIANE ARCHER AND SHU-LI HUANG	1F 103
	<b>#54</b> A NEW SCIENCE OF CITIES FOR RESPONDING TO GLOBAL ENVIRONMENTAL CHANGE	MICHAIL FRAGKIAS, JOSE LOBO, AND KAREN SETO	2F 202
	<b>#63</b> CHALLENGES IN THE DEVELOPING URBAN WORLD: INFORMAL SETTLEMENTS, SLUMS AND GROWING INEQUALITIES	HUMPHREY NGALA NDI, GEOFFREY NWAKA, AND PRAKASH CHANDRA TIWARI	2F 204
	<b>UGEC SPECIAL SESSION:</b> LIVEABLE URBAN FUTURES: TRANSITIONING URBAN INTO FUTURE EARTH	THOMAS ELMOVIST, PATRICIA ROMERO LANKAO, AND DAVID SIMON	1F 101
<b>19:00 – 20:30</b>	<b>WELCOME DINNER</b>	<b>NOTE: BUSES DEPART AT 18:30 FROM CONFERENCE VENUE</b>	<b>LA CISTERNA</b>

## FRIDAY, NOVEMBER 7

TIME	DESCRIPTION	SPEAKERS /ORGANIZERS	LOCATION
8:30 – 10:00	<b>PANEL 2: OVERCOMING THE CHALLENGES: WAYS FORWARD IN URBAN INTERDISCIPLINARY RESEARCH &amp; PRACTICE</b>	HSIN-HUANG MICHAEL HSIAO, GORDON MCGRANAHAN, AND JOHN ROBINSON   MODERATOR: KAREN SETO	2F CONVENTION HALL
10:00 – 10:30	<b>BREAK (POSTER SESSION)</b>		2F OUTSIDE CONVENTION HALL
<b>10:30 – 12:30</b>	<b>PARALLEL SESSIONS – GROUP C</b>		
	<b>#25</b> CONTESTED AGENDAS OR ALIGNED OBJECTIVES? INTERMEDIATION AND THE ROLE OF NON-STATE ACTORS IN THE LOW CARBON URBAN TRANSITION	HARRIET BULKELEY, ANDRÉS LUQUE-AYALA, AND SIMON MARVIN	2F 203
	<b>#39</b> URBANIZATION, BIODIVERSITY AND ECOSYSTEM SERVICES	BURAK GÜNERALP, PETER MARCOTULLIO, AND KAREN SETO	1F 103
	<b>#53</b> URBANIZATION, AGRICULTURAL LAND LOSS AND FOOD SECURITY	STEPHAN BARTHEL AND XIANGZHENG DENG	1F 101
	<b>#90</b> SHARED LEARNING ACROSS COASTAL CITIES: IMPACTS, VULNERABILITY AND SOCIO-ECOLOGICAL RESPONSES	XIANGRONG WANG	2F 202
12:30 – 13:30	<b>LUNCH</b>		2F OUTSIDE CONVENTION HALL
13:30 – 15:00	<b>PANEL 3: TECHNOLOGY AND INNOVATION: TRENDS, CONFLICTS &amp; CONSEQUENCES FOR URBANIZATION</b>	FEDERICO CAPROTTI, S. K. JASON CHANG, AND COLIN HARRISON   MODERATOR: PETER MARCOTULLIO	2F CONVENTION HALL
15:00 – 15:30	<b>BREAK (POSTER SESSION)</b>		2F OUTSIDE CONVENTION HALL
<b>15:30 – 17:30</b>	<b>PARALLEL SESSIONS – GROUP D</b>		
	<b>#17</b> ECOSYSTEM SERVICES IN SUPPORT OF LIVEABLE CITIES	DARRYN MCEVOY, ALEXEI TRUNDLE, AND JUN YANG	2F 202
	<b>#56</b> TOWARDS LIVELIHOOD SECURITY AND SOCIAL JUSTICE: THE URBANIZATION, INFRASTRUCTURE AND GOVERNANCE NEXUS	FREDERICK ATO ARMAH, ANTJE BRUNS, HARTMUT FÜNFELD, AND MARK PELLING	1F 101
	<b>#61</b> REGIONAL PERSPECTIVES ON URBAN TRANSFORMATIONS FOR ADAPTATION TO CLIMATE CHANGE	SHUAIB LWASA, PATRICIA ROMERO LANKAO, AND DAVID SIMON	1F 103
	<b>#79</b> DRIVERS AND PATTERNS OF URBANIZATION: TOWARDS A TYPOLOGY	KAREN SETO	2F 203
<b>18:30 – 22:00</b>	<b>TAPEI NIGHT TOUR (OPTIONAL)</b>	<b>NOTE: BUSES WILL PICK UP PARTICIPANTS BETWEEN 18:00 AND 18:30 AT CONFERENCE VENUE</b>	

## SATURDAY, NOVEMBER 8

TIME	DESCRIPTION	SPEAKERS / ORGANIZERS	LOCATION
8:30 – 10:00	<b>PANEL 4: GOVERNING THE URBAN SYSTEM: TOWARDS NEW FRAMEWORKS &amp; INSTITUTIONAL APPROACHES</b>	SOUMYA CHATURVEDULA, SUE-CHING JOU, AND SUSAN PARNELL   MODERATOR: DAVID SIMON	2F CONVENTION HALL
10:00 – 10:15	BREAK		
10:15 – 11:30	<b>UGEC SYNTHESIS SESSION: URBAN GOVERNANCE, TECHNOLOGY AND INNOVATION IN A ERA OF ENVIRONMENTAL CHANGE</b>	UGEC SCIENTIFIC STEERING COMMITTEE	1F 101 1F 103 2F 203
11:30 – 12:30	LUNCH		2F OUTSIDE CONVENTION HALL
<b>12:30 – 14:30 PARALLEL SESSIONS – GROUP E</b>			
	<b>#20</b> URBAN HEALTH AND GLOBAL ENVIRONMENTAL CHANGE: INTERDISCIPLINARY PERSPECTIVES	MELANIE BOECKMANN AND SHIH-CHUN LUNG	1F 101
	<b>#52</b> URBAN METABOLISM AND THE ENVIRONMENTAL IMPACT OF CITIES	ALEXANDROS GASPARTOS AND PETER MARCOTULLIO	1F 103
	<b>#70</b> RESILIENCE AND ADAPTATION STRATEGIES FOR TRANSITIONING TO A SUSTAINABLE URBAN FUTURE	CHRISTOPHER BOONE, WILIAM SOLECKI, AND ANDREA YOUNG	2F 203
14:30 – 15:00	BREAK		
<b>15:00 – 17:00 PARALLEL SESSIONS – GROUP F</b>			
	<b>#42</b> RESILIENCE IN THE URBAN LANDSCAPE: IMPROVING HUMAN WELL-BEING	THOMAS ELMQVIST, DAVID MADDOX, AND HARINI NAGENDRA	1F 103
	<b>#44</b> FOOTPRINTING AND LOW CARBON URBAN INFRASTRUCTURE DEVELOPMENT	JONI JUPESTA AND LUTZ MEYER-OHLENDORF	2F 202
	<b>#67</b> FORECASTING URBANIZATION: POPULATION AND LAND DIMENSIONS	CARSON FARMER AND PETER MARCOTULLIO	2F 203
	<b>#72</b> URBAN WEATHER AND CLIMATES: ASSESSMENTS AND RESPONSES	CHANDANA MITRA AND J. MARSHALL SHEPHERD	1F 101
17:00 – 17:15	BREAK		
17:15 – 18:15	<b>CLOSING PANEL: REFLECTIONS AND MOVING FORWARD FOR UGEC</b>	ANDRÉS LUQUE-AYALA, GORDON MCGRANAHAN, AND SUSAN PARNELL   MODERATOR: PATRICIA ROMERO LANKAO	2F CONVENTION HALL
18:15 – 18:30	<b>FINAL REMARKS</b>	<b>CORRIE GRIFFITH, ROBERTO SÁNCHEZ RODRÍGUEZ, AND KAREN SETO</b>	<b>2F CONVENTION HALL</b>

## POSTER SESSIONS

### **0088** Impact of urbanization on boundary layer structure in Beijing

Miao Yu, *Institute of Atmospheric Physics Chinese Academy of Sciences, Beijing, China* (yumiao0926@126.com)

### **0131** Linking atmospheric chemistry and health researches to improve urban health studies under global climate change

Shih-Chun Lung, *Academia Sinica, Taipei, Taiwan* (sclung@rcec.sinica.edu.tw)

### **0184** Assessing urban flooding risk under the pressure of climate change and rapid urbanization: A case of Shanghai

Xiang Li, *Fudan University, Shanghai, China* (crystal.fly@163.com)

### **0187** Urban climate change vulnerability and adaptation countermeasures research: A case study of Shanghai's flood prevention, transportation and power system

Yiyang Xu, *Fudan University, Shanghai, China* (yiyangxu13@fudan.edu.cn)

