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# Research Institute for Sustainable Urban Development e-bulletin

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## RISUD Forum on Urban Planning + Affordable Living

A forum on “Urban Planning + Affordable Living” to discuss Hong Kong’s housing problem and orientation to city planning was held on 12 September 2015. Organized by the Research Institute for Sustainable Urban Development (RISUD), the forum attracted more than 140 people who gathered on the campus of The Hong Kong Polytechnic University (PolyU) to join the discussion.

The forum began with a welcome speech by Prof. Timothy Tong, President of PolyU. The Chair of the forum, Prof. Albert Chan who is also the leader of the RISUD Research Group for Construction Health and Safety then introduced the topics of the forum. This was followed by presentations given by Sir Gordon Wu, Chairman of Hopewell Holdings Ltd., Prof. Eddie Hui, Leader of the RISUD Research Group for Urban Housing Policies, Prof. Edwin Chan, Leader of the RISUD Research Group for Sustainable Land Use, as well as Prof. Edward Yiu from the Institute for Future Cities of The Chinese University of Hong Kong. Their respective presentations were well received and generated much discussion.



## Donation from the Ove Arup Foundation

The Research Institute for Sustainable Urban Development received a donation of around 1.4 million from the Ove Arup Foundation (TOAF) for scholarly activities. Beginning in the 2015/2016 academic year, HK\$479,700 has been set aside each year for the next 3 years (with a possible extension to the 4th year) to strengthen exchanges and connections between RISUD, the local community and world-leading experts from around the world. The donation will be used to support the following scholarly activities:

1. The RISUD TOAF Distinguished Lecture Series in Sustainable Urban Development
2. The RISUD TOAF Advanced Summer School in Sustainable Urban Development

## Establishment of New Research Groups

The Research Institute for Sustainable Urban Development (RISUD) aims to involve more researchers from outside the Faculty of Construction and Environment (FCE) to better facilitate inter/multi-disciplinary research at PolyU. In the past 6 months two new research groups have been formed under the Division of Smart Cities, both led by a scholar from outside FCE; RISUD currently has 34 research groups.

Group Name	Leader [Dept]	Members [Dept]
<b>Research Group for Unmanned Airborne System for Urban Monitoring</b>	Prof. Chih-Yung WEN [ME]	Dr Bruce KING [LSGI] Prof. Xiaoli DING [LSGI] Prof. Wu CHEN [LSGI] Dr George LIU [LSGI] Dr Charles WONG [LSGI]
<b>Research Group for Internet Services Monitoring and Diagnostics</b>	Dr Rocky CHANG [COMP]	Dr Man Ho Allen AU [COMP] Dr Yixin CAO [COMP] Dr Eric LO [COMP] Dr Wei LOU [COMP]

## RISUD Visiting Fellowship Scheme Sponsored by the Kwang-Hua Education Foundation

According to the wishes of Dr Samuel Yin of the Ruentex Group, part of the donation made by the Kwang Wah Education Foundation to RISUD should be used to support a Visiting Fellowship Scheme to enhance scientific exchanges and research collaborations with researchers from the following five partner universities designated by the Foundation: National Taiwan University, National Taiwan University of Science and Technology, Sichuan University, Tongji University and Tsinghua University (Beijing). This year 8 scholars were awarded with the Fellowship to spend up to 1-month at RISUD.

