



School of Energy and Environment

Newsletter

September 2017 Issue



香港城市大學
City University of Hong Kong
專業 創新 胸懷全球
Professional-Creative
For The World

能源及環境學院
SCHOOL OF ENERGY
AND ENVIRONMENT

Dean's Message

Here comes the latest issue of the Newsletter of the School of Energy and Environment (SEE)! In this issue, we would like to share with you an overview of the exciting development of SEE in various aspects including our new faculty members; innovations and achievements of faculty, students and alumni; development in our academic programmes; and so on.

With the commencement of the new academic year, I would like to take this opportunity to update you on our SEE administration. It is a pleasure that Prof. Michael Leung and Dr. Patrick Lee have recently taken up the position of Associate Dean (Research and Graduate Studies) and Associate Dean (Undergraduate Studies) respectively. They will continue to contribute to the growth of SEE. The School is most grateful to Prof. Peter Brimblecombe and Prof. Michael Leung for their contributions in their respective position of Associate Dean (Research and Graduate Studies) and Associate Dean (undergraduate studies) in the past years.

Alongside with the change in Associate Deanships, three faculty members have recently been promoted. Please join me in congratulating Dr. Patrick Lee, Dr. Carol Lin and Dr. Zhi Ning for their promotion to the grade of Associate Professor. While we congratulate the achievements of our colleagues, it is with a mixed feeling to farewell Dr. Aude Pommeret. Dr. Pommeret has dedicated herself to teaching, research and many other SEE's projects, especially in sustainability education and research. We are fortunate to have her in our team and we wish her the very best in her future endeavours.

The growth of SEE is a success of concerted efforts. Your support has been vital for us and will continue to inspire us in future. I look forward to your continued advice and support to us for a better education and research environment for our students. Thank you.

Best,
Chak
Professor Chak K. Chan
Dean of School of Energy and Environment
City University of Hong Kong



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New Faculty

Dr. Masaru Yarime, Associate Professor



I have joined SEE since January 2017. I studied chemical engineering at the University of Tokyo and the California

Institute of Technology, receiving Bachelor of Engineering in Chemical Engineering and Master of Science in Chemical Engineering respectively. After that, I studied economics and policy studies of technological change and innovation, obtaining PhD from Maastricht University in

the Netherlands. My previous positions include Senior Research Fellow in the National Institute of Science and Technology Policy and Project Associate Professor of Science, Technology, and Innovation Governance at the Graduate School of Public Policy in the University of Tokyo, where I currently have an appointment as Visiting Associate Professor. I am also appointed as Honorary Reader at the Department of Science, Technology, Engineering and Public Policy in University College London and Visiting Scholar in the Japan International Cooperation Agency Research Institute. My research interests centre around

science, technology, and innovation policy, management and governance for energy, environment and sustainability, with a particular focus on facilitating innovation for sustainable smart cities. I contribute to global sustainability initiatives, such as UNEP-FI, IPCC and IPBES, and serve on the editorial board of international journals, including *Sustainability Science*, *Environmental Innovation and Societal Transitions*, *Journal of Corporate Citizenship and Frontiers in Energy Research - Energy Systems and Policy*.

Dr. Iris Hwang, Visiting Assistant Professor



Very nice to meet you all. I am Iris Hwang and will be teaching sustainable design and smart cities from September 2017

at SEE. I am a registered architect in NSW Australia with Masters in Architecture and another in housing/

planning from the University of Sydney. I hold a PhD degree in sustainable urbanism using Hong Kong as a high-density compact city model from the University of Hong Kong. For the past seven years, I worked with bright engineering mind at Arup working on projects of various natures and scales. Recently, I have completed a project to develop BEAM Plus Neighbourhood tool for Hong Kong Green Building Council. While I have

taught at both undergraduate and postgraduate levels in architecture and urban design, it will be my first time teaching engineering minds and I am very much looking forward to meeting you all. I do hope I can invigorate your inquiring minds, as you, the students and faculty members, would inspire me.



