Level:	Level A	Date:	4 April 2016
School/Unit:	Built Environment	Faculty/Division:	Built Environment
Written by:	Professor Xing Ruan		

POSITION SUMMARY

The Faculty of the Built Environment (BE) and the Australia India Institute (AII) are looking to recruit an exceptional scholar in the broad field of 'sustainable smart cities and India' to undertake three years of policy-relevant research on contemporary India as part of a new network of thinkers across Australia. In collaboration with the Director and CEO of the Australia India Institute, Professor Craig Jeffrey, the Director of Research and Academic Programmes of the Australia India Institute, and the Associate Dean International (Faculty of the Built Environment, UNSW) or his nominee, the New Generation Network (NGN) scholar will assist in the research initiatives of the BE and AII. The appointee will be provided with the opportunity and mentorship to build his or her own research profile. In addition the NGN scholar will collaborate in publications and be involved in AII and BE research and engagement activities. The scholar will also assist with the co-ordination of relevant symposia and engage in public outreach for BE and AII. There is an expectation that the NGN scholar will be involved in some Honours / postgraduate teaching, for example in the Asia-focused subjects offered by BE in its masters programs.

The New Generation Network scholar in Sustainable SMaRT cities and India reports to the Director of Australia India Institute and to the Associate Dean International (BE) or his nominee.

ORGANISATIONAL ENVIRONMENT

The Faculty of the Built Environment at UNSW

www.be.unsw.edu.au

Built Environment (BE) at UNSW is one of the largest built environment faculties in Australia and is internationally renowned for its comprehensive range of multidisciplinary degree programs. The faculty's focus is on research and education relevant to the design, delivery and management of the 21st century city and the elements within it. The faculty's strategic direction is one based on a commitment to deliver high impact research and graduates

equipped with the knowledge and practical skills required to realise a sustainable urban environment of enduring cultural value.

The faculty contains two schools: The Australian School of Architecture + Design; and the Australian Graduate School of Urbanism, to which all academic staff teaching across the discipline areas belong. The faculty hosts one formally recognised research centre, The City Futures Research Centre (CFRC), and has close ties to one cooperative research centre, The CRC for Low Carbon Living.

BE at UNSW currently comprises 80 academics and 42 professional and technical staff. The faculty executive comprises the Dean, the Deputy Dean & Head of School, Associate Deans of Education and Research, a Discipline Director (rotating) and the faculty's General Manager.

The faculty has an undergraduate student population of 2000+, distributed across seven undergraduate programs in the following discipline areas: architecture; construction management and property; industrial design; interior architecture; landscape architecture; computational design; planning; and urban design and development. The faculty's postgraduate student population currently consists of 450+ coursework students and 100+ students undertaking programs by research. The faculty has a current complement of approximately 13,000 alumni.

The Australia India Institute

www.aii.unimelb.edu.au   www.unimelb.edu.au/Statutes

UNSW is proud to host one of two 'nodes' of the Australia India Institute, which was established by the University of Melbourne in 2008 by a resolution of Council and is governed by University regulation 5.1.R6. The Institute has been the recipient of substantial funding from the Commonwealth Government, which in 2009 awarded $8.1m in funding under the Diversity and Structural Adjustment Fund. In 2012 the Commonwealth awarded new three-year funding of $1.5m to support operations which was matched by a grant from the State Government of Victoria. New funding from the Commonwealth and Victoria Governments as well as private sources was secured for 2015-2018. The objectives of the Institute, as set out in regulation 5.1.R6, are to facilitate the coordination and development of studies in Australia of Indian culture and its social, scientific and economic dimensions, and to enhance understanding and cooperation between Australia and India. UNSW is represented on the Board of the AII by the Pro-Vice Chancellor, International.

New Generation Network (NGN) Programme

It is envisaged that the AII will be recruiting between 10-15 NGN scholars over 2016 and 2017 in collaboration with universities located mainly in Australia. The NGN scholars will be drawn from across the spectrum of Arts, Social Science and Science disciplines. Each NGN scholar will work on a topic that relates to the research goals of the participating university and the needs of business, policy and third sector organisations in Australia more broadly. These areas will be diverse, but the topics will relate to five key themes underpinning the AII's activities, which are likely to be culture, power, development, youth and landscape.

The scholars will have the opportunity to conduct new research, publish in the best peer-reviewed academic journals, and influence policy and practice outside academia.

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It is envisaged that the NGN scholars will typically be within five years of receiving a doctorate, allowing for career interruptions where appropriate. They will be expected to demonstrate a record of excellent academic achievement, a capacity to secure competitive grants, and experience in speaking across government, the media, business and academia.

NGN scholars will be expected to channel energy into engagement with non-academic users of research. This might involve, for example, liaising with government, business, third sector, and the media, running policy seminars, developing policy reports for government, contributing to the production of white papers, producing briefings and papers relevant for institutions seeking to develop businesses between Australia and India, and engaging in influential ways with the media.

NGN scholars will also be expected to teach a minimum of 20 hours per semester. AII Director and CEO, Professor Craig Jeffrey, alongside the Director of Research and Academic Programmes and Faculty lead in each participating university, will assist the NGN scholars by providing advice on how to develop entry-level courses on India and topics of current youth interest in relation to India, as well as provide support for innovative and applied undergraduate courses/field trips or law focussed courses/field trips.

