

Dean's Roundup: 2 September 2016

Roundup: *Ceiling function*, the mathematical operation of rounding a number up to the next higher integer.

Roundup: a term in American English referring to the process of gathering animals into an area, known as a "Muster" in Australia.

Rounding up: when a helmsman cannot control a boat and it heads into the wind

Roundup: the plan for an invasion of northern France by Allied forces during World War II (Wikipedia)

Dean's Roundup: part blog, part bulletin; part honour roll, part curatorial [**cu'** **ra-to'ri-al** (ky^{oo}r^e-tôr'^e-əl, -tôr') *n.* nounised by the Dean from curator + editorial]

Dear All,

HKUrbanLab's 'Sub-aquatic cities' project has moved to the next stage and it's so fascinating, I can't help myself from writing more (see last Roundup). We have our target coral: platygyra. Hong Kong's platygyra reefs have suffered badly from urban and shipping pollution as well as from surface fresh water poisoning after black rain storms and from red tides – harmful algae blooms (HAB). HABs have recently decimated reefs in Hoi Ha Wan marine park. HKUrbanLab is preparing a funding bid with SWIMS HKU's (Swire Institute of Marine Science) to design 10 to 15 Platygyra coral structures as a basis for re-growing reefs in the park. Each structure will mimic a rounded rock-shaped coral formation created over hundreds of years as the coral colony grows. We'll be designing a city of 10-15 blocks and built out in close proximity. This is important for the scientific experiment so that the micro-environmental conditions for each block are as similar as possible. The experiment will test for the optimal level of complexity in the sub-aquatic city structure, measured by the bio-diversity found moving into each city block over a period of a few months. We will design each block in a BIM virtual environment and tweak the design in each to achieve controlled variation in complexity, measured by surface to volume ratio and other metrics. The blocks will be constructed by a hybrid technology involving form-following fabric casting and extrusion from robotic-based tools. We will experiment with alternative ways of achieving complexity, including surface shape ('cladding'), protrusions and internal space division by honeycomb or dendritic hollow tubes. Live coral polyps will be introduced – possibly even printed onto the surface by making a polyp *smoothy* and painting/bonding it to the city blocks.

Diversity and density of polyps, micro-organisms, and young fish and crustaceans will be sampled from each block over regular intervals between spring and summer 2017. Scientifically, the marine biologists will be looking for the level of complexity in structure that supports the most life. Architecturally, we'll be looking for a winning design!

Nasrine and I are leading the HKUrbanLab team. Other members to be announced as we get going on the detailed work plan.

Congratulations to colleagues for the achievements listed in the remainder of this Roundup.

Chris

Staff Movements

1. Mr. Alain Chiaradia

- Mr. Chiaradia is the new programme director of the Master of Urban Design, with effect from 1 August 2016. Alain was originally trained at the AA in London and more latterly has taught at UCL and Cardiff University.

Teaching and other Achievements

FoA Departments and Divisions

Faculty of Architecture

1. Two out of the three HKU PhD students winning Fulbright-RGC Hong Kong Research Scholar Awards are from the Faculty of Architecture:
 - Three HKU PhD students will receive funding to conduct their research in the U.S. as part of the Fulbright-RGC Hong Kong Research Scholar Award Programme. **Mr. William Cheung Ka-shing, PhD student of the Department of Real Estate and Construction**, focuses on the factors affecting mobility of Home Ownership Scheme housing. He expects his affiliation at **UCLA** could further broaden and deepen his understanding of housing policy formulation in the western context. **Mr. Wang Xu, PhD student of the Department of Urban Planning and Design**, will go to **Harvard Law School** to advance his study on economic and social upgrading of rural migrant workers in the Pearl River Delta. Department of Social Work and Social Administration PhD student Ms. Li Jia will study the return migration of second generation Hongkongers at University of Southern California. (HKET, Oriental Daily, Sing Tao, Sky Post, Ta Kung Pao)

Department of Architecture (DARCH)

1. Dr. B. S. Jia

- Visited and delivered a lecture “Open Building and BE Design” at China Institute of Building Standard Design & Research (CBS) in Beijing on 17 August 2016



