Sustainability and the City

Science Symposium & Forum

Mapping the R&D landscape and exploring science pathways towards sustainable cities

Edited by Greg Foliente and Chi-hsiang Wang

12-14 June 2013

This CSIRO event is supported by the University of Melbourne and the City of Melbourne.
**PROGRAM OVERVIEW**

**DAY 1 - PUBLIC LECTURE AND FORUM**

**13 JUNE 2013 (THURSDAY)**
University of Melbourne, 221 Bouverie St (cnr Bouverie St & Bandbridge Place) (Theatre 2)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 - 9:00</td>
<td>Coffee on Arrival</td>
</tr>
<tr>
<td>9:00 - 10:00</td>
<td>Technical Session</td>
</tr>
<tr>
<td>10:00 - 10:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>10:30 - 12:30</td>
<td>Technical Session</td>
</tr>
<tr>
<td>12:30 - 1:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:30 - 3:00</td>
<td>Technical Session</td>
</tr>
<tr>
<td>3:00 - 3:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>3:30 - 5:30</td>
<td>Panel Discussion</td>
</tr>
</tbody>
</table>

**DAY 2 & 3 - TECHNICAL SYMPOSIUM AND WORKSHOP**

**12 JUNE 2013 (WEDNESDAY)**
Melbourne Town Hall, The Supper Room

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:00 - 3:15</td>
<td>Coffee on Arrival &amp; Registration</td>
</tr>
<tr>
<td>3:15 - 6:00</td>
<td>Welcome and opening Plenary Session</td>
</tr>
<tr>
<td>6:00 - 7:00</td>
<td>Panel Discussion &amp; Forum</td>
</tr>
</tbody>
</table>

**14 JUNE 2013 (FRIDAY)**
University of Melbourne, 221 Bouverie St (cnr Bouverie St & Bandbridge Place) (Theatre 2)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 - 9:00</td>
<td>Coffee on Arrival</td>
</tr>
<tr>
<td>9:00 - 10:00</td>
<td>Technical Session</td>
</tr>
<tr>
<td>10:00 - 10:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>10:30 - 12:30</td>
<td>Technical Session</td>
</tr>
<tr>
<td>12:30 - 1:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:30 - 3:00</td>
<td>Technical Session</td>
</tr>
<tr>
<td>3:00 - 3:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>3:30 - 5:30</td>
<td>Panel Discussion</td>
</tr>
</tbody>
</table>

Note only: This day’s program is open to confirmed participants only.

This CSIRO event is support by the University of Melbourne and the City of Melbourne.
PUBLIC SCIENCE LECTURE AND FORUM
12 June 2013, Wednesday
The Supper Room, Melbourne Town Hall

Program

3:00 Registration

3:15 Welcome Remarks
Cr Jackie Watts, City of Melbourne

>>> Converging Sciences: Sustainability and the City
Prof. Dr.-Ing. Greg Foliente

>>> A Science of Cities: Complexity Theory in Simulating the Growth and
Form of Cities
Prof. Mike Batty

>>> The Theory of Urban Fabrics: Understanding the Science of Planning
Cities
Prof. Peter Newman

>>> Improving the Quality of Urban Life and Urban Modelling
Prof. Bob Stimson

6:00 Panel Discussion and Forum
Our speakers will be joined by:
- Prof. Kate Auty, Vic Commissioner Environmental Sustainability
- Malcolm Snow, General Manager, Design & Placemaking, Victorian Urban Renewal Authority
- Geoff Lawler, Director City Planning and Infrastructure, City of Melbourne
Public Science Lecture and Forum

Date: 12 June 2013
Time: 3:00-7:00 pm (for a 3:15 pm start)
Venue: The Supper Room, Melbourne Town Hall.

This CSIRO event is open and free to the public. The presentations will be followed by a Panel Discussion and Forum.

Topic: Converging Sciences: Sustainability and the City

Speaker: Prof. Dr.-Ing. Greg Foliente
Senior Science Leader at CSIRO Ecosystem Sciences, DAAD Visiting Professor at Technische Universität Braunschweig, Germany

For nearly two decades at CSIRO, Greg has successfully developed and led a large interdisciplinary research team, secured funding and managed a diverse research portfolio. He has applied his expertise to meet real-life challenges in industry and government, nationally and internationally.

Greg was a member of the Australian Government’s Built Environment Industry Innovation Council (BEIIC), and a specialist consultant to UNEP and UNFCCC. He has a diverse scientific publications record (including three books) and serves on the Editorial Board of four international journals. He has received the prestigious ASCE James Croes Medal, the Newton Turner Career Award at CSIRO, the SWST George Marra Award of Excellence in the USA, the STA Fellowship in Japan, and the DAAD Visiting Professorship and the Wilhelm Klauditz Fellowship at Fraunhofer both in Germany, among others.

Greg received his degrees at Virginia Tech in the USA, and advanced leadership training at the MIT Sloan School of Management. Prior to CSIRO, he worked at the University of California in Berkeley.