### **0224** Why does urban transport matter? Urban responses to sustainable development and climate change, an empirical analysis of Beijing and Shanghai

Qian Jiang, *Institute of Geography, University of Hamburg, Hamburg, Germany* (qian.jiang@uni-hamburg.de)

### **0225** Correlation between urban heat island and city size: A case study across 143 big cities in China

Jian Peng and Jing Ma, *College of Urban and Environment Sciences, Peking University, Beijing, China* (jianpeng@urban.pku.edu.cn)

### **0236** Comparison of impacts of warm and cold extremes on cardiovascular mortality in urban and rural regions in the Czech Republic

Jan Kysely, *Institute of Atmospheric Physics AS CR, Prague, Czech Republic* (kysely@ufa.cas.cz)

### **0239** Remote-sensing image-based analysis of urban expansion and its climatic effect in fast growing metropolitan Shanghai, China

Minlei Qian, *Department of Environmental Science and Engineering, Fudan University, Shanghai, China* (qml2005@126.com)

### **0263** Assessing the quantity and connectivity of urban green spaces on public lands in Kinki metropolitan region, Japan

Yuki Sampei, *Wakayama University, Wakayama, Japan* (yuki\_sampei@07.alumni.u-tokyo.ac.jp)

**NOTE:** ALL SESSION ABSTRACTS ARE AVAILABLE IN PDF FORMAT ON THE CONFERENCE USB FLASH DRIVE

## PARALLEL SESSIONS

### 14 HUMAN DIMENSIONS OF URBAN HEAT ISLANDS (ROUND TABLE)

**Session organizer(s):** **Wen-Ching Chuang**, Arizona State University, Tempe, AZ, USA (wen-ching.chuang@asu.edu), **David Hondula**, Arizona State University, Tempe, AZ, USA (david.hondula@asu.edu), **Matthias Ruth**, Northeastern University, Boston, MA, USA (m.ruth@neu.edu)

#### 0171 Urban heat risks, health and equity

Felix Creutzig, *Mercator Research Institute on Global Commons and Climate Change, Berlin, Germany* (creutzig@mcc-berlin.net)

#### 0177 Modeling the feedbacks between socio-economic changes and Urban Heat Islands

Matthias Ruth and Onur Özgün, *Northeastern University, Boston, MA, USA* (m.ruth@neu.edu)

#### 0237 Critical perspectives on vulnerability assessment: Case studies of heat stress in Phoenix, AZ

Wen-Ching Chuang, *Arizona State University, Tempe, AZ, USA* (wen-ching.chuang@asu.edu)

#### 0240 Challenges associated with projecting urbanization-induced heat-related mortality

David Hondula, *Arizona State University, Tempe, AZ, USA* (david.hondula@asu.edu)

#### 0267 Assessment of localized urban climates and associations with air pollution and synoptic weather patterns

Aaron Hardin, *Texas Tech University, Lubbock, TX, USA* (aaron.hardin@ttu.edu)

### 16 BUILDING RESILIENCE IN ASIAN CITIES (ROUND TABLE)

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#### 0094 Addressing Global Environmental Change in two Indonesian cities: Policy change and path dependency

Rukuh Setiadi, *Griffith University, Gold Coast, QLD, Australia* (r.setiadi@griffith.edu.au)

#### 0167 Influencing policies for community-driven urban climate change resilience: The case of Gorakhpur City, India

Shiraz A. Wajih, *Gorakhpur Environmental Action Group, Gorakhpur, India* (geag@vsnl.com)

#### 0214 Multi-level governance in building the urban climate change resilience in Vietnam: Experience from the Asian Cities Climate Change Resilience Network of Vietnam

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#### 0301 National climate change adaptation policy and initiatives of the local adaptation plan for Taiwan

Fie-Yu Kuo, *National Development Council, Taipei, Taiwan* (erica47922@gmail.com)

### **0302 Framework and procedure of the local climate change adaptation planning in Taiwan**

Chia-Tsung Yeh, *National Taipei University, New Taipei City, Taiwan*  
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### **0303 Experience of planning the local climate change adaptation plan: Lessons and expectation**

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## **17 ECOSYSTEM SERVICES IN SUPPORT OF LIVEABLE CITIES**

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### **0098 Agricultural land development processes differentiate wetland restoration methods toward creating an ecological network in Japan based on The Netherlands**

Yuji Hara, *Wakayama University, Wakayama City, Japan* (hara@sys.wakayama-u.ac.jp)

### **0155 The simplification of urban ecosystems structure affects soil processes and soil biodiversity**

Alessandro Ossola, *University of Melbourne, Melbourne, Australia*  
(aossola@student.unimelb.edu.au)

### **0206 Build the linkages among urbanization, ecosystem services and human wellbeing**

Jun Yang, *Tsinghua University, Beijing, China* (larix001@gmail.com)

### **0231 Resilience, the optimization paradox and green infrastructure: Ecosystem-based adaptation lessons from the land of drought and flooding rains**

Alexei Trundle, *RMIT University, Melbourne, VIC, Australia* (alexei.trundle@rmit.edu.au)

## **20 URBAN HEALTH AND GLOBAL ENVIRONMENTAL CHANGE: INTERDISCIPLINARY PERSPECTIVES**

**Session organizer(s): Melanie Boeckmann**, Leibniz Institute for Prevention Research and Epidemiology -BIPS, Bremen, Germany (melanie.boeckmann@bips.uni-bremen.de), **Shih-Chun Lung**, Academia Sinica, Taipei, Taiwan (sclung@rcec.sinica.edu.tw)

### **0120 History and the feedback dynamics of technology choice**

Katrina Proust, *The Australian National University, Canberra, Australia*  
(katrina.proust@anu.edu.au)

### **0130 Using a systems approach to design a green transportation system for better urban health under climate change**

Shih-Chun Lung, *Academia Sinica, Taipei, Taiwan* (sclung@rcec.sinica.edu.tw)

### **0156 Developing an urban health research programme using the systems approach**

Nordin Hasan, *ICSU Regional Office for Asia and the Pacific, Kuala Lumpur, Malaysia* (nordin.hasan@icsu-asia-pacific.org)

**0186 Do changing environmental conditions of living negate the impact of economic development on health outcomes of urban poor?**

R.S. Goyal, *Educational and Rural Development Society, Dehradun, Uttarakhand, India (rsgoyal52@gmail.com)*

**25 CONTESTED AGENDAS OR ALIGNED OBJECTIVES?  
INTERMEDIATION AND THE ROLE OF NON-STATE ACTORS  
IN THE LOW CARBON URBAN TRANSITION**

**Session organizer(s): Harriet Bulkeley**, Durham University, Durham, UK (h.a.bulkeley@durham.ac.uk), **Andrés Luque-Ayala**, Durham University, Durham, UK (a.e.luque@durham.ac.uk), **Simon Marvin**, Durham University, Durham, UK (simon.marvin@durham.ac.uk)

**0190 Local government, climate change and public-private interaction: The case of Örebro, Sweden**

Mikael Granberg, *Karlstad University, Karlstad, Sweden (mikael.granberg@kau.se)*

**0192 Active urban materiality and the politics of decarbonization in Paris and Stockholm**

Jonathan Rutherford, *LATTS, Ecole des Ponts ParisTech, Paris, France (jonathan.rutherford@enpc.fr)*

**0199 Local government climate change alliances as intermediaries in low carbon urban transitioning in Victoria, Australia**

Susie Moloney, *RMIT University, Melbourne, VIC, Australia (susie.moloney@rmit.edu.au)*

**0226 Positioning the university as an urban climate change actor: Governance, responsibility and opportunity**

Sara Fuller, *Macquarie University, Sydney, Australia (sara.fuller@mq.edu.au)*

**0282 Urban low carbon transition pathways: An analytical framework**

Andrés Luque-Ayala, *Durham University, Durham, UK (a.e.Luque@durham.ac.uk)*

**26 URBAN SOCIAL AND INSTITUTIONAL RESPONSES  
TO GLOBAL ENVIRONMENTAL CHANGE**

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**0082 Synergies and trade-offs of urban spatial planning in mitigating and adapting to climate change in Taiwan**

Szu-Hua Wang, *Chinese Culture University, Taipei City, Taiwan (szuhuawang@gmail.com)*

**0114 Making climate adaptation work: Strategies for resource constrained Indian cities**

Shailendra Mandal, *National Institute of Technology Patna, Patna, Bihar, India (vastumandala@yahoo.com)*

**0162 Eco-industrial parks serve as a niche for sustainable low-carbon urban transition in China**

Han Shi, *City University of Hong Kong, Kowloon, Hong Kong (hanshi@cityu.edu.hk)*