SEE Research Development

Research Grants

GRF and ECS 2017-18 Application Results

The School of Energy and Environment strives for excellence in research to enhance the sustainability and livability of megacities such as Hong Kong, as well as adapting them for climate change. It is achieved holistically through developing innovative energy and environmental technologies, improving the resource management of megacities including water, energy and pollutions, forecasting the impacts of climate change, and to pursue the relevant policies.

To facilitate our research, SEE faculty members continued to participate in the General Research Fund (GRF) and Early Career Schemes (ECS) application exercises by submitting quality proposals. Table on the right shows the list of SEE projects that succeeded in obtaining GRF/ECS in 2017-18 funding exercise.

Project Title	Investigator from SEE
Engineering Omniphobic Slippery Membrane Surface for Wetting and Fouling Prevention: The Expanded Application of Membrane Distillation for Resource Recovery from Wastewater	Dr. Alicia An
Understanding the Physical Processes Responsible for Different Rainfall Distributions Associated with Tropical Cyclone Landfall	Prof. Johnny Chan
Understanding the Impact of Ligand and State-of-Charge on Electrolyte, Redox Reaction and Electrode Stability for the Cerium-based Flow Battery	Dr. Walid Daoud
Developing a 3D NO2 Land-use Regression (LUR) Model for Air Pollution Exposure Study in Mega-city	Dr. Nicky Lam
A Meta-analysis of the Hong Kong Built Environment Microbiomes	Dr. Patrick Lee
Predicting Winds Inside Deep Urban Canopies Using Vortex Dynamics	Dr. Keith Ngan
Development of Active Sieving Technologies for High-Efficacy Molecular Separation	Dr. Jin Shang
Climate Change, Green City and Economic Growth: An Integrated Assessment of the Economic Effects of Hong Kong's Climate and Energy Policies	Dr. Lin Zhang
Observed Trends and Future Changes in the Intensity, Frequency, and Duration of Very Hot Weather in Hong Kong	Dr. Wen Zhou

Success in the EC/RGC Joint Research Scheme 2017

Prof. Johnny Chan 's project titled "Development of a Regional Prediction System for Seasonal Tropical Cyclone Landfall Prediction and Future Projections under Different Climate Change Scenarios" obtained major funding (around HK\$2M) in the latest round of the prestigious European Council (EC)/ Research Grant Council (RGC) Joint Research Scheme. The funding shall allow Prof. Chan to develop a computer modeling system to predict the frequency of tropical cyclone landfalls in the East Asia region as well as their intensities, which involves a suite of models that includes coupling with the ocean. The research work will be part of the Horizon 2020 project led by Dr. Fred F. Hattermann of the Potsdam Institute for Climate Impact Research, Germany.

ITF Grant on Energy Efficiency

Prof. Michael Leung's project "Integrated System of Advanced Thermal Nano Technologies (TNT) for Energy-Efficient Air-Conditioning and Clean Indoor Air: Part 1 - Energy Efficiency" has recently been awarded over HK\$20M by the

Innovation and Technology Fund (ITF). The project aims to develop thermal nano solutions for waste energy recovery in air-conditioning system. Significant benefits of this project include substantial removal of unwanted waste heat rejection and free electricity production from waste energy recovery. The revolutionary technological breakthrough anticipated in this project not only contributes to enhanced sustainability, but also generates many new business opportunities worldwide.

ECF Grant Results

In the recent Environment and Conservation Fund (ECF) application exercise, Prof. Chak K Chan and Dr. Chunhua Liu secured grants for their respective projects, namely "Formation of Secondary Particulate Matter (PM) from On-road Vehicle Emissions in Hong Kong" and "Development of a New Multiphase High Energy-efficiency PM Vernier Machine for Electric Vehicle".

Recent Research Activities International Workshop on Forming Synergies in Greening China's Growth

Sponsored by the Campus Sustainability



Photo credit: Department of Public Policy

Fund, a workshop titled "Forming Synergies in Greening China's Growth" was co-organised by the School of Energy and Environment and Department of Public Policy on 13th June 2017. The event was also supported by grants from the Center for East Asian and Comparative Philosophy, CityU; Chinese Academy for Environmental

Planning; Hong Kong Smart City Consortium; and Hong Kong and Macau Research Center, Tsinghua University. The workshop brought together scholars and leaders from government institutions, private sector, universities, think tanks and NGOs to address pressing environmental issues in China. Ms. Christine Loh, then Under Secretary for the Environment of the Hong Kong SAR Government delivered an opening speech on regional collaboration to kick off the workshop.

