



Built Environment Research News

Never Stand Still

Built Environment

Research

Issue 27 – August 2016

From the Associate Dean Research

One of the major aspirations in the UNSW2025 Strategy is augmentation of the level of industry funding for research. In HERDC (Higher Education Research Data Collection) terms that is “Category Three” funding. Given expectations of continued decline in “Category One” funding – from nationally competitive schemes notably those of the ARC (Australian Research Council) – tapping other sources of funding is becoming imperative.

UNSW as a whole performs surprisingly modestly in its existing quantum of industry funding given its credentials as a major institution for applied research and its roots in the technological sciences. In recent years UNSW has attracted on average about \$55 million pa whereas the Go8 (Group of 8) average has been around \$64m – we rank fifth nationally. ‘Quantum of industry funding compared to other Australian and international universities’ is flagged as a key ‘measure of progress’ in the 2025 Strategy.

Increased engagement with industry to tap more funding at the same time helps address other goals about the social relevance of research and more placements and opportunities for students.

Over the last four years Built Environment has attracted on average about ½ million dollars per annum from industry sources. It is not an insubstantial figure but is nevertheless significantly below our revenue in other categories. Our average annual Category One income has fluctuated between 2012 and 2015 but was still more than double.

Industry income has to grow. Our performance to date is testimony to great efforts from some of our best researchers including Bill Randolph, Hal Pawson, Catherine Bridge, Martin Loosemore, Hoon Han and Hank Haeusler.

Our support to date has come from various entities including ARC Linkage project partners such as Macquarie Bank and the National Heart Foundation, and more contract-orientated consultancies with clients such as ARUP, Brookfield Multiplex and Payce Communities.

The future will be about developing wider, deeper and closer relationships with a variety of industry partners (which includes government agencies and NGOs) undertaking research that retains our intellectual standards and independence. The University is setting targets for growing the pool of industry funding and Built Environment will be expected to generate its fair share.

Fortunately, our strong professional and applied orientation overall as well as direct connections with addressing pressing societal challenges such as infrastructure, well-being and sustainable development means that we are well placed to diversify our research income. And the wider University initiative will help ensure that the turn to an ethic of enterprise will be supported and successful.

Rob Freestone
Associate Dean Research

Researcher Highlights

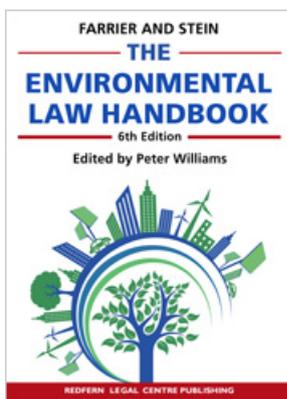
SEED FUNDING AWARDED FOR PLuS ALLIANCE PROJECT

The [PLuS Alliance](#) has awarded \$75,000 (\$25,000 to UNSW) seed funding to three research groups across the partnership to answer fundamental questions on informed urbanization. The UNSW team involves City Futures and the Smart Cities Research cluster and is led by Chris Pettit, Bill Randolph and David Sanderson. The funding will be used, amongst other things, to run two workshops: the first mapping a geodesign framework and the second bringing together world leading geocomputational expertise from across the three universities: UNSW, Arizona State and King's College London. This seed grant funding will also provide the opportunity for other BE researchers to get involved in the PLuS Alliance.



L-R: A meeting on the PLuS Alliance was held in the Faculty on 1 August with Prof Michael Luck (second right) and Rosie Smith (third from right) of Kings College. They are pictured with (from left) Prof Rob Freestone, Prof Helen Lochhead, Prof Chris Pettit, Prof Bill Randolph, and Prof David Sanderson.

NEW BOOK – THE ENVIRONMENTAL LAW HANDBOOK (6TH EDITION)



Environmental Law is a dynamic and expanding area where active parliaments and courts generate a complex and interconnected web of legislation and regulations. Particular challenges arise from government attempts to balance environmental issues and development imperatives. *The Environmental Law Handbook* published by Thomson Reuters and now in its 6th edition, clarifies the complexity of this law for a wide range of readers.

Twenty-three specialists in environmental law share the writing, building on the work of previous editions, and working under the editorship of Dr Peter Williams, Senior Lecturer in City Planning in the Faculty of Built Environment. These barristers, solicitors, academics and policy makers apply their wealth of practical experience and knowledge to offer a clear account of the law applying to environmental planning and protection in NSW.

The Environmental Law Handbook is a text for practising lawyers, planners and students. The text covers a wide range of environmental law, planning and land use topics in NSW including: the structure and scope of environmental law; building blocks of environmental law; land use planning; Crown land and protected areas; development; NSW environmental assessment; Commonwealth environmental assessment and approval; local government; pollution control and waste disposal; climate change and energy; agriculture; biodiversity; forests and plantations; coastal and riverside land; water supply; catchment management; heritage conservation; mining; fisheries and aquatic ecosystems; Aboriginal land and heritage.