- 0166 Coping with climate change in urban Taiwan: Lessening urban vulnerability and strengthening social resilience**  
Keng-Ming Hsu, *National University of Tainan, Tainan, Taiwan* (kmhsu@mail.nutn.edu.tw)
- 0174 Adaptive city and local climate policies in Taiwan: Institutional alignment and policy transfer**  
Sue-Ching Jou, *National Taiwan University, Taipei, Taiwan* (jouchen@ntu.edu.tw)
- 0298 Emergent dialogue, municipal climate response, and imaginary worlds: Exploring climate change innovation and engagement processes at the community scale**  
John Robinson, *University of British Columbia, Vancouver, BC, Canada* (john.robinson@ubc.ca)

### **34 CO-BENEFITS OF ADDRESSING GLOBAL ENVIRONMENTAL CHANGE IN URBAN AREAS**

**Session organizer(s): Wan-yu Shih**, *Ming-Chuan University, Taipei, Taiwan* (shih@mail.mcu.edu.tw)

- 0138 Assessment of the co-benefits of climate change mitigation in the urban energy system**  
Hooman Farzaneh, *United Nations University – Institute of Advanced Studies, Yokohama, Japan* (farzaneh@ias.unu.edu)
- 0142 Optimized spatial planning against sustainability objectives**  
Daniel Caparros-Midwood, *Newcastle University, Newcastle upon Tyne, UK* (daniel.caparros-midwood@ncl.ac.uk)
- 0153 A tool to assess co-benefits in the urban transport sector**  
Christopher Doll, *United Nations University – Institute of Advanced Studies, Yokohama, Japan* (doll@ias.unu.edu)
- 0168 Urban form and the environment**  
Felix Creutzig, *Mercator Research Institute on Global Commons and Climate Change, Berlin, Germany* (creutzig@mcc-berlin.net)
- 0213 The cooling effect of green infrastructure: A case study of Taipei metropolis**  
Wan-yu Shih, *Ming-Chuan University, Taipei, Taiwan* (shih@mail.mcu.edu.tw)
- 0272 Building capabilities for co-benefits in urban areas: Linking local planning and Global Environmental Change through innovation**  
Jose Antonio Puppim de Oliveira, *United Nations University, Tokyo, Japan* (puppim@unu.edu)

### **39 URBANIZATION, BIODIVERSITY, AND ECOSYSTEM SERVICES (ROUND TABLE)**

**Session organizer(s): Burak Güneralp**, *Texas A&M University, College Station, TX, USA* (bguneralp@tamu.edu), **Peter Marcotullio**, *Hunter College – City University of New York, NY, USA* (peter.marcotullio@hunter.cuny.edu), **Karen Seto**, *Yale University, New Haven, CT, USA* (karen.seto@yale.edu)

- 0065 Global urbanization-biodiversity tensions to the year 2100**  
Peter Marcotullio, *Hunter College – City University of New York, New York, NY, USA* (peter.marcotullio@hunter.cuny.edu)

**0209 The global sustainability of urban water sources**  
Robert McDonald, *The Nature Conservancy, Arlington, VA, USA*  
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**0243 Futures of global urban expansion: Uncertainties and implications for biodiversity conservation**  
Burak Güneralp, *Texas A&M University, College Station, TX, USA*  
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**0299 Analyzing urban resilience and sustainability through a social-technological-ecological system approach: Lessons from the Cities and Biodiversity Outlook project**  
Thomas Elmqvist, *Stockholm University, Stockholm, Sweden* (thomas.elmqvist@su.se)

**0304 The cooperative governance of urban commons**  
Harini Nagendra, *Azim Premji University, Bangalore, India* (harini.nagendra@apu.edu.in)

## **40 URBAN LAND TELECONNECTIONS: FROM CONCEPT TO IMPLEMENTATION (ROUND TABLE)**

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**0071 Urban land teleconnections: Feeding a new concept with empirical data**  
Dagmar Haase, *HU Berlin and UFZ Leipzig, Berlin, Leipzig, Germany*  
(dagmar.haase@geo.hu-berlin.de)

**0091 Population mobility, livelihoods and urbanization in the Brazilian Amazon**  
Alisson Barbieri, *Universidade Federal de Minas Gerais, Belo Horizonte, Brazil*  
(barbieri@cedepplar.ufmg.br)

**0247 Road development, rural and urban land-cover/use changes and urban expansion**  
Stephen Leisz, *Colorado State University, Fort Collins, CO, USA*  
(steve.leisz@colostate.edu)

**0287 Four manifestations of urban land teleconnections**  
Burak Güneralp, *Texas A&M University, College Station TX, USA* (bguneralp@tamu.edu)

## **42 RESILIENCE IN THE URBAN LANDSCAPE: IMPROVING HUMAN WELL-BEING (ROUND TABLE)**

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## 44 FOOTPRINTING AND LOW CARBON URBAN INFRASTRUCTURE DEVELOPMENT

**Session organizer(s):** **Joni Jupesta**, *United Nations University, Tokyo, Japan* (jupesta@unu.edu), **Lutz Meyer-Ohlendorf**, *Potsdam Institute for Climate Impact research, Potsdam, Germany* (lumeyer@pik-potsdam.de)

**0125 A cost-effective approach to low carbon sustainability: An insight into the carbon trading mechanism in the building sector in China**  
Ping Jiang, *Fudan University, Shanghai, China* (jp338@163.com)

**0137 Investment risk and return analysis for low carbon city development in Yokohama**

Takako Wakiyama, *IGES, Hayama, Kanagawa, Japan* (wakiyama@iges.or.jp)

**0141 Energy use and carbon footprint mapping of buildings in urban areas**  
Tzu-Ping Lin, *Department of Architecture, National Cheng Kung University, Tainan, Taiwan* (lin678@gmail.com)

**0161 Bottom-up urban CO<sub>2</sub> emissions: A consistency check with top-down national estimates**

Tsung-Chen Lee, *National Taipei University, Taipei, Taiwan* (tsungchenlee@gmail.com)

**0281 Low carbon city infrastructure development paths of DKI Jakarta Towards 2030**

Retno Gumilang Dewi, *Center for Research on Energy Policy-Institut Teknologi Bandung, Bandung/West Java, Indonesia* (gelangdewi@yahoo.com)

## 52 URBAN METABOLISM: THE ENVIRONMENTAL IMPACT OF CITIES

**Session organizer(s):** **Alexandros Gaspartos**, *University of Tokyo, Tokyo, Japan* (gasparatos@ir3s.u-tokyo.ac.jp), **Peter Marcotullio**, *Hunter College – City University of New York, NY, USA* (peter.marcotullio@hunter.cuny.edu)

**0086 Positioning urban metabolism to enable future transitions: An integrated infrastructure, economic and behavioral assessment of Los Angeles**

Stephanie Pincetl, *UCLA, Los Angeles, CA, USA* (spincetl@ioes.ucla.edu)

**0123 Urban GHG emissions footprints: Meanings and methodological issues**  
Peter Marcotullio, *Hunter College – City University of New York, NY, USA* (peter.marcotullio@hunter.cuny.edu)

**0140 Diet changes in Tokyo and their environmental impact**

Alexandros Gasparatos, *University of Tokyo, Tokyo, Japan*  
(gasparatos@ir3s.u-tokyo.ac.jp)

**0297 Extending urban metabolism through a political-industrial ecology of water supply infrastructure for Los Angeles**

Joshua Newell, *University of Michigan, Ann Arbor, MI, USA* (jpnnewell@umich.edu)

**53 URBANIZATION, AGRICULTURAL LAND LOSS AND FOOD SECURITY**

**Session organizer(s):** **Stephan Barthel**, Stockholm Resilience Centre, Stockholm, Sweden (stephan.barthel@stockholmresilience.su.se), **Xiangzheng Deng**, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China (dengxz.ccap@gmail.com)

**0151 The effects of urbanization on the loss of ecosystem services of agricultural landscape in Taiwan's western coastal plain**

Ying-Chieh Lee, *Lee-Ming Institute of Technology, New Taipei City, Taiwan*  
(yingchieh@mail.lit.edu.tw)

**0179 Linking food and land systems: Opportunities and challenges for sustaining peri-urban agriculture across growing and shrinking cities**

Kazuaki Tsuchiya, *University of Tsukuba, Tsukuba, Ibaraki, Japan* (tcy@live.jp)

**0233 Impacts of urbanization on agricultural land: A model-based analysis in China**

Xiangzheng Deng, *Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China* (dengxz.ccap@igsnr.ac.cn)

**0257 Agricultural land loss and urbanization in China: Analysis from the perspective of land competition**

Qian Zhang, *Center for Chinese Agricultural Policy, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China*  
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**54 A NEW SCIENCE OF CITIES FOR RESPONDING TO GLOBAL ENVIRONMENTAL CHANGE**

**Session organizer(s):** **Michail Fragkias**, Boise State University, Boise, ID, USA (michailfragkias@boisestate.edu), **Jose Lobo**, Arizona State University, Tempe, AZ, USA (jose.lobo@asu.edu)

**0124 Collaborative conceptual modelling: Unravelling the complexity of urban systems**

Barry Newell, *The Australian National University, Canberra, ACT, Australia*  
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**0132 Social and economic tipping points in urban adaptation potentials: Reason for concern?**

