

# CSDE Newsletter

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## ABOUT CSDE

The “Centre for Sustainable Design and Environment (CSDE)” was established in 2017 under the Faculty of Design and Environment (FDE), which is financially supported by the Research Grants Council (UGC/IDS25/16). The mission is to promote research and development, knowledge exchange, and education in the areas of sustainable design and environment.

## WHAT'S NEW

### Sustainable Lighting Design Exhibition

Collaborated with THEi Product Design Programme and the Hong Kong Printing and Publishing Media Industry Workers Union, SIDL presented the ‘Sustainable Lighting Design Exhibition’ in our centre from 18 to 29 March 2019.

In response to the ever increasing problem of waste generated by modern consumerism, the exhibition demonstrated how students were applying concepts from Circular Economy and Cradle to Cradle (C2C) to come up with sustainable and batch-producible lighting design, with the use of machinery typically found in ‘Maker Spaces’.

Students met challenges to apply the C2C concept and have built up practical experience in using degradable materials to create their designs. The hope is that even the products will be discarded eventually upon usage, the discarded materials will not have negative effects on our environment, and instead they will become nutrients in the continuous biological and technical cycles.



## IDS ACTIVITIES

### Innov8 Enterprise Start-up participated in Lunar New Year Flower Market

SIDL is pleased to work with the incubatee of THEi Inno8 Enterprise Start programme *upcyco.co*, on design verification and production process of their upcycling products. Made from unused leather, these eco-friendly products were promoted in the Lunar New Year Flower Market at Victoria Park from 30 January 2018 to 4 February 2019. SIDL is enthusiastic to work with local young entrepreneurs who share our vision of promoting sustainable product design, and we are looking forward to further cooperation.



## Sustainable Marketplace in Southern District

*Sustainable Marketplace in Southern District* was an activity co-organized by the Caritas Community Centre -Aberdeen and the Southern District Council on 27 January 2019. This activity aimed to promote and foster a culture of sustainable living and sustainable design in local community.

CSDE was invited to hold a workshop of upcycling waste in product by using biodegradable materials such as paper. Through this workshop, participants have been encouraged to incorporate sustainable living and creative product design ideas into their daily lives. The goal of this workshop was to bring both long term environmental conservation inspiration and short term DIY product enjoyment to participants.



## Master Lecture on Sustainability in Design

To broaden staff and students' knowledge on sustainability in design, THEi IDS invited local product designer Mr. Chi Wing Lee to give a master lecture on Design sustainability on 11 February 2019. His lecture has provided sharing on the topic "*How Can We Create a Supportive Culture and Society*".

Mr. Lee is the founder of *Milk Design Ltd.* and his design embraces simplicity and sustainability. Some of his furniture are made from bamboo and wood, utilizing traditional joinery technics with a contemporary interpretation. His design embraces environmental, economic and social sustainability.



## Master Lecture on Turf Management in Hong Kong

Dr. Eric YT Lee, Honorary Senior Research Fellow of the Chinese University of Hong Kong, delivered an expert lecture on "*Turf Management in Hong Kong*" to students, staff members and members of the public on 10 December 2018.

During his lecture, Dr. Lee introduced his fruitful journey with practical turf knowledge and shared his

valuable lawn management skills e.g. Integrated Pest Management (IPM). The maintenance tips of a sustainable turf cover for both sports and leisure amenities such as golf courses, natural turf pitches and public urban lawn were also covered in the master lecture.

Apart from appreciating the turf grass photos, participants directly benefited from this experiential lecture by touching the life specimens of various turf and comparing different types of turf grasses visually. Dr. Lee interactively responded to multiple enquiries from the participants which has effectively deepened the public understanding of Hong Kong's turfgrass science and management.



## CSDE Seminar Series on Sustainable Tree Management for Combating Climate Change

*“Sustainable Tree Management for Combating Climate Change 2018-2019”* seminar series aims to enrich the knowledge of the students and staff of THEi and the members of the public with the thematic focus on the relationship of the trees and green spaces, and urban climate impact in contemporary global warming era.

### ***Seminar 1: Right Tree, Right Place: Tree Selection Approaches for Urban Heat Mitigation in Hong Kong***

CSDE invited Dr. Tobi Eniolu Morakinyo to give the first seminar presentation of our new CSDE Seminar Series: *“Sustainable Tree Management for Combating Climate Change”* in THEi Chai Wan campus on 28 February 2019. Dr. Tobi Eniolu Morakinyo, Post-doctoral Fellow at the Institute of Future Cities of the Chinese University of Hong Kong, shared his insight on the topic *“Right Tree, Right Place: Tree Selection Approaches for Urban Heat Mitigation in Hong Kong”*.

During the seminar, Dr. Morakinyo shared his decade-long research findings on appropriately selecting trees to alleviate urban heat island (UHI) effect. He introduced the essential knowledge about UHI effect and urban tree management strategies in Hong Kong. He utilized scenario modeling method which combined research elements of urban geometry and tree species selection for exploring the quantified relationships between tree species and human thermal comfort. The simulated results can provide evidence to support urban greening for regulating urban climate. This interesting seminar attracted the attentive participation by staff and students from THEi and community members.