New Grant Highlights

LAN DING, *Validating and Improving the BASIX Energy Assessment Tool for Low-Carbon Dwellings - Phase 2*

Based on successful research outcomes of the BASIX Project (\$583,488), the BASIX Project Phase 2 has recently started, which is funded by the CRC for Low Carbon Living and the NSW Office of Environment and Heritage (\$131,653). The BASIX Project Phase 2 will investigate both BASIX and non-BASIX dwellings in NSW and carry out comparative analysis of post-occupancy energy performance of those dwellings in order to inform government policy, and to improve BASIX and NABERS rating tools used for building sustainability assessment in NSW. Researchers involved in the BASIX Project Phase 2 consist of Dr Lan Ding (Project Leader), Dr Anir Upadhyay, Dr Kate Bishop, Scientia Professor Deo Prasad, Marini Samarutunga (PhD candidate) and Krishna Munsami (PhD candidate).

Meet the Researchers – Laurence Kimmel



Laurence Kimmel joined the Interior Architecture program as a Lecturer in June 2015. She is an architect with an MArch from the Ecole Nationale Supérieure d'Architecture de Lyon (1998) and a PhD in aesthetics from the Université Paris Ouest Nanterre La Défense (2006). She has taught in several architecture schools in France.

Her main research interest revolves around a number of theoretical ideas and practice interventions. These include the notion of construction as defined by Benjamin, Adorno, and Rancière. constructive experience of architectures that are open towards the landscape (for example Álvaro Siza's swimming pool in Leça da Palmeira); construction of a plastic language in art works and architectures based on punk aesthetics (for example Brazilian brutalist architecture); critical use of kitsch in art works and architectures (for example by Rem Koolhaas); and construction of a sense of time and space in cinema and its relation to architecture (for example in Sergei Eisenstein's and Béla Tarr's).

The objects of research range through different countries (e.g. France, Germany and Brazil) and across different areas (architecture, interior architecture, art, landscape). She is working on a book about Brazilian architecture.

New research opportunities are opening up through various engagements. These include computer based aesthetics through her involvement in the Interior Architecture Graduation Studio, studying the work of architects Cracknell Lonergan (for the *Hand and Mind* book being produced by the Design Collaboration research cluster), and also the work of artist Hany Armanious.

Laurence is also a curator of contemporary art exhibitions and for BE is working as a curator for the 2016 Luminocity exhibition.

BE Research in the News

Sue Holliday: *Wonderland: last piece of the puzzle*. Domain, 30 July 2016. [View online](#)

Susan Thompson: *The Implications of Turnbull's 30-Minute City for Australians*. Sourceable, 26 July 2016. [View online](#)

Deo Prasad: *Industry leaders make recommendations to fast track low carbon housing*. Architecture & Design, 19 July 2016. [View online](#)

Hal Pawson: *Inclusionary housing*. 2SER FM Sydney, The Daily, 18 July 2016. [Listen online](#)

City Futures: *We adapt, so multi-gen living is growing*. Northern Star Lismore NSW, 16 July 2016. [View online](#)

*Have you have had your research mentioned in the media recently?
Please send details to [Frances Pranoto](#) for inclusion in the next newsletter.*

BE Research on the Web

Altmetrics measures the attention a DOI-linked article receives on the web and tracks outlets such as Twitter, Facebook, LinkedIn, Google+, Wikipedia, Pinterest, blogs, Reddit, The Conversation and other media outlets. A new feature for 2016, each month we will list the top scoring articles from Built Environment and Design, sourced from [Altmetric Explorer](#).



Top-mentioned Articles – from the Faculty

1. **Shamila Haddad/Paul Osmond/Steve King:** [Revisiting Thermal Comfort Models in Iranian Classrooms During the Warm Season](#)
2. **Susan Thompson:** [The Routledge Handbook of Planning for Health and Well-Being](#)
3. **Rob Freestone/Edgar Liu:** [Place and Placelessness Revisited](#)
4. **Francesco Fiorito:** [Forthcoming Perspectives of Photoelectrochromic Devices: A critical review](#)
5. **Francesco Fiorito:** [Optimal Control and Performance of Photovoltachromic Switchable Glazing for Building Integration in Temperate Climates](#)

Top-mentioned Articles - Worldwide

1. [We Can all Get Along: The alignment of driver and bicyclist roadway design preferences in the San Francisco Bay Area](#) *Transportation Research Part A: Policy & Practice*
2. [Do Urban Agglomeration Effects and Household Amenities have a Skill Bias?](#) *Journal of Regional Science*
3. [Exploring the Link Between the Neighbourhood Typologies, Bicycle Infrastructure and Commuting Cycling Over Time and the Potential Impact on Commuter GHG Emissions](#) *Transportation Research: Part D*
4. [Urbanism and Happiness: A test of Wirths theory of urban life](#) *Urban Studies*
5. [The Uneven Distribution of Evictions as New Evidence of Urban Inequality: a spatial analysis approach in two Catalan cities](#) *Cities*

News from the Centres

CITY FUTURES RESEARCH CENTRE

Launch of the Sydney Dashboard



City Futures has recently launched its own [City Dashboard \(CityDash\) for Sydney](#). CityDash, provides a real-time pulse of what is happening across Sydney. The Dashboard is driven by a number of open data feeds including weather, air quality, market, news and twitter data. Recently Transport for NSW made available a number of their data products

available as [Open Data](#), which means CityDash includes real-time information on public transport network services and provides direct links to traffic Cameras.