Matthias Garschagen, *United Nations University, Institute for Environment and Human Security, Bonn, Germany* (garschagen@ehs.unu.edu)

**0139 Hestia: High resolution quantification of fossil fuel CO<sub>2</sub> emissions for cities: From science to policy**

Kevin Gurney, *Arizona State University, Tempe, AZ, USA* (kevin.gurney@asu.edu)

**0163 Social media as Big Data: Can Sina Weibo enhance understanding of urbanization in China?**

Angel Hsu, *Yale University, New Haven, CT, USA* ([angel.hsu@yale.edu](mailto:angel.hsu@yale.edu))

**0288 A new science for cities and Global Environmental Change: An overview**

Michail Fragkias, *Boise State University, Boise, ID, USA* ([michailfragkias@boisestate.edu](mailto:michailfragkias@boisestate.edu))

**0305 Why do we need an urbanization science?**

Karen Seto, *Yale University, New Haven, CT, USA* ([karen.seto@yale.edu](mailto:karen.seto@yale.edu))

**56 TOWARDS LIVELIHOOD SECURITY AND SOCIAL JUSTICE: THE URBANIZATION, INFRASTRUCTURE AND GOVERNANCE NEXUS**

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**0178 Urban adaptation to climate change: A case of Madimba Settlement, Lusaka, Zambia**

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**0204 No picks, no shovels, no helmets: Local governments at the coalface of adaptation to water stress in Chile**

Jonathan Barton, *CEDEUS, UC, Santiago, Chile* ([jbarton@uc.cl](mailto:jbarton@uc.cl))

**0261 Adaptive capacity and climate justice: Reflections on two projects in Victoria, Australia**

Susie Moloney, *Centre for Urban Research, RMIT University, Melbourne, VIC, Australia* ([susie.moloney@rmit.edu.au](mailto:susie.moloney@rmit.edu.au))

**0284 Global change and social conflicts over water in Mexican cities**

Patricia Avila-Garcia, *UNAM, Morelia, Michoacan, Mexico* ([pavila@cieco.unam.mx](mailto:pavila@cieco.unam.mx))

**0299 Linking Disaster Risk Reduction and Climate Change Adaptation at the local level: Experience in implementing a resilience city program in Kendari, Indonesia**

Riyanti Djalante, *Local Government of Kendari City and University of Halu Oleo, Kendari, Indonesia* ([riyanti.djalante@gmail.com](mailto:riyanti.djalante@gmail.com))

**61 REGIONAL PERSPECTIVES ON URBAN TRANSFORMATION FOR ADAPTATION TO CLIMATE CHANGE: STRATEGIES, POLICIES AND PLANS (WORLD CAFÉ)**

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**0135 Risky change? Bridging state and non-state divides in Vietnam's transforming urban risk governance and drawing lessons beyond**

Matthias Garschagen, *United Nations University, Institute for Environment and Human Security, Bonn, Germany* ([garschagen@ehs.unu.edu](mailto:garschagen@ehs.unu.edu))

**0212 Using spatial scenarios to explore possible transformation pathways for African cities**

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**0216 Squaring circles: Developing the arguments and framework for the definition of sustainable urban scenarios capable of engaging with global sustainability constraints**

Olivia Bina, *University of Lisbon, Lisbon, Portugal* ([olibina@gmail.com](mailto:olibina@gmail.com))

**0266 Exploring health risks in urban Latin America and Asia**

Patricia Romero Lankao, *NCAR, Boulder, CO, USA* ([prlankao@ucar.edu](mailto:prlankao@ucar.edu))

**0296 The politics of devolution in Africa: Implications for urban DRR & DRM**

Senay Habtezion, *START, Washington, DC, USA* ([shabtezion@start.org](mailto:shabtezion@start.org))

**63 CHALLENGES IN THE DEVELOPING URBAN WORLD: INFORMAL SETTLEMENTS, SLUMS AND GROWING INEQUALITIES**

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**0107 Urban growth and assessment of its natural and socio-economic risks in high mountain ecosystems: A geospatial framework for institutionalizing urban risk management in the Himalaya**

Prakash Chandra Tiwari, *Kumaun University, Nainital, Uttarakhand, India; Government Post Graduate College, Rudrapur, Uttarakhand, India* ([pctiwari@yahoo.com](mailto:pctiwari@yahoo.com))

**0113 Regional policy and the growth in slum settlements in developing world cities**

Humphrey Ngala Ndi, *University of Yaoundé I, Cameroon* ([hngalan117@gmail.com](mailto:hngalan117@gmail.com))

**0196 Natural disasters, urbanization and forced displacement: A case study on the municipality of Belo Horizonte, Minas Gerais, Brazil**

Alisson Barbieri, *CEDEPLAR/UFMG, Belo Horizonte, Minas Gerais, Brazil*

**0205 Climate change, urban management and livelihood challenges in low income neighbourhoods of developing countries**

Aliyu Kawu, *Department of Urban and Regional Planning, Federal University of Technology, Minna, Niger State, Nigeria* ([aliyukawu@gmail.com](mailto:aliyukawu@gmail.com))

**0279 Methods and tools for equitable and sustainable cities: Implications for the infrastructure systems and policies that integrate diverse populations**

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**0280 Rethinking improved access to sanitation for urban population in changing climate? An analysis of urban poor in slum areas in explaining variation in access to improved sanitation**

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## 64 INFLUENCES ON URBAN HEALTH IN THE GLOBAL SOUTH: IDENTIFYING THE CHALLENGES

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### 0036 Environmental change and the relapse of malaria in Maroua, Far North of Cameroon

Humphrey Ngala Ndi, *University of Yaoundé I, Cameroon* (hngalan117@gmail.com)

### 0159 Challenges for monitoring non-communicable diseases in Pune, India

Mareike Kroll, *University of Cologne, Cologne, Germany* (mareike.kroll@uni-koeln.de)

### 0172 Governance challenges in China's urban health care system: Effects for the domestic and international migrant population

Tabea Bork-Hüffer, *National University of Singapore, Singapore, Singapore* (arithh@nus.edu.sg)

### 0238 Acting on social determinants of health to promote healthy urban settings

Surinder Aggarwal, *University of Delhi, Delhi, India* (surinder\_aggarwal@hotmail.com)

### 0277 Exploring health outcomes, inconveniences, and perceived risks associated with infrastructure, pollution and extreme weather events in Mumbai, India

Joshua Sperling, *NCAR, Boulder, CO, USA* (joshuabsperling@gmail.com)

## 67 FORECASTING URBANIZATION: POPULATION AND LAND DIMENSIONS

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### 0099 Urban population change and its implications for energy demand and carbon emissions in China: An integrated analysis

Jun Li, *Curtin University, Perth, Australia* (jun.li@curtin.edu.au)

### 0145 Generalized agent-based model for urbanization projections to the year 2100

Peter Marcotullio, *Hunter College – City University of New York, NY, USA* (peter.marcotullio@hunter.cuny.edu)

### 0260 Relation between ecosystem services and socio-economic development: A simultaneous equation model

Xing Li, *School of Mathematics and Physics, China University of Geosciences, Wuhan, China* (xq\_dls@163.com)

### 0294 Changing global patterns of urban exposure to flood and drought hazards

Inci Güneralp, *Texas A&M University, College Station, TX, USA* (iguneralp@geos.tamu.edu)

## 70 RESILIENCE AND ADAPTATION STRATEGIES FOR TRANSITIONING TO A SUSTAINABLE URBAN FUTURE

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### 0246 From strategy to action: Climate change adaptation and local government planning processes in Australia

Robin Goodman, *Centre for Urban Research, RMIT University, Melbourne, VIC, Australia* (robin.goodman@rmit.edu.au)

### 0264 How do different urban development practices condition the potential for building resilience? A comparative case study of Thailand, Oman and The Netherlands

Bart Lambregts, *Kasetsart University, Bangkok, Thailand* (b.lambregts@uva.nl)

### 0269 Exploring urban transitions in the Americas

Patricia Romero Lankao, *NCAR, Boulder, CO, USA* (prlankao@ucar.edu)

### 0291 Principles and criteria for urban resilience: A critical analysis of the literature

Ayyoob Sharifi, *National Institute for Environmental Studies-Global Carbon Project, Tsukuba, Ibaraki, Japan* (sharifi.ayyoob@nies.go.jp)

## 72 URBAN WEATHER AND CLIMATES: ASSESSMENTS AND RESPONSES

**Session organizer(s):** **Chandana Mitra**, Auburn University, Auburn, AL, USA (chandana@auburn.edu), **J. Marshall Shepherd**, University of Georgia, Athens, GA, USA (marshgeo@uga.edu)

### 0127 A study on the cooling effects of green spaces onto the residential areas of Leipzig

Madhumitha Jaganmohan, *Helmholtz Centre for Environmental Research-UFZ, Leipzig, Germany; Helmholtz Centre for Environmental Research-UFZ, Halle (Saale), Germany* (madhumitha.jaganmohan@ufz.de)