Department of Real Estate and Construction (DREC)

1. Professor Daniel C. W. Ho

- Professor Ho, Honorary Professor and former colleague of the Department of Real Estate and Construction, has been awarded a Faculty Development Scheme (RGC-FDS, the equivalent of GRF for self-funded degree awarding institutions) on “*How public are public spaces? The effect of management regime on public space quality*” (amount: HK\$687,996). Professor Lawrence Lai of the REC is the Co-I. Daniel is also the Team Leader of an Institutional Development Scheme (RGC-IDS) on “*Research on Sustainable Living: Phase Two of the Capacity Building Plan*” awarded with HK\$14 Million. Both grants are under the Competitive Research Funding Schemes for the Local Self-financing Degree Sector of the RGC (<http://www.ugc.edu.hk/eng/rgc/result/result.htm>). Congratulations to Daniel and Lawrence!

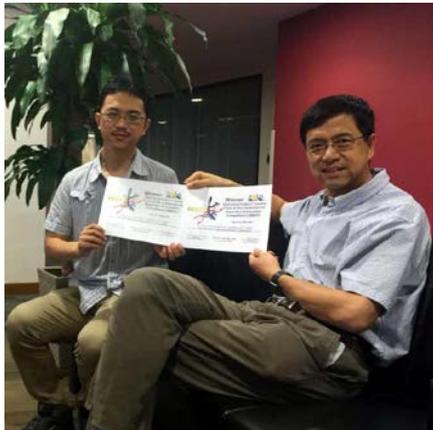
2. Dr. Fan Xue, Research Assistant Professor

- Together with Professor Geoffrey Shen, Chair Professor of The Hong Kong Polytechnic University Department of Building and Real Estate (HKPU BRE), won the 2nd Combinatorial Black-Box Optimization Competition (CBBOC) on 23 July 2016 in Denver, Colorado, USA.

As a part of the 2016 Genetic and Evolutionary Computation Conference (GECCO 2016), the competition aims to evaluate the state-of-the-art derivative-free optimization methods through rigorous tests on challenging data sets. The proposed algorithm Covariance Matrix Adaptation with Variable Neighborhood Search* (version 2016, CMA-VNS2) ranked the first in both the "no training"

track and the "short training" track. Utilization of the algorithm will facilitate problem-solving in many complex task environments such as semantic building information modeling (BIM) generation, machine-to-machine (M2M) coordination at smart construction plants, stakeholder network in sustainable urban development, and construction management in mega projects.

** Part of the work was done when Dr. Xue was with HKPU*



Dr. Xue Fan (left-hand side) and Chair Professor Geoffrey Shen

Department of Urban Planning and Design (DUPAD)

1. Royal Town Planning Institute (RTPI) Academic Award shortlisted nominations

The RTPI Academic Award recognizes and promotes high quality, impactful spatial planning research from RTPI accredited planning schools, and planning consultancies, in the UK, the Republic of Ireland and internationally. This year, two of the five shortlisted entries are from HKUrbanLab:

Anthony Go Yeh, Fiona F Yang, Jiejing Wang (The University of Hong Kong)
Economic Transition and Urban Transformation of China: The Interplay of the State and the Market

Chinmoy Sarkar, Chris Webster, Matthew Pryor, Dorothy Tang, Scott Melbourne, Xiaohu Zhang, Liu Jianzheng (The University of Hong Kong)
Exploring associations between urban green, street design and walking: Results from the Greater London boroughs

Cecilia Wong, Mark Baker, Stephen Hincks, Andreas Schulze-Baing (the University of Manchester) and Brian Webb (Cardiff University)
Mapping policies and programmes: The use of GIS to communicate spatial relationships in England

David Valler (Oxford Brookes University) and Nicholas A Phelps (The Bartlett School of Planning, University College London)
Delivering growth? Evaluating economic governance in England's South East subregions

Tony Crook and John Henneberry (Sheffield University), co-authored by Christine Whitehead (LSE)
Planning Gain: Providing Infrastructure & Affordable Housing

For more details, please refer to the official website below:

<http://www.rtpi.org.uk/knowledge/research/rtpi-awards-for-research-excellence/>

2. Dr. Shenjing He

- Was awarded a National Science Foundation of China (NSFC) project on “The unequal distribution of high-quality healthcare resources and its socio-spatial implications in Chinese cities”. Awarded amount: RMB 600,000 (excluding overhead surcharges). Project Period: 1/1/2017-12/31/2020.