For further information on the Sydney Dashboard contact [Prof Chris Pettit](#)

City Futures hosts co-creator of London Dashboard – Steve Gray (CASA, UCL)

The City Futures Research Centre hosted Steven Gray, University College London, the co-creator of the London Dashboard, on 4-8 July. There was a week of dashboard activity including a Community of Practice meeting around City Dashboards co-hosted by Michael Comminos - Greater Sydney Service Commission and Prof Chris Pettit, BE, UNSW.

Steven also presented to the Built Environment Faculty in a lunchtime seminar the array of Smart City visualization work being undertaken at the Centre for Advanced Spatial Analysis (CASA) UCL.



HDR News

NEWS AND ANNOUNCEMENTS

BENV7020 Research Seminar

The BENV7020 Research Seminar will be taught by Dr Laurence Troy in Session 2. Module one, the two day lecture series, will be held on Monday 19 September and Friday 23 September and will be followed by module two on Friday 28 October.

Changes made to the HDR Admissions Process

The new HDR Admissions Procedure has gone through extensive consultation and has now been approved. It is available from the Governance Support website at:

<https://www.gs.unsw.edu.au/policy/admissionstohdrprogramsprocedure.html>

The GRS has revised the admissions procedure and it has now formally reinforced the requirement for supervisors to interview applicants prior to an offer of admission being made. In terms of our faculty, this interview should occur before the applicant submits their Expression of Interest (EOI) to

the BE Higher Degree Committee – that is, when you are seriously considering their research proposal.

HDR Social Night: Friday 8 July – STRIKE BOWLING @ The Entertainment Quarter

The HDR cohort got together on the evening of Friday 8 July for some good old fashioned fun. A game of bowling plus Karaoke and Pool were on the agenda. The night was a huge success and lots of fun, we had a great turnout of 40+ and the Karaoke was a hit with everyone. The night began at 6:30 with a game of bowling followed by Karaoke and a game of pool. Here are some pictures from our fun outing.



6th Annual Built Environment Faculty, HDR Student Conference

Our annual conference this year was held on Thursday 21 July. It was conducted in a similar fashion to the University 3MT completion. Students gave a 3 minute talk about their topic, and 5 minutes were allocated for Q&A after each talk.

The event was a huge success; there were 17 HDR students that presented on the day. The students who presented and their topics are listed below:-

- 1 **Fatima Afzal:** Sustainability management of construction organisations
- 2 **Fatemeh Aminpour:** A comprehensive approach to children's agency in their use of school grounds
- 3 **Carlos Bartesaghi Koc:** Urban greening to cool our cities: Planning to counter urban heat islands
- 4 **Emma Clinton:** Can fold-down beds and micro apartments solve Sydney's housing affordability problem?
- 5 **Malay Dave:** Towards a Whole Systems Design Decision-Support Framework for High Performance in Sustainability and Affordability in Prefab Housing
- 6 **Aida Eslami Afrooz:** The influence of active versus passive exploration of the built environment on way-finding and visual memory
- 7 **Shamila Haddad:** Thermal Comfort in Naturally Ventilated Schools
- 8 **Parisa Kalali:** The interdependent relationship between Cultural Representation and Place-identity in the Multicultural Suburbs of Global Cities: A Case Study of Cabramatta, Sydney
- 9 **Sumin Kim:** Tenants' Decision on Leasing Green & Non-Green Office Buildings: Between their Tangible and Symbolic Aspects
- 10 **Fanqi Liu:** The Built Environment for Our Food Choice
- 11 **Samin Marzban:** An Evolutionary Approach to Single-Sided Ventilated Façade Design
- 12 **Sarbeswar Praharaj:** Enabling Smart City Transformations in Emerging Economies: India's 100 Smart Cities Mission
- 13 **Marini Samaratunga:** An evidence-based behaviour model of energy consumption from BASIX-compliant dwellings in NSW
- 14 **Tim Tompson:** In becoming a smarter city Pragmatist accounts of Sydney's emerging transport information systems
- 15 **Anjalika Wijesurendra:** Ageing is not what it used to be!

- 16 **Xueying Xiong:** A Theoretical Foundation for Senior Housing Developers: Location and Housing Choices of Elderly People in Wuhan
- 17 **Siliang Yang:** Studies on Optimal Application of Photovoltaic System for the Landmark Building in Tianjin Eco-city, China

We hope supervisors were able to pop in on the day to support their research students.

Some photos from the day:



3MT Competition

Monday 15 August - OMB G31 (Old Main Building G31 [LCTR]) - SAVE THE DATE

You would have all received a calendar invite for this event, please try to attend to support your HDR students.

3pm-4pm (OLB G31) - Student 3MT Presentations

In this competition higher degree research candidates have three minutes to present a compelling oration on their thesis topic and its significance, in language appropriate to an intelligent but non-specialist audience.

The Three Minute Thesis (3MT) Competition supports the development of research candidates' capacity to communicate ideas effectively to a range of non-specialist audiences and to the wider community. Participation in the 3MT provides:

- A great networking opportunity for research candidates both within Faculties and across UNSW
- The opportunity for candidates to 'crystallise' thoughts about their thesis and how they Communicate their research
- Internal and external promotion of the value of postgraduate research
- An opportunity to have fun, and to generate public and media interest in what our researchers do.

4:30pm-5:30pm (Room 2046) - Announcement of winners and presentation of prizes. Winner announcements will take place at FBE in the Level 2 Meeting Room 2046.

Drinks and Nibbles will be provided afterwards.