### 0129 Urban Heat Island intensity of Kolkata city and methods to ameliorate its impact

Chandana Mitra, *Auburn University, Auburn, AL, USA* (chandana@auburn.edu)

### 0149 Estimation of urban bioclimate by micro scale models for the development of mitigation and adaptation possibilities

Andreas Matzarakis, *University of Freiburg, Freiburg, Germany* (andreas.matzarakis@meteo.uni-freiburg.de)

### 0185 Influence of land cover on microscale outdoor human thermal comfort in a tropical city

Winston Chow, *National University of Singapore, Kent Ridge, Singapore* (winstonchow@nus.edu.sg)

**0228 Urban climate projection in Tokyo for the 2050's August by the 4-km horizontal grid spacing RCMs: Impact of RCM and urban scenario**

Hiroyuki Kusaka, *University of Tsukuba, Tsukuba, Japan (kusaka@ccs.tsukuba.ac.jp)*

**79 DRIVERS AND PATTERNS OF URBANIZATION:  
TOWARDS A TYPOLOGY**

**Session organizer(s): Karen Seto**, Yale University, New Haven, CT, USA ([karen.seto@yale.edu](mailto:karen.seto@yale.edu))

**0143 Urbanization and environmental change in dryland East Asia: Patterns and drivers**

Peilei Fan, *Michigan State University, East Lansing, MI, USA (fanpeile@amsu.edu)*

**0154 A global typology of urban energy use and implications for climate change mitigations**

Felix Creutzig, *Mercator Research Institute on Global Commons and Climate Change, Berlin, Germany (creutzig@mcc-berlin.net)*

**0188 The impact of neighborhood urban form on household energy use: A case study of Phoenix, Arizona, USA**

Subhrajit Guhathakurta, *Georgia Institute of Technology, Atlanta, GA, USA (subhro.guha@coa.gatech.edu)*

**0249 Urban form as a technological driver of carbon dioxide emissions: A structural human ecology analysis of onroad and residential sectors in the in the conterminous U.S.**

Thomas Crawford, *Saint Louis University, Saint Louis, MO, USA (crawfordt@ecu.edu)*

**0286 Vegetation cover dynamics associated with rapid urbanization in China's metropolitan areas (1998-2010)**

Weifeng Li, *University of Hong Kong, Hong Kong, China (wfli@hku.hk)*

**0292 Urbanization and landscape change in a newly developing country: The case of Vientiane, Laos**

Ayyoob Sharifi, *National Institute for Environmental Studies-Global Carbon Project, Tsukuba, Ibaraki, Japan (sharifi.ayyoob@nies.go.jp)*

**90 SHARED LEARNING ACROSS COASTAL CITIES: IMPACTS,  
VULNERABILITY AND SOCIO-ECOLOGICAL RESPONSES**

**Session organizer(s): Xiangrong Wang**, Fudan University, Shanghai, China ([xrxrwang@fudan.edu.cn](mailto:xrxrwang@fudan.edu.cn))

**0128 Climate change and urban growth: Impacts and responses. A case Study of Shanghai, China**

Xiangrong Wang, *Center for Urban Eco-Planning & Planning, Fudan University, Shanghai, China (xrxrwang@fudan.edu.cn)*

**0248 Differential vulnerability and dilemma of responses to climate change in low-income coastal communities of Lagos**

Peter Elias, *University of Lagos, Lagos, Nigeria (pelias@unilag.edu.ng)*

**0285 Development and application of a methodology for spatial vulnerability assessment of coastal environmental change in China**

Yangfan Li, *Key Laboratory of Coastal and Wetland Ecosystems (Ministry of Education), College of the Environment & Ecology, Xiamen University, Xiamen, China (yangf@xmu.edu.cn)*

**0293 Community governance for disaster recovery and resilience: Four case studies in the Philippines**

Ebinezer Florano, *University of the Philippines-National College of Public Administration and Governance, Quezon City, Metro Manila, The Philippines (efloranoy@yahoo.com)*

**0300 Recovery from disaster and the seeds of urban transformation**

William Solecki, *Hunter College – City University of New York, New York, NY, USA (wsolecki@hunter.cuny.edu)*

## **UGEC SYNTHESIS SESSIONS**

### **INTERDISCIPLINARY UNDERSTANDINGS OF URBANIZATION AND GEC: REGIONAL PATTERNS, PROCESSES AND TRANSITIONS**

**Session organizer(s): UGEC Scientific Steering Committee**

### **URBAN GOVERNANCE, TECHNOLOGY AND INNOVATION IN A ERA OF ENVIRONMENTAL CHANGE**

**Session organizer(s): UGEC Scientific Steering Committee**

## **SPECIAL UGEC SESSION**

### **LIVABLE URBAN FUTURES: TRANSITIONING ‘URBAN’ INTO FUTURE EARTH**

**Thomas Elmqvist**, *Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden (thomas.elmqvist@stockholmresilience.su.se)*

**Patricia Romero Lankao**, *NCAR, Boulder, CO, USA (prlankao@ucar.edu)*

**David Simon**, *Royal Holloway, University of London, Egham, UK (D.Simon@rhul.ac.uk)*

## ISSC FELLOWS JOIN US AT THE CONFERENCE

The 2<sup>nd</sup> World Social Science Fellows seminar on Sustainable Urbanization — Transformations to Sustainability in Urban Contexts will take place from November 2 – 8, at Academia Sinica in Taipei. The International Social Science Council (ISSC) has organized this seminar in collaboration with the IRDR-ICoE, Academia Sinica and National Taipei University, in partnership with the Comparative Research Programme on Poverty (CROP) and the UGEC project.

The purpose of the seminar is to produce one or more articles on new paths for research on transformations to sustainability in urban contexts. The first two days of the seminar will initiate the discussion on the construction of multidimensional approaches for urban sustainability. Over the next few days, the Fellows will continue their joint work and also attend a few selected panel sessions during the conference; some will also be presenting their own research in various parallel sessions. The conference will hopefully add value to the fellows' experience and serve as direct input to their joint reflection. The last day of the seminar will be dedicated to finalize the work on the article(s) and identify the next steps leading to publication. For more information on the seminar please visit: <http://www.worldsocialscience.org/activities/world-social-science-fellows-programme/seminars/sustainable-urbanisation-ii/>

## AT THE CONFERENCE

### Conference Sustainability

#### Location of our conference – Taipei City

Our conference venue is located in the capital of Taiwan, one of the top green cities in Asia where the recycling rate is above 60%. In order to provide incentives to reduce waste and maximize the recycling rate, the Taipei City Government has introduced and enforced the “Pay-as-You-Throw” (PAYT) trash collection system. The PAYT scheme requires residents to purchase government-branded garbage bags for household waste. Under the system, garbage collection agencies only accept household waste in the bags sold by the government. Meanwhile, recyclables and organic/kitchen waste are always collected free of charge. This policy has significantly reduced the city's waste volume from 2,501 tons per day in 1994 to 59 tons per day in 2009 at the Shanchuku landfill in Taipei. In 2011, Taipei City won the Metropolis Awards for its recycling program.

#### Recycling at the conference venue

The management team of the conference venue has put their best efforts towards reducing waste, and emphasizes reuse and recycling of resources. The conference program booklet and tote bags are made from recycled or environmental friendly materials. Those tote bags are reusable, which helps users reduce plastic bag consumption. We encourage each participant to be mindful of what they throw away and to utilize the recycling bins located throughout our conference venue as much as possible. In addition, we encourage participants to bring their own (refillable) water bottles to the conference, in order to reduce the use of disposable cups.

#### Travel and emissions

Taipei City has a convenient and eco-friendly public transportation system. The city not only provides an extensive mass rapid transit system, but also increases the amount of low-emissions buses each year. To reduce the carbon footprint of the conference, we

encourage our participants to take advantage of the public transportation system in Taipei. This year, the conference badge is an EasyCard. UGEC provides each registered participant with a customized, refillable EasyCard, a contactless smartcard for payment on the Taipei MRT (Metro), buses, and other public transport services in Taipei. In addition, the City also has a bicycle rental program, YouBike, a public transport subsystem that meets the demand for the first- and last-mile connection to mass transit services. You may rent a YouBike using your EasyCard, once you complete the membership registration process at any rental station kiosk or on YouBike's webpage: <http://taipei.youbike.com.tw/en/index.php> (more information on page 42).

## Howard Civil Service International House

The conference is held at the Howard Civil Service International House (<http://intl-house.howard-hotels.com/>) located in the Da'an District of Taipei.

### Address:

地址: 台北市新生南路三段30號

No. 30, Sec. 3, Shin-Sheng South Road, Taipei, 106, Taiwan

**Telephone Number:** +886-2-7712-2323

**Fax Number:** +886-2-7712-2333

If you need copy, printing or fax service, please use the business center at the conference venue (service charges will apply).

