

RGC Ref. No.: <u>UGC/IIDS25/M01/18</u> (please insert ref. above)

**RESEARCH GRANTS COUNCIL
COMPETITIVE RESEARCH FUNDING SCHEMES FOR
THE LOCAL SELF-FINANCING DEGREE SECTOR**

INTER-INSTITUTIONAL DEVELOPMENT SCHEME (IIDS)

Completion Report
(for completed projects only)

<p><u>Submission Deadlines:</u> 1. The unspent balance, if applicable, and auditor's report: within six months of the approved project completion date. 2. Completion report: within 12 months of the approved project completion date.</p>
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Part A: The Project and Investigator(s)

1. Project Title

Seminar on Arboriculture and Sustainable Urban Forest Management

2. Investigator(s) and Academic Department(s) / Unit(s) Involved

Research Team	Name / Post	Unit / Department / Institution
Principal Investigator	Dr. ZHANG Hao/ Associate Professor	Faculty of Design and Environment/ Technological and Higher Education Institute of Hong Kong (THEi)
Co-Principal Investigator(s)	Dr. LAW Man Yee/ Assistant Professor	Faculty of Design and Environment/ Technological and Higher Education Institute of Hong Kong (THEi)
Co-Investigator(s)	NA	
Others	NA	

3. Project Duration

	Original	Revised	Date of RGC / Institution Approval (must be quoted)

Project Start Date	01/01/2019	NA	NA
Project Completion Date	31/12/2019	NA	NA
Duration (<i>in month</i>)	12	NA	NA
Deadline for Submission of Completion Report	31/12/2020	NA	NA

Part B: The Final Report

5. Collaboration with Other Self-Financing Degree-Awarding Institutions

	Name of Institution(s)	% of Participation	Distinctive <u>Element(s)</u> of the Institution in Responsible Project
Applying Institution	N/A	N/A	N/A
Collaborating Institution(s) (If any) #			
Total:			

If no other eligible local self-financing degree-awarding institutions are involved, please input "N/A" in this table.

6. Project Objectives

6.1 Objectives as per original application

1. To introduce students and the general public to the current situations and problems of urban forestry and arboriculture in Hong Kong, and to demonstrate the importance of tree health and sustainable urban forest development
2. To gain updated worldwide knowledge, practical experience of soil science, pest and disease control, tree selection, planting techniques and maintenance, as a comprehensive review of urban forestry management
3. To inspire arborists and decision makers to the possible scientific solutions, which involve strategic and sustainable arboricultural and urban forestry management from multiple perspectives.

6.2 Revised objectives

Date of approval from the RGC: N/A

Reasons for the change:

- 1.
- 2.
3.

6.3 Realisation of the objectives

(Maximum 1 page; please state how and to what extent the project objectives have been achieved; give reasons for under-achievements and outline attempts to overcome problems, if any)

Objective 1

According to the data we have, around 10% of the participants are students and 10 % are public not from the field.

For every seminar, there was one local speaker, which are all with rich practical experiences of urban forest management in Hong Kong. Their sharing have respectively provided their knowledge and evaluation on current situation of Hong Kong in terms of evaluation of soil management strategy, common pests and diseases found and their management, and a review of application of sustainable urban forest management in Hong Kong. Therefore, participants can learn about the situation in Hong Kong. Different speakers, be it local or overseas, throughout the series emphasized the message of the importance of a healthy and sustainable urban forest.

Objective 2

As mentioned, there are three different topics for our seminar, covering comprehensively the different areas of urban forestry management. We have invited international scholars over the world, including the Mainland, Taiwan, Singapore, France, Australia, New Zealand and Canada. Moreover, some speakers are doing projects not only in their country, but also across the world. Speakers have shared information of most up-to-date technology, recent research findings and experiences of their current projects. They do not only contribute to academic world, but also with close collaboration with the arboriculture and greening industry. As a result, what they share is combing theoretical research and practical experiences.

Objective 3

We have invited four local parties as supporting organizations to maximize the impact of the seminar to the industry and decision makers of urban forest management, including industry organizations, Hong Kong Greening Contractors Association, Hong Kong Institute of Horticultural Science and the Hong Kong Institute of Landscape Architecture, and government party, Development Bureau. Besides getting inspirations from presentation of speakers with great expertise on various topics, participants also have the opportunities to interact further with speakers through panel discussions organized in both morning and afternoon session and during the break.

6.4 Summary of objectives addressed to date

Objectives	Addressed <i>(please tick)</i>	Percentage Achieved <i>(please estimate)</i>
1. To introduce students and the general public to the current situations and problems of urban forestry and arboriculture in Hong Kong, and to demonstrate the importance of tree health and sustainable urban forest development	✓	100%
2. To gain updated worldwide knowledge, practical experience of soil science, pest and disease control, tree selection, planting techniques and maintenance, as a comprehensive review of urban forestry management	✓	100%
3. To inspire arborists and decision makers to the possible scientific solutions, which involve strategic and sustainable arboricultural and urban forestry management from multiple perspectives.	✓	100%
4.		