More details of the workshop can be found at: http://www.cityu.edu.hk/class/news/news_item.aspx?ref=108

Urban Meteorology and Climate Conference

According to the United Nations, over half of the world's population resides in urban areas, and the percentage has been surging since 2008. This is especially the case for most Asian countries. Urbanisation has been a cause to change in land use, water availability and air quality, all of which have impacts on the meteorology and climate of not only the urban areas but the surrounding non-urban areas.

In this connection, Asian Network on Climate Science and Technology, Guy Carpenter Asia-Pacific Climate Impact Centre (SEE, City University of Hong Kong) and Division of Environment and Sustainability (Hong Kong University of Science and Technology) jointly organised the "Urban Meteorology and Climate Conference" during 25th – 26th May

2017. The conference aimed to provide a platform for scientists to share insights on various aspects of urban meteorology and climate, especially focusing on the situations in Asia. Topics on "air pollution – observations, modelling, its impact on weather and climate", "land-use change and its impact on weather and climate", "urban flooding" and "water availability" were covered in the two-day conference.

The event, attended by over 50 participants, brought together academics and researchers from various institutions and organisations to share views. Scholars of the event came from Hankuk University of South Korea, Hong Kong Observatory, Hong Kong University of Science and Technology, Indian Institute of Technology, National University of Singapore, Singapore-MIT Alliance for Research and Technology, Sun Yat-Sen University, The Chinese University of Hong Kong, Tsinghua University, University College London, Universiti Kebangsaan Malaysia, University of Hong Kong, and City University of Hong Kong. After two days of discussion, the conference was concluded with a view that local levels of pollution and the expansion of urban mega cities could be related to the increasingly frequent occurrence of natural hazards. Detailed studies of urban structures, types of buildings, open space and transport systems, as well as detailed measurements and modeling of the atmospheric environment, are beginning to provide forecasts and tools to inform policy makers to that minimize the impacts of pollution and natural hazards. However, such approaches



must take the different topographies, regional environments and climates of the different areas and geographical latitudes of Asia into consideration.

Recent Research Highlights Novel Device to Charge Mobile Electronics from Daily Activities

The research team, led by Dr. Walid Daoud, has combined two energy conversion concepts, namely piezoelectric and triboelectric effects, to create a hybrid system. It is a sandwich structure, whose surface has zinc oxide nanorods to maximise the effective electrification area. When mechanically compressed, the piezoelectric generator produces polarisation charges, and the triboelectric generator produces triboelectric and electrostatic charges. The flow of these charges through an external circuit forms an electric current, which can be stored in the form of electrical energy. The research was published in *Advanced Functional Materials*.



"We conducted this pioneer study to better understand the transduction mechanisms. These findings provide a foundation to further improve the conversion efficiency and energy output of hybrid generators. We found that the energy output can be raised by 50 to 60% owing to the zinc oxide nanorods," said Dr. Daoud.

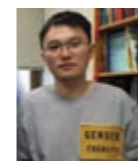


Dr. Daoud and his team are exploring the possibilities revealed by the research findings. For instance, a device that could fabricate textiles to make them part of our clothing. It could also be installed in a shoe sole, which would be an efficient setting for harvesting the energy pulses produced by our movements. The energy generated could be transmitted wirelessly to charge a portable device.

This promising technology has attracted the interest of a leading smart electronic company to apply it in its smart watches.