## Registration and Information

At the conference venue, registration will take place between 7:30 A.M. – 8:30 A.M. on the first day of the conference – Thursday, November 6<sup>th</sup>. Registration will also be available on the 7<sup>th</sup> and 8<sup>th</sup>. Please bring with you your registration confirmation and valid identification, so that we may register you properly. Upon registration, you will receive all necessary conference materials, e.g., program and folder, USB flash drive containing the abstract booklet and other digital materials as well as your conference badge, which is intended to be worn at all times throughout the conference. Your badge is also a refillable EasyCard (MetroCard). For those who registered online but have yet to pay the registration fee, please be sure to bring exact change in US Dollars. There will be a permanently placed information desk located in Room 201 (see map of venue on page 46-47). Questions or changes/updates about the conference will be addressed or displayed at this location.

## Internet

Wireless access is available throughout the Howard Civil Service International House courtesy of Chung Hwa Telecom. See conference insert for login details.

## Volunteers

There will be a number of student volunteers present at the conference venue to assist participants. They will be wearing special blue “volunteer” badges and dressed in white tops with black pants or skirts.

## WHAT'S ON THE CONFERENCE FLASH DRIVE?

A number of materials important for the conference and other UGEC-related documents including:

- UGEC Conference Abstract Book
- Responses to the Conference Synthesis Questions
- Key UGEC Publications
- UGEC Science Plan and Brochure
- UGEC Viewpoints (Issues 1-10)
- Taipei Tourism Information and Maps

## Catering

Registered participants will be provided with lunches as well as morning and afternoon coffee/tea breaks for the duration of the conference. Coffee/tea breaks will take place on the 2<sup>nd</sup> floor outside the main convention hall. Lunch will consist of box lunches served on the 2<sup>nd</sup> floor outside the main convention hall. You will receive three lunch coupons in your conference bag when you register. You must present a ticket each day to a volunteer, in order to receive your lunch. If you misplace your tickets, please see a volunteer for replacements. With the exception of the main convention hall, conference participants are welcome to sit and eat their lunch anywhere within and outside the conference venue.

## Conference Welcome Dinner

On the evening of Thursday, November 6<sup>th</sup>, conference participants are invited to attend a welcome dinner hosted by National Taipei University and UGEC. The dinner will take place following the day's events at La Cisterna (壘宴) (<http://www.lacisterna.com.tw/about.html>), a Chinese restaurant located near the Sun Yat Sen Memorial Hall MRT station and within walking distance of the most popular commercial district in Taipei. Buses will be available to take conference participants to the restaurant. They will be located outside the Howard Civil Service International House and will leave at 18:30. The dinner is scheduled to begin at 19:00. After the dinner, participants will need to make their own way back to their hotels and/or the conference venue.

**Address of La Cisterna(壘宴):** 台北市忠孝東路四段270號地下1樓  
Lower Ground Floor, No.270, Sec. 4, Zhongxiao E. Rd., Xinyi Dist., Taipei City 110. Three minute walk from Sun Yat Sen Memorial Hall MRT Station (Blue line), Exit 2.

**Phone:** +886-2-8771-6845

Directions to La Cisterna from selected hotels can be accessed on the conference website ([www.ugec2014.org](http://www.ugec2014.org)) under the Venue and Logistics tab.

## Taipei Night Tour

On the evening of Friday, November 7<sup>th</sup>, in conjunction with Edison Travel Service, UGEC has arranged for a night tour of Taipei. A bus will pick up participants between 18:00 and 18:30 outside the conference venue. The tour will last approximately three hours and includes dinner at a Mongolian BBQ restaurant and visits to Lungshan temple, Hwahsi night market, and Taipei 101. Edison Travel

Service will have a table set up near the registration area on the morning of the 6<sup>th</sup> and 7<sup>th</sup> for participants to pay their tour fee, which is TWD 1,400. They will accept cash (in TWD only) and credit card. Please note that the tour fee does not include the entry fee for the Taipei 101 observation deck.

## Social Media

If you are on Twitter and are planning to tweet about the conference, please be sure to use hashtag #UGEC2014. You can also follow us on Twitter: <http://www.twitter.com/UGECProject>. Contact Alexei Trundle ([alexei.trundle@armit.edu.au](mailto:alexei.trundle@armit.edu.au)) if you are planning to live tweet any sessions.

## Question of the Day

Each day, the conference organizers will post of a "UGEC Question of the Day" for conference participants to answer. You can submit your answer two ways:

- 1) In Room 201, there will be a video camera set up next to the information desk. You can sit down and record you answer. The camera will be available all day. Please limit you answer to no more than two minutes. Before you answer the question, please be sure to clearly state your name, institution, and where you are from.
- 2) You can email your answer to Wen-Ching Chuang ([wen-ching.chuang@asu.edu](mailto:wen-ching.chuang@asu.edu)). Please limit your answer to 300 words. Please be sure to write "Question of the Day" followed by the date in the subject line.

After the conference is over, the organizers will choose the best answers given each day and post them on the UGEC website. We may also share some of our favorite answers each morning before the first plenary session.

## GETTING AROUND

### Directions to Howard Civil Service International House (Conference venue) from Taoyuan International Airport.

The Taoyuan International Airport is approximately 30 miles (40-50 minutes) away from the Howard Civil Service International House in Taipei.

#### **By Bus**

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Take Bus No. 1960 at the airport to Taipei City. Get off the bus at the Shangri-La's Far Eastern Plaza Hotel, Taipei. Then take a taxi to the Howard Civil Service International House in Taipei.

#### **By Train**

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1. Take the transit bus at the airport to the Taoyuan High Speed Rail (HSR) Station.
2. Take the HSR to Taipei Railway Station and transfer to the Taipei MRT (Subway).
3. From Taipei Main Station (Red Line) to Taipower Building Station (Yellow/Green Line), exit from Exit #2 and turn left.
4. Walk along Xinhai Road until you reach Xinsheng South Road then turn left.  
The Howard Civil Service International House will be on the left.

### **By Taxi**

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The cost from Taoyuan Airport to Howard Civil Service International House is approximately 1200~1500 TWD (40~50 USD).

## **Directions from Songshan Airport**

The Taipei Songshan Airport is approximately 4 miles (15-30 minutes) away from the Howard Civil Service International House in Taipei.

### **By Train**

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You can take the MRT from Songshan Airport Station (Brown Line) to Taipower Building Station (Yellow/Green Line), then follow the walking directions (see page 41).

### **By Taxi**

---

The cost from Songshan Airport to Howard Civil Service International House is approximately 200 ~ 300 TWD (6~10 USD).

## **Transportation in Taipei**

### **Taipei MRT (Subway)**

Taipei MRT fares are based on distance. The rate is between 20 and 65 TWD. Single tickets can be purchased from machines located in every MRT station. The Conference will provide each registered participant a refillable EasyCard (MetroCard) which is also the conference badge, at the registration desk. More information about the card and how to use it is available online: <https://www.easycard.com.tw/english/easycard/index.asp>

### **Taxi**

Taipei's distinctively yellow cabs are metered and charge by distance and waiting time. Base fare starts at 70 TWD for the first 1.25km, plus 5 TWD for each 250 meters thereafter. During the late night (between 11pm and 6am) there is an extra charge of 20 TWD per trip. Taxis also charge 5 TWD for every 1.6 minute that the car is idle (such as sitting in traffic or at a red light). These 1.6 minutes are cumulative and appears on the meter. You won't have any trouble finding a taxi in downtown Taipei because they are readily available.

### **YouBike**

To build a sustainable, eco-friendly and healthy "green city", the Taipei City government introduced the bicycle rental program, YouBike, in 2009, as a public transport subsystem to meet the demand for the first- and last-mile connection to mass transit services.

In order to rent a YouBike, using your EasyCard, you must first register. You can register at any YouBike rental kiosk or on the YouBike website (<http://taipei.youbike.com.tw/en/index.php>).

Please note that in order to register online, you must have a cell phone number from a Taiwanese mobile service provider. If you do not have a local cell phone number, you can use a chip credit card to rent a YouBike at any rental kiosk.

## GENERAL INFORMATION

### Conference Website

Please check the conference website ([www.ugec2014.org](http://www.ugec2014.org)) for the most current updates regarding conference logistics and other announcements. For more information concerning the UGEC project, please visit [www.ugec.org](http://www.ugec.org)

### Contact Information

Any conference questions or concerns may be directed to Corrie Griffith, UGEC Executive Officer ([corrie.griffith@asu.edu](mailto:corrie.griffith@asu.edu)) or Wen-Ching Chuang, UGEC Conference Coordinator ([wen-ching.chuang@asu.edu](mailto:wen-ching.chuang@asu.edu)).

### Currency

The official currency of Taiwan is the New Taiwan dollar (NT\$) (TWD). 1 USD is approximately 30 TWD.

### Electricity

110 volts AC, 60Hz; two-pin plugs are standard (type A or type B)

### First Aid/In Case of Emergency

For minor first aid needs, please visit the reception/information desk in the Howard Civil Service International House. In the event of serious emergency, dial 119.