Project Title	Visiting Fellow	PolyU Proposer(s) / Other RISUD Collaborators	Funding Awarded
<b>Smart Grid Analytics Framework for Improved Energy Savings in Home Appliances</b>	Prof. Jui-Sheng CHOU/ Professor, National Taiwan University of Science and Technology	Dr Mark Shu-Chien HSU [Member of RISUD]	HK\$40,000
<b>BIM-enabled Technologies for Advancing Construction Prefabrication</b>	Prof. Shang-Hsien HSIEH/ Professor, National Taiwan University	Prof. Geoffrey Q.P. SHEN [Leader of Research Group for Infrastructure Planning and Management]	HK\$20,000
<b>Sustainable Structures Incorporating FRP Composites</b>	Prof. Peng FENG/ Professor, Tsinghua University	Prof. Jin-Guang TENG [Director of RISUD and Leader of Research Group for Sustainable Materials and Structures] / Dr Jian-Guo DAI [Member of RISUD], Dr Song-Ye ZHU [Member of RISUD]	HK\$40,000
<b>Computational Fracking: Numerical Framework for Multiphysics Modelling of Naturally Fractured Rock at Multiple Length Scales</b>	Prof. Xiaoying ZHUANG/ Associate Professor, Tongji University	Prof. Jian-Hua YIN [Leader of Urban Geo-hazards Research Group]	HK\$40,000
<b>Integration of Membrane Technology and Photocatalytic Process for Achieving Sustainable Wastewater Treatment</b>	Prof. Zhiwei WANG/ Professor, Tongji University	Prof. Wei CHU [Leader of Research Group for Urban Water and Wastewater Treatment]/ Dr Ben Shao-Yuan LEU [Member of RISUD], Dr Po-Heng Henry LEE [Member of RISUD], Dr Wai-Hung Thomas LO [Member of RISUD]	HK\$40,000
<b>The Occurrence and Fate of Emerging Contaminants in Wastewaters and in Anaerobic Co-digesters</b>	Prof. Yu Chen Angela LIN/ Professor, National Taiwan University	Dr Po-Heng Henry LEE [Member of RISUD]	HK\$40,000
<b>1. Study and Realization of Fiber Sensing Technologies for Smart Building 2. Visible Light Communications</b>	Prof. Shien-Kuei LIAW/ Distinguished Professor, National Taiwan University of Science and Technology	Prof. Chao LU [Leader of Research Group for LED Based Energy Efficient Communication Systems]	HK\$40,000
<b>Investigating the Airborne Dust Deposition on Solar Photovoltaic (PV) Modules regarding Thermophoresis</b>	Prof. Bin ZHAO/ Professor, Tsinghua University	Dr Lin LU [Member of RISUD]/ Prof. Hong-xing YANG [Leader of Renewable Energy Research Group]	HK\$40,000

## Collaborative Research Sponsored by Government/Industry

Project Title	Project Leader	Funding Amount	Funding Body
<b>Transforming Food Waste at the Hong Kong International Airport into Value-Added Chemicals</b>	Dr Dan TSANG [Member of RISUD]	HK\$1,574,350	The Airport Authority Hong Kong

## RISUD Blue-sky Research Scheme

Project Title	Principal Investigator	Funding Amount
<b>Investigation on the Fundamentals and Applications of Highly Dispersed Photocatalyst Colloid in Combustion Efficiency Enhancement of Internal Combustion Engines (ICE)</b>	Prof. Hong-xing YANG [Leader of Renewable Energy Research Group]	HK\$300,000

## PhD Student engaged in Multidisciplinary Research

Thesis Topic	Chief Supervisor/Co-Supervisor(s)	Name of Student
<b>Life Cycle Management of Low Carbon Building and Framework of the Building Carbon Emissions Trading System in Greater China</b>	Prof. Edwin H. W. CHAN [Leader of Research Group for Sustainable Land Use]/ Dr Chi-kwan CHAU [Member of RISUD], Dr Esther Hiu Kwan YUNG [Member of RISUD]	Ji Weiyu

## RISUD Research/Postdoctoral Fellowship Scheme

Project Title	Principal Investigator	Funding Awarded
<b>Air Quality Monitoring using Satellite Remote Sensing</b>	Prof. Janet NICHOL [Member of RISUD]	HK\$390,400

## RISUD Matching Fund for Collaborative Research with Strategic Mainland Partner Institutions

Project Title	Principal Investigator	Name of Strategic Partner	Funding Awarded <sup>^</sup>
<b>Monitoring Real-time Network Performance and Traffic Emissions using ITS Technologies</b>	Prof. William LAM [Leader of Research Group for Sustainable Transportation Systems]	State Key Laboratory for Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University	HK\$452,000
<b>FRP- Reinforced Seawater/Sea-sand Concrete for Structural Applications in Marine Environments</b>	Prof. Jin-Guang TENG [Director of RISUD and Leader of Research Group for Sustainable Materials and Structures]	National Engineering Research Centre for Diagnosis and Rehabilitation of Industrial Buildings, Central Research Institute of Building and Construction, Metallurgical Corporation of China	HK\$401,600
<b>Design Theory for Concrete Structures Strengthened with Inorganically Bonded FRP Grids</b>	Dr Jian-Guo DAI [Member of RISUD]	National Engineering Research Centre for Diagnosis and Rehabilitation of Industrial Buildings, Central Research Institute of Building and Construction, Metallurgical Corporation of China	HK\$401,600

<sup>^</sup>converted from RMB based on the exchange rate of 1 RMB =1.26 HKD

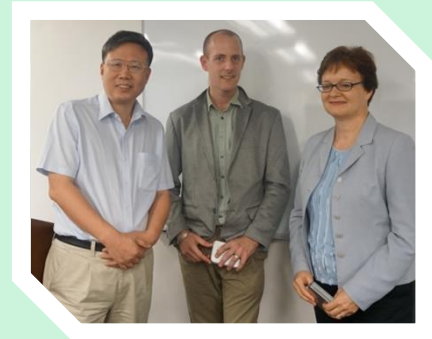
## RISUD Nurturing/Matching Funding Schemes