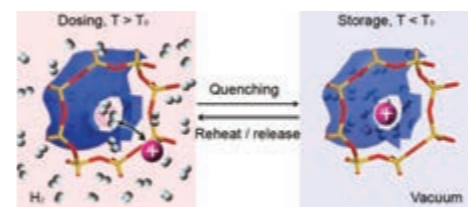
New Insights on the Selective Sequestration of Gas Molecules Appearing in Nature Communications



Dr. Jin Shang's work on the design of highly porous materials for the sequestration of gas molecules appears in *Nature Communications*. Together with researchers from Australia and USA, Dr. Shang and the team clarified for the first time, the mechanism of selective admission of guest molecules into the cage of the porous materials. This is a paradigm shift to what people thought they had understood for a long time, i.e., on the idea of molecular sieving, where gas molecules smaller than the pore openings are admitted.

Explaining that the achievement is built on Dr. Shang's previous discovery of "molecular trapdoor" mechanism, the introduction of cation bouncers on the door of the pores can keep out undesirable gases like methane while letting in carbon dioxide despite the latter being larger in size. Based on this concept, it is now possible to tune microporous materials to exclusively sequester targeted gas molecules, for example, carbon dioxide from other molecules in the exhaust of coal-fired power plants.

Although the team demonstrated the selective sequestration, storage and release of gases using simple temperature control, the materials can potentially be controlled using other means such as light and electric field. These are promising to the key industrial gas separation applications including the carbon capture and natural gas purification, removal of NOx from roadside emissions, as well as smart gas storage without needing sustained gas pressure.



Academic Development

Undergraduate Studies

Launch of Bachelor of Engineering in Environmental Science and Engineering

Excitement is surrounding undergraduate studies this September as we launch the new major—*Bachelor of Engineering in Environmental Science and Engineering (EVE)* in academic year 2017-18. The intake for EVE is 30 students per year. Along with the 50 students joining the existing Bachelor of Engineering in Energy Science and Engineering (ESE), there will be substantial growth in our undergraduate population over the next few years!

Different from the ESE programme, this new major will allow our students to understand sustainability, environmental management and environmental systems topics from a more macro perspective. The major aims to provide students with broad-based knowledge and fundamentals of environmental science and engineering with three streams, namely environmental technology, sustainability and environmental management, and environmental science. Topics related to environmental management, sustainability, waste management, and environmental impact assessment, so on and forth will be covered. It is believed that with the in-depth training, graduates will be able to perform competently as environmental professionals, scientists and engineers in commercial, industrial and non-governmental organisations, civil services and educational institutions.

Launch of Minor Programme in Sustainability

The Minor programme in Sustainability aims to provide students with a solid understanding of basic concepts and methodologies concerning sustainability and to enhance their ability to address practical issues through integration of environmental, technological, economic, social, political and cultural dimensions. Undergraduate students obtaining 15 credit units including the 6 credit units



of the core courses will be awarded the *Minor in Sustainability* in addition to their undergraduate major degree. It is expected that students, upon successful completion of the minor programme, will be able to understand the scientific and normative aspects of sustainability; appreciate the interdisciplinary nature of sustainability; develop processes to integrate diverse themes of sustainability; as well as to initiate entrepreneurship to tackle sustainability challenges in the real world.

Postgraduate Studies

CIWEM Accreditation of Master of Science in Energy and Environment Programme

The programme, *Master of Science in Energy and Environment Programme*, has recently been accredited by *The Chartered Institution of Water and Environmental Management (CIWEM)* for a period of five years from September 2016 to 2021, in addition to the current accreditation by the Institution of Gas Engineers and Managers (IGEM).

CIWEM is the only Royal Chartered professional body based in UK dedicated to the water and environment sector, representing and supporting a community of thousands of members globally, devoted to improving water and environmental management and associated social and cultural issues. Accreditation of our programme means that our graduates will have partially satisfied the academic requirement of CIWEM, and will only need an equivalent professional experience to apply for Chartered Engineer (CEng) or Chartered Environmentalist (CEnv) under the Engineering Council and Society for the Environment (SocEnv) in UK after acquiring the 14 Mandatory Competencies of CIWEM. CEng can then apply as Chartered Engineer in Chemical, Civil, Environmental and Mechanical Engineering disciplines at the Hong Kong Institute of Engineers (HKIE) through the Reciprocal Recognition Agreement (RRA).