Judges for the 2016 Faculty 3MT Heats are:

- 1. Helen Lochhead**
- 2. Christine Steinmetz**
- 3. Riza Sunindijo**
- 4. Oya Demirbilek**
- 5. Bruce Judd**

The Graduate Research School will host the UNSW 2016 Three Minute Thesis (3MT) Interfaculty Final on Thursday 8 September. The heats will take place in the Leighton Hall, Scientia between

4:30pm and 7:30pm. This is a University-wide competition representing Higher Degree Research Students from nine faculties.

The winner of the UNSW Final will participate in the **2016 Trans-Tasman Three Minute Thesis Competition**, to be held at The University of Queensland on **Friday 30 September**
<http://threeminutethesis.org/index.html>

STUDENT COMPLETIONS

Congratulations to the following HDR candidates who have completed their degrees in 2016.

- **Christopher McDonald** (PhD), supervised by Rob Freestone and Xing Ruan;
- **Hamid Aghaei Rad** (PhD), supervised by Stan Fung, Maryam Gusheh and Samer Akkach;
- **Ahmed Agiel** (PhD), supervised by Jon Lang and Dijana Alic;
- **Yingying Li** (PhD), supervised by Hazel Easthope, Cynthia Wang and Martin Loosemore;
- **Sanaz Hosseinabadi** (PhD), supervised by Jon Lang and Harry Margalit;
- **Prajakta Sane** (PhD), supervised by Harry Margalit and Maryam Gusheh;

We wish them well in their future endeavours.

MONTHLY COHORT WORKSHOP

The next monthly HDR cohort workshop will be held this week on Thursday 4th August from 11am in the AGSU Room (RC2001).

Agenda: A talk by Prajakta Sane -

**MODERN TEMPLES FOR INDEPENDENT INDIA
INSTITUTIONAL ARCHITECTURE OF ACHYUT
KANVINDE**

We will be saying Good Bye to Mao Chindapol who will be returning home next week and will be submitting soon. All welcome to attend.

Research Clusters News

HIGH PERFORMANCE ARCHITECTURE



The HPA Research Cluster will host a seminar titled "Future Building Skins: Smart, Adaptive Solution for Sustainable Building" to be given by Stephen Selkowitz, Senior Advisor at Lawrence Berkeley National Laboratory, California, USA. Stephen Selkowitz is an internationally recognized building scientist with over 40 years of experience, who has applied research, development and demonstration strategies to advance the science, technology and market impact of energy efficiency in the context of sustainable building design and operations. You are welcome to attend Stephen

Selkowitz's talk on **Wednesday 17 August at 1.00 - 2.00pm at LG03 in the Tyree Energy Technology Building.**

URBAN TYPOLOGIES

- Seven members of the Cluster presented papers at *Gold*, the 33rd Annual Conference of the Society of Architectural Historians, Australia and New Zealand in Melbourne in July:
<http://sahanz2016.msd.unimelb.edu.au>.
- The cluster will meet on 24 August to finalise details of the next research and publication project for the group.

Upcoming Events

PUBLIC LECTURE

A journey of design and discovery

Ken Shuttleworth, Make Architects

Wednesday 17 August 6pm, UNSW Ainsworth Theatre

World-renowned architect Ken Shuttleworth has attracted acclaim and controversy in equal measure throughout his 40-year career. Never one to design 'ordinary' buildings, Ken has worked on many ground-breaking projects, including the Hong Kong and Shanghai Bank headquarters and 'The Gherkin' in London while at Foster + Partners.

Since establishing Make Architects 12 years ago, the studio has grown to 150 employees and built a portfolio of award-winning projects that continue to challenge the norm, including 5 Broadgate in London, The Temple House in Chengdu and Facebook's UK headquarters.

In this lecture, Ken will reveal what inspires and motivates him; the ethos behind employee-owned Make; and how to design buildings which will be as functional and relevant in 20 years' time as they are now.

[Register](#)

FACULTY RESEARCH WORKSHOP

ARC Linkage Continuous Round

James Walsh, Research Strategy and Partnership Office (RSPO)

Friday 19 August 2016 12.30pm – 1.30pm (with refreshments from 12.15pm), Room 4035, Red Centre

The ARC Linkage Grant scheme provides great opportunities for partnering with industry to pursue applied research. With UNSW's increasing emphasis on 'knowledge exchange' moving forward, it is crucial that research-active staff are well informed about the key guidelines and rules to enhance the national competitiveness of our applications. This workshop should be of interest to anyone contemplating an application in this year's round or in the future.

Please join us for a one hour workshop with James Walsh, from the RSPO, focusing on the ARC Linkage scheme as it specifically relates to Built Environment and introducing the changes resulting from the scheme's recent release as a continuous round.

*(Please note: this session **does not replace** the general workshop being offered by the RSPO on 18 August 2016, which will focus on the issues relating to the continuous round in more detail. Linkage applicants should plan to attend both if possible.)*

Please [RSVP](#) by **5.00pm Monday 15 August 2016**

UTZON LECTURE

Innovating to Zero in the Building sector: Minimising energy consumption, eradicating energy poverty and mitigating local climate change

Professor Mattheos Santamouris, Anita Lawrence Chair in High Performance Architecture

Wednesday 28 September 7pm, UNSW Ainsworth Theatre

The lecture aims to discuss issues related to three major problems of the built environment and in particular, the energy consumption of buildings, the energy poverty and the climate change.