### Information on Taiwan and Taipei

MRT information: <http://english.trtc.com.tw/>

Route map and attractions near the MRT system:  
<http://bit.ly/1rvtiRb>

Local news:

"Taiwan News"

[http://www.taiwannews.com.tw/etn/index\\_en.php](http://www.taiwannews.com.tw/etn/index_en.php) or

"Taipei Times" <http://www.taipeitimes.com/News/taiwan>

Official tourist guide by Taipei City Government:

<http://www.taipeitravel.net/en/>

Official tourist guide by Tourism Bureau of Taiwan:

<http://eng.taiwan.net.tw/>

## FUN FACTS ABOUT TAIPEI

### Population:

2.6 million

(Metro: 6.9 million)

### Density:

9,800 people/sq. km

### First Settled:

1709

Taipei has 12 districts; the largest is Da'an along with Beitou, Datong, Nangang, Neihu, Shilin, Songshan, Wanhua, Wenshan, Xinyi, Zhongshan, and Zhongzheng

Rain occurs on average a little less than half of the year

Phoenix, Arizona is a sister city of Taipei — established in 1979

Taipei 101 is a 101-floor landmark skyscraper that claimed the title of world's tallest building when it opened in 2004, a title it held for six years before relinquishing it to the Burj Kalifa in Dubai.

## Lost Objects/Badges

Any lost objects should be reported or brought to the information desk in Room 201. The loss of a badge should be reported immediately to the main conference information desk to ensure that appropriate measures are taken regarding access to the conference venue.

## Smoking

Smoking is not permitted inside the Howard Civil Service International House.

## Time

Taipei is on China Standard Time (CST) – UTC/GMT +8 hours.

## Weather

Taipei is in a subtropical climate. Fall is the best and most enjoyable season of a year, but there may be some rain! In Taipei, the daytime temperatures and nighttime temperatures are fairly similar. The average temperature in November is about 20-24°C (68-75°F).



The banner features the Elsevier logo (a tree) and the text "ELSEVIER" in orange. Below this, the text "PUBLISHING LEADING RESEARCH IN ENVIRONMENTAL SCIENCE AND SUSTAINABILITY" is displayed in white on an orange background. The website "www.elsevier.com/environmental" is shown in blue. A Twitter icon and the text "TWEET WITH US! @ELSEnviron" are also present. Several journal covers are featured, including "Global Environmental Change", "URBAN CLIMATE", "Current Opinion in Environmental Sustainability", "CLIMATE RISK MANAGEMENT", and "WEATHER & CLIMATE EXTREMES". Impact factors and "NEW" labels are also included.

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**2013 Impact Factor**  
**6.000**  
\*Journal Citation Reports  
published by  
Thomson Reuters 2014