6.5 Project progress

Original Implementation Schedule	Revised Implementation Schedule (Date of RGC's Approval)	Updated Progress
Seminar 1 – Urban soil science	NA	4 May 2019
Seminar 2 – Pests, Diseases and Tree Decline	NA	10 Aug 2019
Seminar 3 – Urban Tree Planting and Management	NA	2 Nov 2019

6.6 Speaker(s)

Title / Name (Surname in Capital Letters)	Post / Institution	Title / Topic of Presentation / Course	Previous Research Links with Hong Kong Institutions (Nature and Date (Month / Year))
Prof. CHAU Kwai Cheong	Adjunct Associate Professor/ The Chinese University of Hong Kong	Urban soil management in Hong Kong: from theory to practice	Academic staff in The Chinese University of Hong Kong (CUHK) (on-going)
Prof. Nicholas DICKINSON	Professor of Ecology/ Lincoln University	Urban arboriculture and soil ecosystem services	Nil
Prof. Ganlin ZHANG	Director of State Key Laboratory of Soil and Sustainable Agriculture Institute of Soil Science, Chinese Academy of Sciences	Formation, properties and quality of urban soils	Soil and Environment Joint Open Laboratory between Institute of Soil Science, Chinese Academy of Sciences and Hong Kong Baptist University, Soil and Environmental Bioremediation Research Center, State Key Laboratory of Soil and Sustainable Agriculture
Dr. Alessandro OSSOLA	Research Coordinator of Centre of Smart Green Cities/ Macquarie University	Urban soil science for sustainable urban forests	Nil
Prof. Paul BARBER	Managing Director, ArborCarbo Pty Ltd Adjunct Associate Professor, Murdoch University	Innovative approaches to the diagnosis, monitoring and sustainable management of pests and diseases in the urban forest	Non-official member, Urban Forestry Advisory Panel, Development Bureau (2017-recent) Symposium on Brown Root Rot Disease Management, held by Hong Kong Institute of Horticultural Science (HKIHS) (Mar 2017) Seminar on Urban Tree Management, held by CUHK (June 2009)
Prof. Cai WANG	Professor, College of Forestry and Landscape Architecture, South China Agricultural University	Study on the foraging behaviors and control strategies of red imported fire ants in urban areas	Seminar on Best Practices for Urban Tree Management VII, held by HKIHS (Jan 2016)

Prof. Siu-Wai CHIU	Honorary Senior Research Fellow, School of Life Sciences, CUHK	The major pests, diseases and tree decline in Hong Kong	Academic staff in CUHK (on-going)
Dr. Wen-Wei HSIAO	Assistant Researcher, Experimental Forest, National Taiwan University	The studies on basidiocarps and the model plant of <i>Phellinus noxius</i> in Taiwan	Seminar on Tree Conservation and Management, held by HKIHS (Dec 2008) Seminar on Urban Tree Management, held by CUHK (Jun 2009)
Ms. Kathy NG	Chief Landscape Architect, Landscape Division, Highways Department	Sustainable urban forest management – A review of Highways Department, Hong Kong	Nil
Prof. TAN Puay Yok	Associate Professor, Department of Architecture, National University of Singapore	Urban forest management in dense cities – Challenges and opportunities	Nil
Prof. Cecil KONIJNENDIJK VAN DEN BOSCH	Professor of Urban Forestry, Department of Forest Resources Management, The University of British Columbia	Urban forestry for dense cities – A governance and management approach	Nil
Dr. Alexia STOKES	Senior Researcher, Department of Forest, Grassland and Freshwater Ecology, French National Institute for Agricultural Research	The urban underground – Where trees meet soil	Nil

6.7 Please provide details of the activities organized, including the theme / objectives of the activities, targeted participants, attendance, analysis of participants, e.g. country of origin, research background, etc., evaluation forms of the activities and a summary of the participants' evaluation. (Photos of the activities are preferred.)

Details of activities organized (Please refer to [appendix 1](#) for publicity materials, including poster and leaflet, of the seminar)

Seminar theme	Urban Soil Science	Pests, Diseases and Tree Decline	Urban Tree Planting and Management
Targeted participants	Open to the public, with focus on academics, industry professionals and practitioners including arborists and landscape architects, and policy makers.		
Attendance	186 ppl	157 ppl	153 ppl
Participants background	Mainly local professionals and practitioners from greening industry, some from academia and government, a few general public		
Summary of Participants Evaluation	No. of Evaluation Form received: 81 Details shown below	No. of Evaluation Form received: 99 Details shown below	No. of Evaluation Form received: 88 Details shown below

Summary of participants' evaluation (Please refer to [appendix 2](#) for template of evaluation form)