The lecture will introduce the idea of a zero concept world where the global impact of the three specific sectors will be diminished. The lecture will analyse the actual status of each sector and will identify the main problems. It will discuss and sets a road map to satisfy this objective, involving future quantitative and qualitative targets for the three considered sectors while it will investigate the major technological, economic and social forces and policies that have to be employed in order to minimize the energy consumption of buildings, eradicate the energy poverty and mitigate the climate change.

The links, synergies and impacts between them will be analysed in a comprehensive way and the interrelated nature and characteristics of the three sectors will be highlighted. The mechanisms to transform the actual problems into opportunities and appropriate drivers for future development will be identified and analysed. A road map involving a full estimation of the necessary investments to fulfil the defined targets will be presented.

The major medium and long term benefits for the society, including the impact on the economy, employment, the environment and health will be quantified and analysed.

[More information](#)

[Register](#)

THE 2ND BIKE FUTURES SYDNEY CONFERENCE

Wednesday 7 September, UNSW

Looking for practical and innovative ways to support bike riding? Or a chance to network with others seeking to do the same?

The Conference is brought to you by Bicycle Network and hosted by [UNSW Built Environment](#).

The jam packed one day [program](#) features:

- a keynote presentation by Prof Chris Pettit on the visualisation of active travel data including [RiderLog app](#)
- workshops on preventing bicycle car door crashes; and protected bicycle intersections
- short presentations on electric assisted bikes, local council projects and automated bike share systems.

Full price tickets are only \$175. [Register now](#) for this must attend event!

Research@Locate17

3-6 April 2017, International Conference Centre Sydney, Australia

Locate is the annual conference on spatial information in Australia and New Zealand. It is the meeting point of industry, government and academia in one of the fastest growing areas of IT. Locate17 is an initiative of the Surveying & Spatial Sciences Institute (SSSI), Spatial Industries Business Association (SIBA) and Geospatial Information & Technology Association (GITA).

Research@Locate, the academic research stream at Locate, aims to be the premier academic meeting event in the Australasian region. Research@Locate is organised by the Australasian Spatial Information Education and Research Association, ASIERA. [Research@Locate](#) will provide a transparent full-paper peer review process, with carefully selected presentations and papers, and with its own annual, open-access proceedings.

For more information contact the organising committee:

[Prof Chris Pettit \(UNSW Australia\)](#)

[A/Prof Xiaoli Deng \(University of Newcastle\)](#)

[Dr Simone Zarpelon Leao \(UNSW Australia\)](#)

[Register](#)

Publications

The following 2016 research activities have been entered into ROS since the release of the last newsletter.

Book Chapters

- Crommelin, L. M. (2016). Examining Place-making in Practice: Observations from the Revitalization of Downtown Detroit. In R. Freestone, & E. Y. Liu (Eds.), *Place and Placelessness Revisited*. New York: Routledge. Retrieved from <https://www.routledge.com/Place-and-Placelessness-Revisited/Freestone-Liu/p/book/9781138937116>
- Santamouris, M. (2016). Cool pavements to mitigate urban heat Islands. In *Urban Climate Mitigation Techniques* (pp. 93-112). doi:[10.4324/9781315765839](https://doi.org/10.4324/9781315765839)
- Santamouris, M. (2016). Urban warming and mitigation: Actual status, impacts and challenges. In *Urban Climate Mitigation Techniques* (pp. 1-26). doi:[10.4324/9781315765839](https://doi.org/10.4324/9781315765839)
- Santamouris, M., & Kolokotsa, D. (2016). Passive cooling of buildings: present and future needs: recent progress on passive cooling convective technologies. In Y. Tamura, & R. Yoshie (Eds.), *Advanced environmental wind engineering* (pp. 75-88). Springer. doi:[10.1007/978-4-431-55912-2](https://doi.org/10.1007/978-4-431-55912-2)
- Synnefa, A., & Santamouris, M. (2016). Mitigating the urban heat with cool materials for the buildings' fabric. In *Urban Climate Mitigation Techniques* (pp. 67-92). doi:[10.4324/9781315765839](https://doi.org/10.4324/9781315765839)
- Williams, P. (2016). The structure and scope of environmental law. In P. Williams (Ed.), *The Environmental Law Handbook* (Sixth ed., pp. 1-29). Pyrmont, NSW: Thomson Reuters.
- Williams, P. (2016). Building blocks of environmental law. In P. Williams (Ed.), *The Environmental Law Handbook* (Sixth ed., pp. 31-87). Pyrmont, NSW: Thomson Reuters.
- Williams, P. (2016). Catchment management. In P. Williams (Ed.), *The Environmental Law Handbook* (Sixth ed., pp. 763-785). Pyrmont, NSW: Thomson Reuters.
- Williams, P. (2016). Development. In P. Williams (Ed.), *The Environmental Law Handbook* (Sixth ed., pp. 157-273). Pyrmont, NSW: Thomson Reuters.
- Williams, P. (2016). Governance, Property Rights and Planning in Peri-Urban Areas: Greater Sydney Case Study. In M. Kennedy, A. Butt, & M. Amati (Eds.), *Conflict and Change in Australia's Peri-Urban Landscapes* (pp. 148-164). Abingdon, Oxfordshire: Routledge.
- Williams, P., & Williams, A. (2016). Managing Urban Intensification through Conservation Covenants. In R. Leshinsky, & C. Legacy (Eds.), *Instruments of Planning: Tensions and Challenges for More Equitable and Sustainable Cities* (pp. 155-169). New York and Abingdon: Routledge.