Project Title	Principal Investigator	Funding Awarded (funding provided by RISUD)
<b>Matching Funding for PolyU Large Equipment Fund - Fuel Cell Testing Station and BET Equipment for Surface Area Measurement</b>	Dr Meng NI [Leader of Environmental Energy Research Group]	HK\$1,700,000 (HK\$700,000)
<b>Matching Fund for Collaborative Research Project with Building Healthy Kowloon City Association Limited- A Study of Plot Ratio/Building Height Restrictions for Kai Tak Development Using 3D Spatial Analysis Technology</b>	Prof. Geoffrey Q.P. SHEN [Leader of Research Group for Infrastructure Planning and Management]	HK\$260,000 (HK\$130,000)



## RISUD Public Lecture

On 12 October 2015, Ms. Waltraut Ritter, the founder of Knowledge Dialogues, gave a public lecture on urban planning issues. She shared her study on the collaboration between Hong Kong and Malmo in urban planning which attracted over 50 people to gather on PolyU campus. In the lecture, she explained how Hong Kong and Malmo, differing considerably regarding climate, population and socio-political systems, can learn from each other in urban planning.



## RISUD Research Salons

The RISUD Research Salon series is a regular informal scholarly activity (normally once per month) of the Research Institute for Sustainable Urban Development (RISUD) chaired by Prof. Jin-Guang Teng, the Director of RISUD, or another senior member of RISUD.

Research Salons are small-scale gatherings for members of RISUD (as well as other researchers at PolyU) to exchange information on all issues related to sustainable urban development research. At each gathering, an invited speaker first gives a presentation on a specific topic of his/her choice. This is then followed by discussions among the participants and the speaker. Typically, each Research Salon attracts 20 to 30 participants.

RISUD was honored to have the following speakers at our research salons.

	<p><b>Topic: Smart Construction</b></p> <p>Speaker:  <b>Miss Ada FUNG, JP</b>                  Deputy Directory (Development &amp; Construction)                  Housing Department                  HKSAR Government</p> <p>Date: 26 June 2015</p>
	<p><b>Topic: Sustainable Concrete Construction</b></p> <p>Speaker:  <b>Professor Jianzhuang XIAO</b>                  College of Civil Engineering                  Tongji University, China</p> <p>Date: 8 September 2015</p>
	<p><b>Topic: Perovskite Solar Cells</b></p> <p>Speaker:  <b>Dr Feng YAN</b>                  Associate Professor                  Department of Applied Physics                  The Hong Kong Polytechnic University</p> <p>Date: 8 October 2015</p>

## Upcoming Events

Event	Date
<p><b><u>The 3<sup>rd</sup> Cross-strait Forum on Sustainable Urban Development</u></b></p> <p>Sponsored by the Kwang-wah Education Foundation, the 3<sup>rd</sup> Cross-strait Forum on Sustainable Urban Development is being organized by the Research Institute for Sustainable Urban Development (RISUD) of The Hong Kong polytechnic University and the College of Architecture and Environment as well as the Institute of New Energy and Low-carbon Technology of Sichuan University. Scholars from the mainland, Hong Kong and Taiwan will gather on the campus of Sichuan University to discuss issues related to sustainable urban development.</p>	22-24 Nov 2015
<p><b><u>The RISUD TOAF Distinguished Lecture Series</u></b></p> <p>This prestigious lecture series is financially supported by the Ove Arup Foundation (TOAF). Each year, two internationally renowned researchers or practitioners of very high status in a key area of sustainable urban development will be invited to visit Hong Kong for scholarly/technical exchanges with RISUD researchers and to deliver the RISUD TOAF Distinguished Lectures. The Distinguished Lectures will be open to all citizens of Hong Kong and are expected to address issues of wide concern. In addition, his/her visit programme will include a visit to Arup (Hong Kong) and an informal presentation at a research salon of RISUD to debate research issues/needs.</p> <p>The first lecture is expected to be held in the first quarter of 2016.</p>	2016
<p><b><u>The RISUD TOAF Summer School &amp; International Symposium on Smart Cities</u></b></p> <p>Sponsored by the Ove Arup Foundation, around 8 world-leading experts will be invited to give lectures on topics related to "Smart Cities". The attendance by PhD students from outside Hong Kong will be sponsored by TOAF's donation while participation of undergraduate students from RISUD's five partner institutions---National Taiwan University, National Taiwan University of Science and Technology, Sichuan University, Tongji University and Tsinghua University (Beijing)---will be sponsored by Kwang-wah Education Foundation.</p>	20-27 Aug 2016

For more information about the Research Institute for Sustainable Urban Development, please visit the following website.

<http://www.polyu.edu.hk/risud/index.html>