Topic: A Science of Cities: Complexity Theory in Simulating the Growth and Form of Cities

Speaker: Prof. Michael Batty
Bartlett Professor and Chair of the Centre for Advanced Spatial Analysis (CASA) at University College London, UK

Mike was the previous Director of the NSF National Center for Geographic Information and Analysis (NCGIA) in the State University of New York at Buffalo (1990-1995), and Professor of City and Regional Planning in the University of Cardiff (1979-1990).


He is editor of the journal Environment and Planning B. He was made a Fellow of the British Academy (FBA) in 2001, awarded a CBE in the Queen's Birthday Honours in June 2004 for ‘services to geography’, in 2009, elected as a Fellow of the Royal Society (FRS), and was awarded the 2013 Lauréat Prix International de Géographie Vautrin Lud.

Speaker: Prof. Peter Newman

John Curtin Distinguished Professor of Sustainability and Director of the Curtin University Sustainability Policy (CUSP) Institute

Peter founded CUSP, which has 60 PhD students working on all aspects of the green economy. Peter is a Lead Author for Transport on the IPCC.

He has three recent books: Technologies for Climate Change Mitigation: Transport (UN Environment Program), Resilient Cities: Responding to Peak Oil and Climate Change and Green Urbanism Down Under (Island Press).

In 2001-3 Peter directed the production of WA's Sustainability Strategy in the Department of the Premier and Cabinet, the first state sustainability strategy in the world. In 2004-5 he was a Sustainability Commissioner in Sydney advising the government on planning issues. In 2006-7 he was a Fulbright Senior Scholar at the University of Virginia.

For 30 years, since he attended Stanford University during the first oil crisis, he has been warning cities about preparing for peak oil. Peter’s book with Jeff Kenworthy Sustainability and Cities: Overcoming Automobile Dependence was launched in the White House in 1999.

In 2011 Peter was awarded the PIA's Sidney Luker Medal for his contribution to the science and practice of urban and regional planning.

Topic: Improving the Quality of Urban Life

Speaker: Prof. Bob Stimson

Director, Australian Urban Research Infrastructure Network (AURIN)

Bob, who retired from the University of Queensland in January 2011, is a quantitative human geographer and regional scientist. He is well known internationally for his work in analytical human geography, human spatial behaviour, and regional economic development analysis and planning strategy.

Bob has extensive experience consulting to public agencies at all levels of government and to The World Bank. He is a former President of the Regional Science Association International, the Australia and New Zealand Section of RSAI, and the Pacific Rim Council on Urban Development.

He is a former President of the Western Regional Science Association (US) and is currently Chair of the Applied Geography Commission in the International Geographical Union. Bob is an author of 47 books and monographs and more than 250 book chapters and scientific papers.

For the period 2012-2015, Bob is Director of AURIN, a $20million project funded by the Commonwealth Government, hosted at the University of Melbourne.
TECHNICAL SYMPOSIUM AND WORKSHOP
13-14 June 2013,
The University of Melbourne, 221 Bouverie St (cnr Bouverie St & Bandbridge Place) (Theatre 2)

Program – 13 June, Thursday

8:30 Coffee
9:00 Symposium introduction & overview
Prof. Dr.-Ing. Greg Foliente, CSIRO Ecosystem Sciences
>>> Theory of urban fabrics: A product of new practices and models
Leo Kosonen, Finnish Environment Institute
Urban system dynamics and transitions
Prof. Xuemei Bai, Australian National University
10:00 Morning tea
>>> Defining urban liveability – from static observations to dynamic models
Prof. Pascal Perez, University of Wollongong
>>> Smart sensing in urban environments
Dr Tim Wark, CSIRO ICT Centre
>>> AURIN: Developing an online platform for supporting urban research and analysis
Assoc Prof. Chris Pettit, University of Melbourne
>>> The changing nature of knowledge discovery
Dr Rob Woodcock, CSIRO Minerals Down Under Flagship
11:50 Panel discussion with all the speakers
Prof. Mike Batty, Moderator
12:30 Lunch
>>> Computational frontiers in sustainable urban transport
Prof. Stephan Winter, University of Melbourne
>>> Spatial optimization – on optimizing the impact of urban development on water quality
Dr Oswald Marinoni, CSIRO Ecosystem Sciences
>>> Simulation scenario modeling of mitigation strategies against flood impacts
Dr Mahesh Prakash, CSIRO Mathematical and Information Sciences
>>> Urban energy demand scenarios modelling
Dr George Grozev, CSIRO Ecosystem Sciences
2:50 Afternoon tea
>>> Climate adaptation in urban areas
Dr Xiaoming Wang, CSIRO Climate Adaptation Flagship
Program – 14 June, Friday

8:30  
Coffee

Health and the city: Improving public health through more sustainable urban planning  
Prof. Billie Giles-Corti, University of Melbourne

Social connectedness and health in urban communities  
Nicholas Geard, University of Melbourne

A quality of life study of ecologically sustainable housing in SEQ  
Ben O’Callaghan, Ecomplish Consulting, and Prof. Richard Hyde, University of Sydney

10:00  
Morning tea

10:30  
Workshop on Science Pathways

Selected Photos - Workshop

Closing Remarks

12:00  
Lunch

1:00  
Adjourn