3. Dr. Kyung-Min Nam

- Completed his visiting scholarship at the Graduate School of Public Administration at Seoul National University, covering the period of 1 - 3 August 2016.

Division of Landscape Architecture (DLA)

1. Mr. Gavin S Coates

- Was interviewed by RTHK Radio 3 on the history and design of Hong Kong Park:

RTHK Radio 3, HK Heritage 30 7 2016

http://podcast.rthk.hk/podcast/item_epi.php?pid=164&lang=en-US&id=77032

Research Achievements

HKUrbanLab research groups

Centre of Urban Studies and Urban Planning (CUSUP)

1. Dr. Roger Chan

- Presented a paper jointly authored with Huang Dingxi entitled "Urban Development and Land Use Coverage in The Pearl River Delta: Evidences from Nansha Area, Guangzhou" at the 33rd International Geographical Congress on 24 August 2016.

Abstract: Land development has been a major driving force behind China's economic and urban development, as illustrated by the experience in the Greater Pearl River Delta region. The process of land development has close linkages and interactions with politics, society, economy and urban form. Land tenure and management system is shaped by the fiscal relationship between the central and local governments and the resulting adoption of land-based local finance. The transaction cost of land banking, collective construction and negotiation mechanism has brought about changes to the land tenure and management system in that there has been increasing capitalization of land, which in turn generates huge demand for development. Taking the evidences of Nansha area, this paper examines how the land tenure and management system reflects the evolving relationship between local governments' land-based fiscal policy and urban development.

2. Mr. Alain Chiaradia

- Has an accepted article for publication in Design Studies:

Chiaradia, A.J.F., Sieh, L., Plimmer, F. "Learning Values in Urban Design, a studio based-approach."

Abstract: Since 2000, research into the value of urban design has been utilised in consultancy and policy-making with regard to understanding the value of public investment. This research informs an emerging approach to teaching urban design appraisal within a MA Urban Design studio, in which variations of the residual method are deployed to assess developer value, private good and public good. Here, the relationship of the appraisal and design elements is articulated by an iterative model of design decision and design judgement making. By situating this approach in a broader theory of societal value, we reconceptualise from first principles, the concept of 'value in urban design'. This also suggests a corresponding definition of urban design in terms of value.

Keywords: Urban design, Design process(es), Design judgement, Built environment, Value of urban design

3. Professor Rebecca Chiu

- Published the following book:

Gurran, N., Gallent, N. and **Chiu, R.L.H.** (2016) Politics, Planning and Housing Supply in Australia, England and Hong Kong, *Routledge: London*.

Abstract: *Planning is a key and highly politicised element of public policy. Planning decisions have a propensity to radically change urban and rural environments, to create winners and losers in an economic sense, and also to alter people's lives and the wellbeing of communities. Those decisions, therefore, are often contested and subject to national and local scrutiny. The politics of planning, and of housing development, is a core public policy concern around the world. Periodically, many nations stop and ask why not enough housing is being built or, when it is built, why it isn't of the highest quality or in the best, most sustainable, locations. Housing outcomes are determined by a complex national politics, by power-play, and by the forces of democracy; they therefore reflect the will of vested interests and of a well-housed majority, which would often prefer to see its amenity protected than opportunity extended to the poorly-housed.*

This book examines these issues, exploring the politics and planning of new homes in three very different settings, but which have shared political traditions: in Australia, in England and in the Hong Kong Special Administrative Region (SAR). We cast a spotlight on the power-relationships and politics that underpin the allocation of land for large-scale residential schemes and thereafter the processes and politics that lead to particular development outcomes. As well as drawing out key conceptual and practical lessons, the book frames each of its case studies in a comprehensive examination of national /territorial frameworks (themselves analysed in comparative perspective) before dissecting key local cases as a means of answering the book's single central question: are there optimum conditions for successful strategic development, in terms of working in partnership, building consensus, and how the planning and delivery processes are managed? To answer this question however, it is important to contextualise the planning process within its wider economic and political setting.