Journal Articles

- Agathangelidis, I., Cartalis, C., & Santamouris, M. (2016). Estimation of Air Temperatures for the Urban Agglomeration of Athens with the Use of Satellite Data. *Geoinformatics & Geostatistics: An Overview*, 4(2), 1-7. doi:[10.4172/2327-4581.1000139](https://doi.org/10.4172/2327-4581.1000139)
- Akbari, H., Cartalis, C., Kolokotsa, D., Muscio, A., Pisello, A. L., Rossi, F., . . . Zinzi, M. (2016). Local climate change and urban heat island mitigation techniques - The state of the art. *Journal of Civil Engineering and Management*, 22(1), 1-16. doi:[10.3846/13923730.2015.1111934](https://doi.org/10.3846/13923730.2015.1111934)
- Ascione, F., Bianco, N., De Masi, R. F., Dousi, M., Hionidis, S., Kaliakos, S., . . . Vassilakopoulou, K. (2016). Design and performance analysis of a zero-energy settlement in Greece. *International Journal of Low-Carbon Technologies*, 1-21. doi:[10.1093/ijlct/ctw003](https://doi.org/10.1093/ijlct/ctw003)

- Cannavale, A., Cossari, P., Eperon, G. E., Colella, S., Fiorito, F., Gigli, G., . . . Listorti, A. (2016). Forthcoming Perspectives of Photoelectrochromic Devices: A critical review. *Energy Environ. Sci.* doi:[10.1039/C6EE01514J](https://doi.org/10.1039/C6EE01514J)
- Cartalis, C., Santamouris, M., & Mavrakou, T. (2016). Thermal hot spots in cities as hazards for health security: an application for the urban agglomeration of Athens, Greece. *International Journal of Natural Disasters & Health Security*, 13-16.
- Deb, C., Eang, L. S., Yang, J., & Santamouris, M. (2016). Forecasting diurnal cooling energy load for institutional buildings using Artificial Neural Networks. *Energy and Buildings*, 121, 284-297. doi:[10.1016/j.enbuild.2015.12.050](https://doi.org/10.1016/j.enbuild.2015.12.050)
- Efthymiou, C., Santamouris, M., Kolokotsa, D., & Koras, A. (2016). Development and testing of photovoltaic pavement for heat island mitigation. *Solar Energy*, 130, 148-160. doi:[10.1016/j.solener.2016.01.054](https://doi.org/10.1016/j.solener.2016.01.054)
- Faheem, A., Ranzi, G., Fiorito, F., & Lei, C. (2016). A numerical study on the thermal performance of night ventilated hollow core slabs cast with micro-encapsulated PCM concrete. *Energy and Buildings*, 127, 892-906. doi:[10.1016/j.enbuild.2016.06.014](https://doi.org/10.1016/j.enbuild.2016.06.014)
- Favoino, F., Fiorito, F., Cannavale, A., Ranzi, G., & Overend, M. (2016). Optimal control and performance of photovoltachromic switchable glazing for building integration in temperate climates. *Applied Energy*, 178, 943-961. doi:[10.1016/j.apenergy.2016.06.107](https://doi.org/10.1016/j.apenergy.2016.06.107)
- Karachaliou, P., Santamouris, M., & Pangalou, H. (2016). Experimental and numerical analysis of the energy performance of a large scale intensive green roof system installed on an office building in Athens. *Energy and Buildings*, 114, 256-264. doi:[10.1016/j.enbuild.2015.04.055](https://doi.org/10.1016/j.enbuild.2015.04.055)
- Kolokotsa, D., Gobakis, K., Papantoniou, S., Georgatou, C., Kampelis, N., Kalaitzakis, K., . . . Santamouris, M. (2016). Development of a web based energy management system for University Campuses: The CAMP-IT platform. *Energy and Buildings*, 123, 119-135. doi:[10.1016/j.enbuild.2016.04.038](https://doi.org/10.1016/j.enbuild.2016.04.038)
- Kuhn, T. E., Wilson, H. R., Hanek, J., & Santamouris, M. (2016). Ra<inf>out-in</inf>: Color rendering of objects in a daylight room viewed from outdoors. *Energy and Buildings*, 118, 93-98. doi:[10.1016/j.enbuild.2016.02.019](https://doi.org/10.1016/j.enbuild.2016.02.019)
- Laskari, M., Karatasou, S., & Santamouris, M. (2016). The design of an energy and water advice programme for low-income households. *Energy and Buildings*, 110, 426-434. doi:[10.1016/j.enbuild.2015.11.008](https://doi.org/10.1016/j.enbuild.2015.11.008)
- Mastrapostoli, E., Santamouris, M., Kolokotsa, D., Vassilis, P., Venieri, D., & Gompakis, K. (2016). On the ageing of cool roofs: Measure of the optical degradation, chemical and biological analysis and assessment of the energy impact. *Energy and Buildings*, 114, 191-199. doi:[10.1016/j.enbuild.2015.05.030](https://doi.org/10.1016/j.enbuild.2015.05.030)
- Pantazaras, A., Lee, S. E., Santamouris, M., & Yang, J. (2016). Predicting the CO2 levels in buildings using deterministic and identified models. *Energy and Buildings*, 127, 774-785. doi:[10.1016/j.enbuild.2016.06.029](https://doi.org/10.1016/j.enbuild.2016.06.029)
- Paravantis, J. A., & Santamouris, M. (2016). An analysis of indoor temperature measurements in low- and very-low-income housing in Athens, Greece. *Advances in Building Energy Research*, 10(1), 20-45. doi:[10.1080/17512549.2015.1014842](https://doi.org/10.1080/17512549.2015.1014842)
- Pieri, S. P., Santamouris, M., & Tzouvadakis, I. (2016). Energy signature models of naturally ventilated hotels in Athens: a hotel classification methodology. *International Journal of Ventilation*. doi:[10.1080/14733315.2016.1173288](https://doi.org/10.1080/14733315.2016.1173288)
- Pisello, A. L., Castaldo, V. L., Pignatta, G., Cotana, F., & Santamouris, M. (2016). Experimental in-lab and in-field analysis of waterproof membranes for cool roof application and urban heat island mitigation. *Energy and Buildings*, 114, 180-190. doi:[10.1016/j.enbuild.2015.05.026](https://doi.org/10.1016/j.enbuild.2015.05.026)
- Santamouris, M. (2016). Innovating to zero the building sector in Europe: Minimising the energy consumption, eradication of the energy poverty and mitigating the local climate change. *Solar Energy*, 128, 61-94. doi:[10.1016/j.solener.2016.01.021](https://doi.org/10.1016/j.solener.2016.01.021)