Rating (1=Strongly disagree, 5=Strongly agree)								
Seminar	Theme	Presentation content	Choice of speakers	Panel discussion	Programme rundown	Promotion and coordination	Venue	Overall satisfaction
1	4.3	4.1	4.1	3.9	4.1	3.9	3.9	4.0
2	4.3	4.0	4.1	3.8	4.1	3.9	4.1	4.0
3	4.4	4.4	4.5	4.2	4.3	4.1	4.2	4.3

Seminar	Background of Respondent				Interested to join future seminar	
	Industry	Government	Student	Other	Yes	No
1	65.4%	12.3%	9.9%	12.3%	95.1%	0%
2	60.0%	16.2%	11.1%	12.7%	88.9%	1%
3	37.5%	22.7%	22.7%	17.0%	87.5%	1%

Seminar	Highlights of comment (Please refer to appendix 3 for all the comments,)
1	Participants preferred demonstration of local examples and practical experiences.
2	Some participants found the seminar highly informative while some hoped to have more sharing content related to practical application.
3	Participants reflected that it was an inspiring and a content-rich talk. There is opinion that the theme of the seminar should be more focused. Another comment appreciated that the speakers were from diverse background.

In general, participants showed positive responses to our seminars, with average ratings for individual assessment items not lower than 3.8. For overall satisfaction, all seminars with average ratings reached over 4.0.

Photos of the Activities

Please refer to [appendix 4](#).

Appendices

1. Publicity materials
2. Evaluation Form
3. Comments from participants
4. Photos of the Activities

7. Research-Related Outcome

7.1 Potential for development into research proposal and the proposed course of action
(Maximum half a page)

From the feedback of participants, it can be observed that the demand on seminars regarding urban tree management is very large. Some potential themes include tree root science, tree structure and tree stress/ force distribution, use of ecological principle in urban planning and etc. We will continue to collect opinions from industry professionals and academia to determine suitable seminar topics and identify suitable speakers for the topics. We will propose to organize another seminar series when we have more comprehensive planning in the future.

7.2 Research collaboration achieved
(Please give details on the achievement and its relevant impact)
N/A.

7.3 Any new development and/or challenging research topic(s) has / have been identified and any new initiative(s) for future research has / have been inspired.

The overseas speakers shared some perspectives regarding urban forest management that are recently not yet much investigated and discussed in Hong Kong. To introduce those beneficial dimensions in urban forest management in Hong Kong, research should be carried out to develop database for supporting policy and strategy formulation. One example is selecting tree species and planting structure for specific functions of urban forests, such as stormwater management or temperature reduction. We are evaluating the feasibility of conducting research related to functional characteristics of common urban tree species in Hong Kong, in particular transpiration cooling and stormwater attenuation.

8. The Layman's Summary

(Describe *in layman's language* the nature, significance and value of the research activities, in no more than 200 words)

For our seminar series, three seminars has been carried out in three separate days and our participants include decision-makers, industry professionals and practitioners and people from academia. Our seminar series has provided a platform for people to acquire up-to-date knowledge and exchange ideas. Sustainable urban forest management is a topic that has been increasingly emphasized in Hong Kong.

The first topic "Urban Soil Science" is an important but often overlooked issue in local tree management. The sharing from the speakers raise the concern and increase the knowledge of participants towards urban soil management.

The second topic "Pests, Diseases and Tree Decline" is widely recognized as an important area for management of urban trees. In the seminar, information was covered from basic to advance, from traditional to innovative. The knowledge will allow formulation of better strategy for pests and diseases management.

The last topic, "Urban Tree Planting and Management", focused at the policy level. The seminar has introduced numerous advanced concepts in urban forest management in dense cities.

To conclude, our seminar series has provided significant knowledge and inspiration to foster the industry to formulate strategy and improve current practices to achieve sustainable urban forest management in Hong Kong.

Part C: Research Output**9. Recognized Conference(s) Paper(s) Related To This Project Was / Were Delivered (As Applicable)***(Please attach a copy of each conference abstract)*

Month / Year / Place	Title	Conference Name	Submitted to RGC <i>(indicate the year ending of the relevant progress report)</i>	Attached to this Report <i>(Yes or No)</i>	Acknowledged the Support of RGC <i>(Yes or No)</i>
NA	NA	NA	NA	NA	NA

10. Research Personnel Trained (As Applicable)

Name	Capacity
NA	NA

11. Other Impact (As Applicable)*(e.g. prizes, collaboration with other research institutions, technology transfer, etc.)*

NA

12. Statistics on Research Outputs

	Peer-reviewed Journal Publications	Conference Papers	Scholarly Books, Monographs and Chapters	Patents Awarded	Other Research Outputs (please specify)	
No. of outputs arising directly from this project	NA	NA	NA	NA	Type	No.
					NA	NA

13. Public Access Of Completion Report

(Please specify the information, if any, that cannot be provided for public access and give the reasons.)

Information that Cannot Be Provided for Public Access	Reasons
NA	NA