### ***Seminar 2: Application of Radiation Apportionment Model: A way to estimate savings from shading against short-wave radiation by a climber green wall***

The Centre for Sustainable Design and Environment (CSDE) invited Dr. Lee Shing Him Louis to deliver the second seminar of our new CSDE Seminar Series: *“Sustainable Tree Management for Combating Climate*

*Change*” in THEi Chai Wan campus on 11 March 2019. Dr. Lee is currently a researcher from the Department of Social Sciences, the Education University of Hong Kong. He shared his research findings and experiences on the topic “*Application of Radiation Apportionment Model: A way to estimate savings from shading against short-wave radiation by a climber green wall*”.

In this seminar, Dr. Lee shared with the participants his exploratory research journey from formulating the concepts of this study to the successful completion of his research project. He began the seminar with introducing different types and functions of green walls as an integral part of urban green infrastructure. He then proposed to adopt the Radiation Apportionment Model in the climber green wall setting to analyze the flows of solar radiation. His innovative model can quantify the shading effect of vertical greening design in built environment. Dr. Lee’s findings can also aid the policy makers and general public to justify the installation of more green walls in cities for reducing carbon emission, saving electricity cost and reducing energy consumption in sustainable built environment.



## Training of FYP students in CNC workshop

THEi IDS facilitated Final Year Project (FYP) students in the training of the CNC and 3D printing machines. THEi FYP students in Product Design Programme are required to undertake research to innovate on design related to sustainability. The new equipment such as CNC and 3D printing can assist in the students’ research in rapid prototyping and digital fabrication.



## SIDL Technical Training Workshops

Two training workshops on principles and application of *Laser processing, Digital cutting, 3D scanning and 3D printing* were arranged for THEi students on 4 & 29 January 2019. CSDE welcomes all THEi staff and students to utilize our resources in their research projects, and more training workshops on our equipment will be arranged in the near future.



## School talk for the Po Kok Secondary School

A school talk was held for 45 Secondary School S.5 students from the Po Kok Secondary School on 14 November 2018. During the school talk, they enriched their understanding not only on the quality teaching services and gained learning exposure.

A wide range of horticulture research facilities, equipment and academic studies were introduced during the school talk. These 45 students were divided in groups and enjoyed hands-on experience of using the resistograph machine for tree risk assessment, and utilizing the sonic tomograph device for examining tree health conditions like a team of future certified arborists.



The students also visited the CSDE for a briefing of our current research. Researcher in our centre introduced our sophisticated 3D printing and 3D scanning equipment as well as their possible applications to these young visitors. Students were very curious about the integration of these equipment as a rapid prototyping technique, as well as the possible applications of 3D printing in different areas of design.



## School talk for the Queen Elizabeth School Old Students' Association Secondary School

A school talk and a visit to the Sustainable Living and Environment Lab (SLEL) were arranged for over 60 teachers from the Queen Elizabeth School Old Students' Association Secondary School on 21 December 2018. In the school talk and guided tour to SLEL, these teachers gained rich information about the THEI Horticulture and Landscape Management Programme. The teaching and research teams also shared with them the latest horticultural management practices and daily vegetation care skills for them to inspire future generations in school.



## School talk for the Chinese Y.M.C.A. Secondary School

A school talk followed by a visit to Sustainable Living and Environment Lab (SLEL) were organized to receive 20 students and teachers from the Chinese Y.M.C.A. Secondary School on 26 February 2019. These two events were a great way to explore the innovative and technology-driven horticulture and landscape management education and career prospects of THEi graduates. During the SLEL visit, they had a wonderful opportunity to use the modern tree risk assessment machines for conducting tree health inspection. All participating students recognized well that Hong Kong will need more tech-savvy arborists for professionalizing arboriculture industry and upgrading Hong Kong's urban forestry management. The THEi teaching and research team also gave each participant a pot of evergreen and perennial *Kalanchoe Blossfeldiana* for raising their urban greening sensitivity and sustainability awareness.



## Taster Programme & School talk for the Chinese Y.M.C.A. Secondary School

CSDE organized a school talk and a taster programme namely "Urban Horticulture: Promoting Home-based Potted Planting" for 27 students and teachers from the Fung Kai Liu Man Shek Tong Secondary School on 8 March 2019. The talk highlighted Hong Kong's city greening plan with an emphasis of scientific research needs on urban trees. It followed by the taster programme with a view to providing hands-on experience to participants on operating equipment for tree health evaluation in the Sustainable Living and Environment Lab (SLEL), appreciating various outcomes on tree studies and promoting the importance of professional horticulture management.

To raise students' interest on horticulture and arboriculture studies and their awareness on sustainable urban tree management strategy, the research team of HLM programme led a series of experiments in this taster programme, including observation of fern spores, dissection of *Kalanchoe blossfeldiana* flower buds and undertaking tree risk assessment through professional arboricultural equipment (resistograph and sonic tomograph). Lastly, participants gained a better understanding of home-based plant caring skills and the insight of future horticulture and landscape industry.



## ENQUIRIES

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