- Thompson, S. M., & McCue, P. (2016). Healthy Built Environments: Resilience Through Healthy Planning. *New Planner*, (106), 20-21. Retrieved from <http://www.planning.org.au/documents/item/7355>
- Thompson, S., & Kent, J. (2016). Healthy Planning: The Australian Landscape. *Built Environment*, 42(1), 90-106. doi:[10.2148/benv.42.1.90](https://doi.org/10.2148/benv.42.1.90)
- Vasilakopoulou, K., Synnefa, A., Kolokotsa, D., Karlessi, T., & Santamouris, M. (2016). Performance prediction and design optimisation of an integrated light pipe and artificial lighting system. *International Journal of Sustainable Energy*, 35(7), 675-685. doi:[10.1080/14786451.2014.932281](https://doi.org/10.1080/14786451.2014.932281)
- Williams, P. (2016). Update of recent judgments. *New Planner*, March 2016(106), 26.
- Yang, J., Pantazaras, A., Lee, S. E., & Santamouris, M. (2016). Retrofitting solutions for two different occupancy levels of educational buildings in tropics. *International Journal of Sustainable Energy*, 1-15. doi:[10.1080/14786451.2016.1177052](https://doi.org/10.1080/14786451.2016.1177052)
- Yang, J., Santamouris, M., Lee, S. E., & Deb, C. (2016). Energy performance model development and occupancy number identification of institutional buildings. *Energy and Buildings*, 123, 192-204. doi:[10.1016/j.enbuild.2015.12.018](https://doi.org/10.1016/j.enbuild.2015.12.018)
- Yang, J., Santamouris, M., & Lee, S. E. (2016). Review of occupancy sensing systems and occupancy modeling methodologies for the application in institutional buildings. *Energy and Buildings*, 121, 344-349. doi:[10.1016/j.enbuild.2015.12.019](https://doi.org/10.1016/j.enbuild.2015.12.019)

Conference Papers

- Bartesaghi Koc, C., Osmond, P., & Peters, A. (2016). A green infrastructure typology matrix to support urban microclimate studies. In *4th International Conference on Countermeasures to Urban Heat Island*. National university of Singapore, Singapore. Retrieved from http://www.ic2uhi2016.org/sites/live.ic2uhi2016.site.gsi.sg/files/IC2UHI2016_programme-v5-28May.pdf
- Kamardeen, I., & Rameezdeen, R. (2016). Causation model for psychological injuries in the construction industry. In *Proceedings of the CIB World Building Congress 2016: Volume V - Advancing Products and Services* Vol. 5 (pp. 616-628). Tampere, Finland: Tampere University of Technology. Department of Civil Engineering. Retrieved from https://tutcris.tut.fi/portal/files/6187048/WBC16_Vol_5.pdf
- Loosemore, M. (2016). Encouraging, allowing and catching innovation in the construction industry. In N. Singhaputtangkul (Ed.), *The 40th Australasian Universities Building Education Association Conference* (pp. 179-188). Cairns, Australia: Central Queensland University.
- Loosemore, M. (2016). Social enterprise in construction: exploring its role in reducing Australia's unemployment problem. In N. Singhaputtangkul (Ed.), *The 40th Australasian Universities Building Education Association (AUBEA) 2016 Conference* (pp. 198-207). Cairns, Australia: Central Queensland University.
- Loosemore, M. (2016). Social procurement as a driver of social innovation in the construction industry. In N. Singhaputtangkul (Ed.), *The 40th Australasian Universities Building Education Association (AUBEA) 2016 Conference* (pp. 189-197). Cairns, Australia: Central Queensland University.

Conference Presentations

- Judd, B., Liu, E. Y., & Mataraarachchi, S. (2016, June 28). Barriers to Low Carbon Living for Low-income Older Australians. In *European Network for Housing Research*. Belfast.