**Current Opinion in  
Environmental  
Sustainability**  
We Lovers & Wilton Swartz, Editors

**2013 Impact Factor**  
**2.758**  
\*Journal Citation Reports  
published by  
Thomson Reuters 2014

**CLIMATE RISK  
MANAGEMENT**

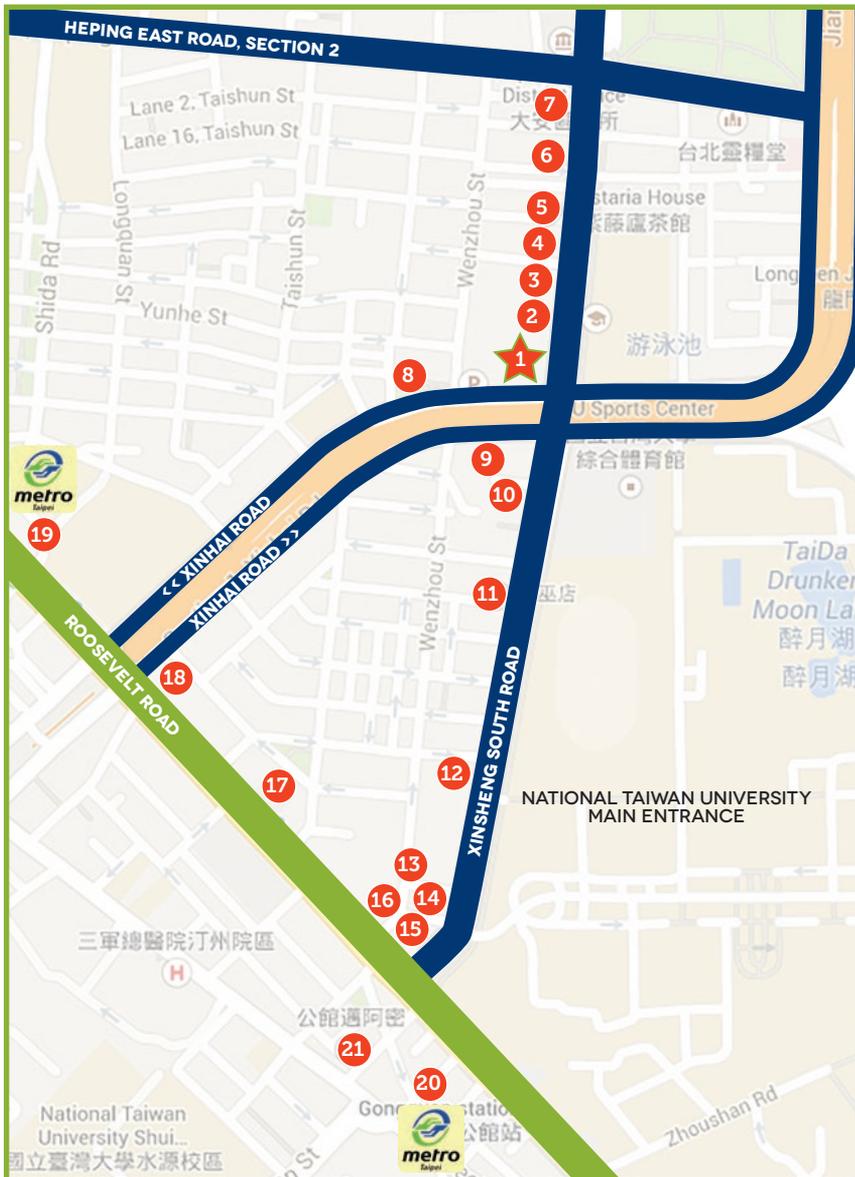
**WEATHER  
& CLIMATE  
EXTREMES**

**NEW**

**NEW**

**NEW**

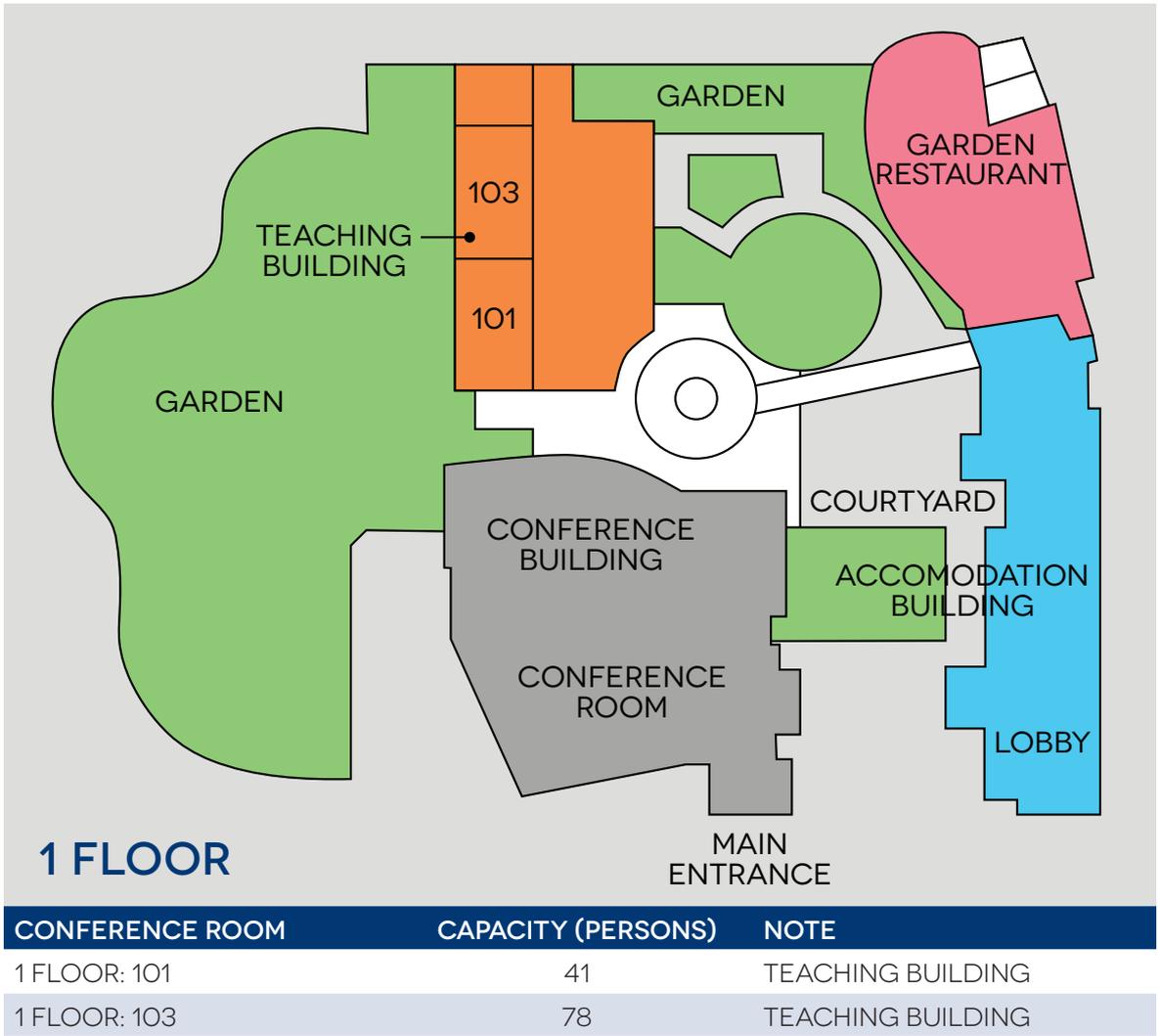
## LOCAL AREA MAP



- 1 Howard Civil Service International House (Conference Venue)
- 2 Style Humanistic Café (coffee & food)
- 3 N.J.Y. Professional Lamb Food (Chinese restaurant, famous for its lamb dishes, hot pot, etc.)
- 4 Tui Yuan Vietnamese Restaurant
- 5 Wistaria House, historical heritage site (tea & food)
- 6 Subway (sandwich shop)
- 7 Welcome Supermarket
- 8 Xinghai No. 1 Park
- 9 Galette Coffee
- 10 Drop Coffee House Café
- 11 Witch House (bar, live music, food)
- 12 Family Mart (convenience store)
- 13 7-11 (convenience store)
- 14 KFC
- 15 Eslite Bookstore
- 16 Watsons (drug store)
- 17 Starbucks
- 18 Mos Burger (fast-food restaurant, Japanese style, famous for its rice burger)
- 19 MRT, Taipower Building Station
- 20 MRT, Gongguan Station
- 21 Gongguan shopping district & night market

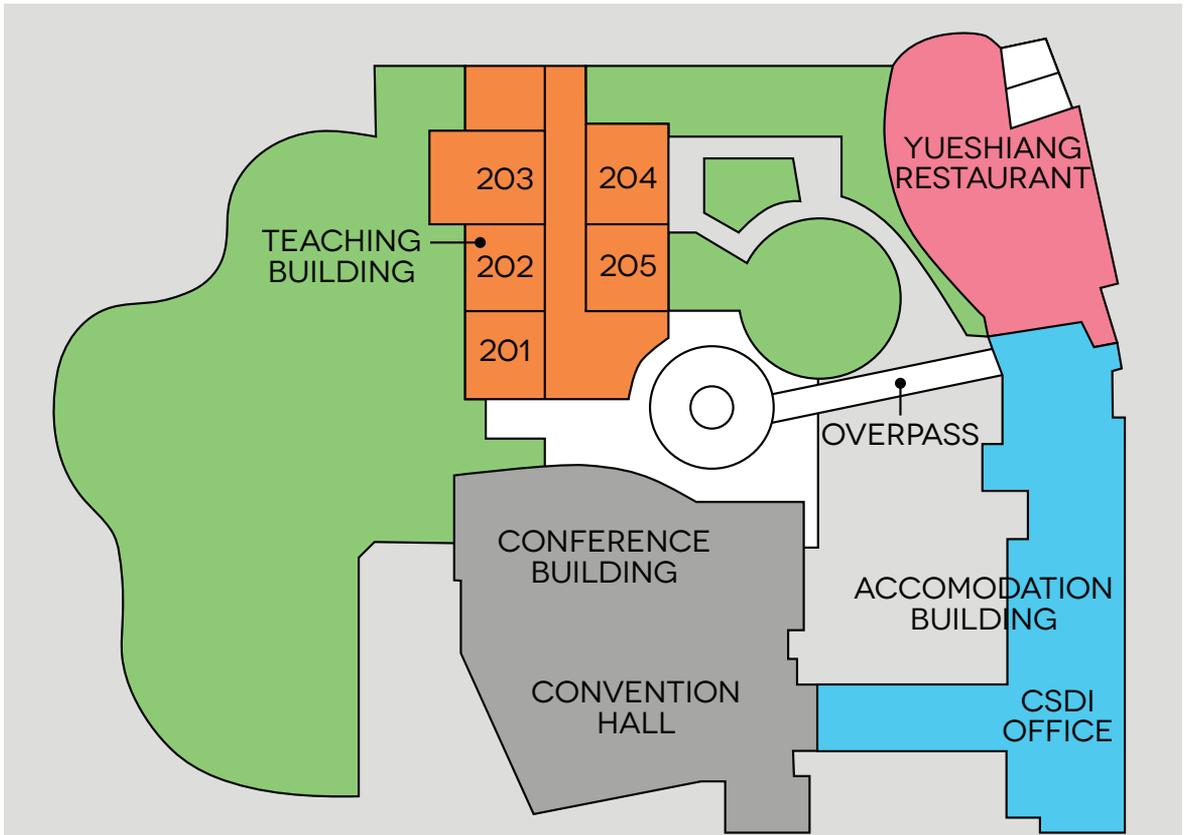
# MAPS

## HOWARD CIVIL SERVICE INTERNATIONAL HOUSE



### LOCATION OF CONFERENCE ROOMS:

MOST OF OUR MEETING ROOMS ARE IN THE TEACHING BUILDING.



## 2 FLOOR

CONFERENCE ROOM	CAPACITY (PERSONS)	NOTE
2 FLOOR: 201, 202, 204, 205	30~40	TEACHING BUILDING
2 FLOOR: 203	48	TEACHING BUILDING
2 FLOOR: CONVENTION HALL	455	CONFERENCE BUILDING

## IN MEMORIAM

JoAnn Carmin



We dedicate the conference to JoAnn Carmin, Associate Professor in MIT's Department of Urban Studies and Planning and expert in urban governance and climate change adaptation planning. She passed away Tuesday, July 15, 2014. She was, among many things, a Lead Author for the urban chapter of the US National Climate Assessment and the Working Group II contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).

"JoAnn loved food, which reflects her life and career prior to academia in culinary arts. She enjoyed traveling and trying local foods. When she went to Japan, she'd seek out local finds; when she was in Taiwan, she'd snack her way through the alleyways. Right before my trip to Africa this summer, she told me that she was hoping she could still make it to dumplings in Taipei in November for the UGEC Synthesis Conference. I will miss her." ~ Karen Seto, UGEC co-chair

JoAnn was a kind, vivacious, driven and passionate individual. The dedication she sustained during her illness to her work and colleagues was remarkable and inspirational. JoAnn was an internationally renowned scholar and an active member and supporter of the UGEC project. She participated in a number of our events, for example, as plenary speaker in the 2010 UGEC Conference: Opportunities & Challenges for Sustainability in an Urbanizing World (Tempe, AZ, USA), and as a trainer in the 2011 Training Workshop on Urban Responses to Climate Change in Asia: Understanding Mitigation and Adaptation Strategies (Taipei, Taiwan) and the 2012 Training Workshop on Urban Spatial Planning in Response to Climate Change in Asia (Taipei, Taiwan)

She will be truly missed.



# ABOUT THE UGEC PROJECT

The Urbanization and Global Environmental Change (UGEC) project targets the generation of new knowledge on the bi-directional interactions and feedbacks between urbanization processes and Global Environmental Change at local, regional, and global scales. Since an NSF grant was awarded to Arizona State University in 2006, the International Project Office has been formally operating within ASU's Julie Ann Wrigley Global Institute of Sustainability. The project follows a multi-disciplinary approach to develop innovative conceptual and methodological frameworks for the advancement of UGEC science and the comprehensive understanding of the driving and resulting economic, socio-political, cultural and physical processes.

An important feature of the project is to provide a platform for learning and knowledge exchange between a broad range of local, national, and regional actors working on urban and environmental issues. It facilitates regional and thematic networks with the goal of creating stronger links between practitioners, decision-makers, and researchers for more successful science-policy-practice interaction. The project is now within the final phase of its ten-year cycle, in which an essential focus is on the synthesis of research produced by the UGEC community over the last 8+ years. The 2014 UGEC synthesis conference is a key activity in the process to establish the knowledge base and hone in on the key issues, lessons learned and needs for future UGEC scholarship and application. Onward, the project is expected to continue strengthening the collaboration and coordination of its networks and broaden its reach across geographies, disciplines and other communities at large. It will continue to champion urban and environmental change research — a critical need for the future of global sustainability.



Urbanization and Global  
Environmental Change  
AN IHDP CORE PROJECT



National  
Taipei University