4. Dr. Shenjing He

- Dr. He (vice conference chair), together with colleagues from East China Normal University, co-organized the 2016 International Geographical Union (IGU) Urban Commission annual conference, and presented a paper entitled “From the emerging market to a multifaceted urban society: Urban China studies”, 15-21 August, 2016, Shanghai, China. (See photo attached)

Abstract: *China is undergoing an urban revolution, and in 2011 more than half of the total population resided in cities and towns for the first time in history. Over the last two decades, urban China scholars have actively engaged in dialogues with urbanists from different disciplines and different urban contexts. Urban China studies have hitherto embarked on a trail of rapid diversification and proliferation, moving beyond the topics of urbanisation and urban expansion to address a variety of issues echoing the latest development in the Chinese city. Overall, urban China studies are witnessing a transition from focus on economic development and spatial changes, to diverse social groups and the multifaceted experiences of living in rapidly changing cities. This virtual special issue summarises the progress of urban China studies since the Economic Reform was launched. It, on the one hand, attempts to delineate a broad picture of intellectual advancement and knowledge production in the field of researching urban China. On the other hand, it tries to identify some surfacing new themes that have not been well represented but are of great significance to further comprehend and theorise Chinese urbanism. A total of 24 articles published in Urban Studies have been selected to represent, albeit in limited capacity, the scope of urban China studies in this journal. They are distributed in four well-established themes: (1) globalisation and the making of global cities (2) land and housing development (3) urban poverty and socio-spatial inequality (4) rural migrants and their urban experiences; and three emerging frontiers: (1) urban fragmentation, enclaves, and public space (2) consumption, middle class aestheticisation, and urban culture (3) The right to the city and urban activism. This editorial concludes by identifying some gaps in research and potential future directions.*

Keywords: Urbanisation; urbanism; urban China studies; progress report; established themes; emerging frontiers



- Dr. He co-organized six paper sessions on “China’s Great Urban Transformation: Multidisciplinary Research on Urban China”, four sessions on “Urban Challenges in a complex world: Contested Social Spaces”, and three sessions on “Urbanization and Population Change in China: Parallels and Differences to the Developed World”, and presented a paper entitled “Small Property Right Housing Development in China” at the 2016 International Geographical Congress, Beijing, 22-25 August, 2016.

Abstract: *In China, skyrocketing housing prices in large cities make homeownership an unachievable dream for many. Despite a large quantity of affordable housing having been built or being built by governments, accessibility remains as a major problem in terms of the remote location of this new state-supplied housing and its stringent criteria, which exclude the large majority of rural migrants in the city, cumulating to more than 260 million in recent years. Against this backdrop, one peculiar informal housing strategy known as “Small Property Right Housing (SPRH)” is thriving on collective land owned by villagers, which has accounted for about 20% of total housing stock in the whole country. SPRH can therefore be seen as an informal countermeasure responding on the one hand, to the deficit of formal sector affordable housing supply and on the other, to towering housing demand from low-income groups and rural migrants. Constrained by their limited property rights, SPRHs are inalienable by law. Being well aware of the risks and uncertainty of SPRH, a large number of rural migrants still participate in the SPRH market. In this research I delve into an important question: What are the socio-spatial implications of SPRH (as an alternative form of homeownership) for migrants in terms of social mobility and social integration? Based on a pilot study conducted in Guangzhou, 2015, which involved 9 in-depth interviews and 394 questionnaires, this study aims to contribute to a renewed understanding of urban villages by pinpointing several new findings: 1) urban villages are more than a spring board for migrants, in which SPRH provides a counterforce for precariousness and insecurity and serve as a breeding ground for upward social mobility; 2) yet, SPRH also emerges as “clubs” for better-off migrants, which raises a new question: whether SPRH promotes social integration or creates new dynamics of segregation?*

5. Mr. Liu Jianzheng (PhD graduand in DUPAD), Dr. Jie Li (DUPAD alumni) and Dr. Weifeng Li

- Published an article in Scientific Report:

LIU, J., LI, J. & LI, W. 2016. Temporal Patterns in Fine Particulate Matter Time Series in Beijing: A Calendar View. *Scientific Reports*, 6, 32221. doi: 10.1038/srep32221

Abstract: *Extremely high fine particulate matter (PM_{2.5}) concentration has become synonymous to Beijing, the capital of China, posing critical challenges to its sustainable development and leading to major public health concerns. In order to formulate mitigation measures and policies, knowledge on PM_{2.5} variation patterns should be obtained. While previous studies are limited either because of availability of data, or because of problematic a priori assumptions that PM_{2.5} concentration follows subjective seasonal, monthly, or weekly patterns, our study aims to reveal the data on a daily basis through visualization*

rather than imposing subjective periodic patterns upon the data. To achieve this, we conduct two time-series cluster analyses on full-year PM2.5 data in Beijing in 2014, and provide an innovative calendar visualization of PM2.5 measurements throughout the year. Insights from the analysis on temporal variation of PM2.5 concentration show that there are three diurnal patterns and no weekly patterns; seasonal patterns exist but they do not follow a strict temporal division. These findings advance current understanding on temporal patterns in PM2.5 data and offer a different perspective which can help with policy formulation on PM2.5 mitigation.

6. Professor Bo-sin Tang

- Was invited to give a talk about Hong Kong's urban planning and integrated metro and property development in a Symposium on Community Building and Resources Management of Village Administration for Beijing Fengtai District on 10 August 2016. The Symposium was organized by the School of Agricultural Economics and Rural Development of Renmin University of China and was attended by about 60 township cadres from Fengtai District of Beijing.



Heathy^{HD} Cities

1. Dr. Chinmoy Sarkar and Dean Webster

- Have had the following paper accepted for presentation at the Lancet Public Health Science Conference. It presents the findings of a study in collaboration with Cambridge University Medical School on the association between obesity and fast-food outlets in London.

Title: Examining the interplay of fast food exposure and income on diet and obesity: A cross-sectional study in UK Biobank. Thomas H Burgoine; **Chinmoy Sarkar**; **Chris J Webster**; Pablo Monsivais

Abstract:

Background: The proliferation of takeaway food outlets has been called a public health problem by Public Health England and the Chief Medical Officer. Evidence indicates that the density of takeaway outlets in neighbourhoods may promote unhealthy eating and obesity. But takeaways tend to cluster in deprived areas and epidemiological studies suggest that vulnerability to unhealthy food environments varies across social groups. This study examined the interplay between exposure to takeaway outlets and individual-level socioeconomic position in relation to diet and obesity.

Methods: This was a cross-sectional study using Greater London-based UK Biobank participants (n=51,361) aged 38-72 years with valid height and weight, food frequency data, and estimates of food environment exposure. Participants were jointly classified based on household income (four groups) and quartile of GIS-derived neighbourhood exposure (neighbourhood takeaway food outlet proportion) to create 16 exposure groups. Regression models estimated the odds of frequent processed meat consumption and obesity. We calculated relative excess risk due to interaction (RERI), relative to a single reference group. Participant data were collected 2005-2013 and analysed in 2016.

Findings: Both income and takeaway exposure were systematically associated with frequent processed meat consumption and obesity. In mutually-adjusted models, relative to highest-income participants, lowest-income participants were more likely to be obese (OR=1.53, 1.38-1.69); relative to those least exposed, highest takeaway exposure was associated with obesity (OR=1.76, 1.61-1.91). In additive models, the combination of lowest income and highest takeaway exposure was associated with substantially increased odds of obesity (OR=2.75, 2.33-3.24), with the RERI indicating significant interaction. Results were similar in diet analyses.

Interpretation: Here we confirm earlier work showing independent associations between income, neighbourhood takeaway exposure and diet and adiposity. Moreover, we provide evidence of the double burden of low income and an unhealthy neighbourhood food environment, resulting in higher rates of unhealthy diet and obesity.

1. Ms. Yuan Lin

- Published the following paper in *City Planning Review* 《城市规划》 in August, which can be retrieved by CSSCI.