Creative Written Works

Liu, E. Y., & Judd, B. (2016). *It's not easy being green, especially when affordable help is so hard to find*. Retrieved from <http://theconversation.com/its-not-easy-being-green-especially-when-affordable-help-is-so-hard-to-find-62621>

Loosemore, M. (2016). *Financing construction innovation through the power of the crowd*. Sourceable.com. Retrieved from <https://sourceable.net/financing-construction-innovation-through-the-power-of-the-crowd/>

Edited Books

Santamouris, M., & Kolokotsa, D. (Eds.) (2016). *Urban climate mitigation techniques*. Taylor & Francis. doi:[10.4324/9781315765839](https://doi.org/10.4324/9781315765839)

Williams, P. J. (2016). *The Environmental Law Handbook* (Sixth ed.). P. Williams (Ed.), Pyrmont, NSW: Thomson Reuters

Reports

Liu, E. Y., & Judd, B. (2016). *Lower income barriers to low carbon living (RP 3038): Summary of focus group and survey findings*. Sydney: Cooperative Research Centre for Low Carbon Living. Retrieved from <http://www.lowcarbonlivingcrc.com.au/research/program-3-engaged-communities/rp3038-lower-income-barriers-low-carbon-living>

New Internal Grants Awarded

Scott Hawken/Chris Pettit/Scott Lieske

Research Symposia/Exhibition Support: \$5,000

International Geodesign Workshop: Developing a framework for collaborative multi-agency scenario planning

Funding/Research Opportunities

Academic Health Science Partnership (AHSP) | Clinical Academic Streams

The AHSP was founded on the basis of partnership and collaboration, recognising that in this new economic and rapidly developing scientific research and healthcare environment single institutions struggle to remain internationally competitive. Funding will be directed toward building interdisciplinary teams and facilitating cross cutting thematic efforts traversing research, education, clinical care and industry links that will tackle major health questions. No particular disease entity, health challenge or organisation will be favoured ...[more information](#).

External deadline: 12 August 2016 (EOI)

U21 Graduate Research Project Grants

The U21 Deans and Directors of Graduate Studies (DDoGS) are pleased to announce a new activity being piloted in 2016 - Graduate Research Project Grants. These Grants will enable doctoral candidates to develop and implement international research collaborations within the U21 network. These Projects are very flexible and we encourage doctoral candidates, with the support of their supervisors/advisors, to think innovatively about how their research could benefit from engagement with other members of the U21 network.

U21 Graduate Research Project Grants are designed to develop lasting professional relationships between researchers and research teams within the U21 network. The projects, which can be in any discipline or can cross disciplinary boundaries, should aid the development of transferable skills for doctoral candidates, allowing them to work independently as well as in teams on activities that benefit

their doctoral research. These projects will promote networking with the aim of giving doctoral candidates a global view of problem solving and group work, and facilitate cross-cultural working practices. [More information](#)

External deadline: 9 September 2016

FACULTY FUNDING FOR CONFERENCES, BOOKS, VISITORS, SYMPOSIA, SPECIAL PROJECTS

The existing schemes for conference attendance, book publications, international visitors and exhibitions/symposia are all open for application. There is no closing date for these schemes. Further information and application forms available on the faculty intranet:

- [Special Project Development Grants](#)
- [Book Publication Subsidy](#)
- [Research Symposia/Exhibitions](#)
- [Visiting International Scholars](#)
- [Conference Funding](#)

Researcher Development – UNSW Workshops

Principles in preparing a budget application

Thursday 4 August 10am – 12.30pm

Are you a researcher new to preparing a budget for a funding application? This practical workshop will provide you with useful tips and tools to help you get started.

[Further information & to register](#)

Didn't get a spot at this workshop? Due to high interest, this workshop will also be delivered on Wednesday 19 October. [Further information & to register](#)

The new continuous ARC Linkage Scheme

Thursday 18 August 11am – 1pm

Even if you are a practiced ARC Linkage applicant you are encouraged to attend this seminar that will detail new arrangements on the continuous ARC Linkage Scheme. Included will be advice on how we understand applications will be dealt with by the ARC including approximate timelines, advice on what to say to potential Partners about commitments, signing off etc., and advice on significant shifts in ARC Linkage that have become apparent over the last few Rounds and that must be accommodated in your application if you intend to prevail in the process. Additionally there will be advice on how the Division of Research can support your application.

[Register](#)

Starting off on the right foot - working towards confirmation

Thursday 18 August 9.30am - 12pm

Are you a new supervisor of HDRs? Then this workshop will assist you in understanding your roles and responsibilities as well as considering your expectations in fostering this relationship.

[Further information & to register](#)

Supporting HDR student's academic reading & literature review

Tuesday 23 August 9.30am - 12.30pm

Do you feel confident providing effective and structured feedback and support for your HDR student's academic reading? This workshop helps to provide clear advice tailored to your HDRs' approach to encourage timely completion of a literature review.

[Further information & to register](#)

Writing for publication in academic journals

Tuesday 6 September 9.30am – 12.30pm

The aim of this workshop is to offer participants a range of tools and suggestions for structuring and writing a journal article as well as for navigating the peer review process.

[Further information & to register](#)

Related Links

[BE Research Resources](#)

[UNSW Research](#)