Scholars will network with one another to capitalise on links between their individual projects, and the AII will convene an annual conference to facilitate this process. Each NGN scholar will also have the opportunity to travel to India as part of his or her research. During their visit they will meet and develop relationships with counterparts in India. In India the newly established Australia India Institute Centre in Delhi will provide logistical assistance and mentoring.

REPORTING RELATIONSHIPS

Supervisor: Professor Xing Ruan, Associate Dean International, UNSW Built Environment

Other Reporting Relationships:

- Director of Research and Academic Programmes of the Australia India Institute in Melbourne
- Pro-Vice Chancellor, International at UNSW and lead on AII activities locally

Other relationships: Key relationships within the faculty/university and industry must be developed and maintained.

KEY DUTIES & RESPONSIBILITIES

- Undertake research on sustainable/resilient living/communities in the context of smart cities while exploring synergies and opportunities between Australia and India.
- Lead collaboration between research, industry and policy communities between India and Australia.
- Seek funding for additional research projects from ARC, industry and other grants.

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- Publish academic papers and other scholarly outputs to a high standard, and in accordance with the research expectations of a Level A academic at the University of New South Wales.
- Present conference/symposium papers on the project findings at appropriate Australian and international forums.
- Contribute to the development of the Institute's and the MLS' research and teaching strategies.
- Undertake academic duties including teaching (lecturing and/or course convening) within the faculty. Contribute and / or undertake graduate, honours and postgraduate level teaching.
- Co-supervise research of masters or PhD students within the faculty.
- Engage in public outreach and activities of the Institute and BE. Deliver public lectures and conduct seminars as directed by the supervisors or the Director and CEO of the Australia India Institute.
- Meetings and committee work within the Institute, BE and other faculties / schools.
- Other duties as required by the supervisors or the Director and CEO of the Australia India Institute.
- Support the Pro Vice Chancellor, International by attending regular UNSW AII meetings and supporting AII activities on campus.

In addition to the above key duties and responsibilities and the New Generation Network Scholar will undertake work in <u>one or both</u> of the following key Direction streams.

Key Duties & Responsibilities - Direction 1: Sustainability

- Multi-disciplinary research in the field of sustainable built environment with specific focus on 'smart sustainable cities' in the Asia-Pacific region (history, current state-of-play and future directions).
- Undertake research that informs and enhances policy response to economic, social and environmental challenges to design, implement and maintain smart cities.
- Undertake research and responses that acknowledge the interdependencies of physical, social and economic systems in framing effective policy action to secure and enhance climate resilience in the built environment.

Key Duties & Responsibilities Direction 2: Big Data Analytics and Visualisation

The position should be focused on emerging technical skillsets required to support smart cities big data analytics and visualization. With the advent of Big Data, the Internet of Things, and advanced visualization capabilities there is a critical need to have such expertise work alongside planners, urban designers and architects who are tasked with the challenge of envisioning, designing and implementing sustainable smart cities of the future.

Built Environment already has significant depth in these cognate disciplines and would benefit significantly with capability in advanced data analytics, visualization, computer programming and other such enabling technologies and techniques.

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SELECTION CRITERIA

Essential:
Direction 1- Sustainability
- A PhD in a Built Environment related fields (preferably with background in Architecture, Urban Design or Planning).
- Academic background (preferably post-graduate degree) and experience in sustainability or high performance built environment.
- Previous experience of collaborative multi-disciplinary research.

Direction 2 - Big Data Analytics and Visualisation
- Master or PhD in a discipline relevant to Smart Cities - for example Computer Science, Data Analytics, Data (3D, 4D…) Visualisation, Cartography or Geomatics (believe this should be a new skill set and expertise, not a cognate PhD).
- Experience in processing and visualizing Big Data and open data.
- Computer programming skills – Python, R, javaScript, other open source programming languages.
- Ability to assist in the development of AGSU City Science courses including courses on (i) Fundamentals to computer programming, (ii) advanced geographical visualization.
- Ability to work with sensor data, dashboards and Internet of Everything (IoE) devices.
- Ability to liaise across Built Environment and Engineer Disciplines, working on projects with the new UNSW CSICO IoE Innovation Centre.

Additional essential criteria (common for both direction streams)
- A demonstrated experience in teaching and ability to deliver undergraduate and postgraduate courses in related fields.
- Demonstrated excellent potential or proven track record of winning funding and publication in high quality peer-reviewed journals.
- Excellent written and verbal communication skills.
- Ability to work effectively both independently and as a member of a team.
- Capacity to work effectively with both academic and administrative staff.
- Capacity and willingness to engage with non-academic users of research including policymakers, business/industry, and the media.
- Professional and industry experience in the above fields.

Desirable:
- A combination of qualifications and experience under the above mentioned two directions.
- Experience in public speaking and engagement
- Demonstrated experience with international and intercultural collaboration
- Demonstrated experience in teaching and curriculum development
- Demonstrated academic or professional experience and understanding of Indian society, culture, academia
- Knowledge of university processes, systems and applications

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Special Requirement:

- The ability to accommodate a flexible work schedule, including occasional evening and weekend events, and travel, either within Australia or international

> It is not the intention of the position description to limit the scope or accountabilities of the position but to highlight the most important aspects of the position. The aspects mentioned above may be altered in accordance with the changing requirements of the role.

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