Yuan, L. (2016), Regional collaboration in ecological infrastructure construction: contemporary inspiration from ancient water system governance in dujiangyan irrigation area, *City Planning Review*, v.40, no.8, pp. 36-52 (Aug 2016)

DOI: 10.11819/cpr20160807a



生态基础设施建设中的地区协作*

——古代都江堰灌区水系管治的启示

REGIONAL COLLABORATION IN ECOLOGICAL INFRASTRUCTURE CONSTRUCTION: CONTEMPORARY INSPIRATION FROM ANCIENT WATER SYSTEM GOVERNANCE IN DUJIANGYAN IRRIGATION AREA

袁琳 袁琳

YUAN Lin (THU); YUAN Lin (NCUT)

【摘要】 古代都江堰灌区人居环境建设过程中建立了发达的人工水系统，与此相协调形成的地区管治体系对保障地区水系统持续发挥多样的服务功能起到重要作用，为地区居民带来广泛福祉。本文通过系统发掘相关历史文献研究这一地区水系管治的历史经验，从国家决策与地域监督，多层次统筹与地域整合，县城管理与乡村自治等三个方面反映古代都江堰灌区水系统建设、维护中的地区协作特征，并以此启发当前中国的生态基础设施建设，认为生态基础设施建设需要地区整体观，重视“均和性”的建设原则，广泛的社会共识与多层次的地区协作。

【关键词】 生态基础设施；地区协作；都江堰灌区；水系统；管治

ABSTRACT: People in ancient Dujiangyan irrigation area established advanced manual water system during the construction of human settlement environment. Coordinated with the system, local governance system also played vital position in guaranteeing the continuous operation of the water system in various ways, which brought common welfare to all people within the region. The research takes ancient Dujiangyan irrigation as a case, systematically explores relevant historical documents and interprets the interrelationship between regional water system construction and regional collaboration governance from three aspects, such as national-regional governance, multi-counties coordination and regional integration, county governance and county autonomy. In nowadays, we can get some inspirations from the collaboration wisdom in ancient times: the ecological infrastructure construction needs the perspective of regional holism, emphasis on the principle of equalization and harmony, regional social consensus and multi-level collaborations.

KEYWORDS: ecological infrastructure; regional collaboration; Dujiangyan irrigation area; water systems; governance

1 引言

近年来，运用“生态基础设施”^[1]概念理解人居环境自然系统并促进其再造已经成为当代中国缓解生态危机，提升人居品质的重要途径之一。国内外学者在探索利用生态基础设施规划引导城市形态^[2]，促进自然系统生态服务功能发挥^[3]等方面已经有不少研究成果，但也应当认识到生态基础设施的建设实施过程，非单纯的科学技术问题，还需要相应的社会管治体系做基础，这不仅是生态基础设施建设开展的前提，也是维护其持续有效发挥生态服务功能的重要保障。

中国古代人居环境建设过程中建立了发达的人工自然系统，数千年来持续发展，积累了一套根植于中国文化的建设与管理智慧，重新认识中国古代人工自然系统建设与维护的管治经验，也将对当代生态基础设施建设有所启发。

古代都江堰灌区是中国历史上重要的精华农业地区与人属地带之一。自秦治蜀以来逐步发展，形成了发达的人工扇形水网，这一人工流域连接城市和乡村，支撑地区生产生活，到清代，灌区覆盖14县（加上下游通济堰灌溉3县共17县），面积约6000km²，水网由干渠、支渠、斗渠、农渠、毛渠等多个层级组成，河道一分为二，二分为四，四分为八，千万支流遍布地域，俗称：“天孙纵有雨针线，难绣西川百里图”^[4]（图1~图2）^[5]。环境史学家约翰·麦克尼尔（John R McNeill）曾论：“中国的水系作为整合广大而丰饶的土地之设计，世界上没有一个内陆水系可与之匹敌，借助这个水系，自宋代以来的中国政府在大部分的时间都能控制巨大而多样的生态地带，整合一系列有用的自然资源。”^[6] 都江堰平原水系统发挥的巨大功效远远超出了供