Student Activities

Overseas Study

Sharing by Law Tsz Kwan Violet, Bachelor of Engineering in Energy Science and Engineering (2014 Cohort)



This year, I spent a semester studying in the University College London (UCL), in UK. I have been eager to study abroad and it was definitely a rewarding and enjoyable experience.

At UCL, I took courses related to sustainable energy systems, solid waste management and environmental ethics. The small group discussions during seminars and tutorial lessons were inspiring. All participants were enthusiastic in sharing thoughts on current environmental issues, for instance, the offshore wind energy project in Scotland, pilot plastic-bottle levy scheme in UK, so on and forth.

Apart from lectures, I also attended public seminars that widened my horizons. From neurosciences to feminism, I tried to explore different areas of interest. All those seminars brought me out from the engineering mindset and equipped me to be able to think from multiple perspectives.



During the exchange study, I took part in different field trips. I once visited a local waste recycling facility that collects mixed recyclables for separation and rinsing before further treatment. I was so surprised by the technology and comprehensive handling of food waste that there was hardly a hint of irritating smell inside the facility.

Study is important but I also spent my free time travelling around the vast European continent. I visited a number of museums and art galleries to understand more about foreign culture and history. Two of my favorites are the Imperial War Museum in London that made me understand more about the First and Second World Wars; and the Nobel Peace Center in Oslo, Norway, that presented stories behind each Nobel Peace Laureates.

Through overseas learning, my passion in engineering and environmental fields has been strengthened. I am now motivated to work even harder in the years to come.

Four-week Summer School in Collaboration with NTU in Summer 2017



Twenty students from the Bachelor of Engineering in Energy Science and Engineering programme enjoyed the overseas studying experience at Nanyang Technological University from 2nd July to 30th July 2017, after a keen competition in selection process. This four-week summer programme was co-organised by SEE and the School of Chemical and Biomolecular Engineering of Nanyang Technological University (NTU) via the Office of Global Education & Mobility. Participating students studied two courses in the summer programme. In addition to classes and laboratory sessions, students also learnt about foreign cultures through different cultural immersion activities.



During the four weeks in NTU, students took two courses known as “Emerging Technologies in Energy Conversion and Storage” and “Chemical Engineering Fundamentals”. In “Emerging Technologies in Energy Conversion and Storage”, students learnt the various sustainable ways of storing and generating energy for future use. Topics covered included catalysts design, gas to liquid and coal liquefaction, solar photovoltaic cells, different fuel cells and hydrogen storage techniques. Meanwhile, “Chemical Engineering Fundamentals” focused on mass and energy balance. Students learnt to analyse practical problems in a systematic way. In the course, students had the opportunity to demonstrate their understanding in a laboratory experiment by making aspirin.

In the spare time, students joined three main cultural immersion activities - “Singapore tour”, “Peranakan tour” and “Prata making”. Participants toured around Singapore to see both modern and historic sides of this beautiful country. Students were also led to Little India, Arab Street and China Town to experience the unique cultures of the three main ethnic groups in Singapore. Students also visited a Peranakan museum to learn about the life of Peranakans and their traditional culture. One of the highlights of the cultural immersion activities was prata making. Students were offered the opportunity in making round flat bread that is soft in the inside and crispy on the outside!

During the summer programme, students resided in student residence on the NTU campus where they could interact with students from different backgrounds. These out-of-classroom socialising opportunities had exposed students to different cultures and enhanced their international outlook.

SEE Summer Internship 2017

SEE is keen to establish strong links with the industry to provide extensive internship opportunities and career training for our students. This summer, 25 undergraduate students were sent to 14 local companies for internships under the SEE Summer Internship Programme. Let's take a look on their sharing below!

Chan Hei Tung Ove Arup & Partners Hong Kong Ltd.



I am honored to be a student intern of Ove Arup & Partners Hong Kong Ltd (Arup), a multinational professional consultant firm. During the eight-week internship period, I had the opportunities to assist in different East Asia projects and to learn about Arup's past experience in energy sectors.

Being an intern in Arup will be a stepping stone for my future career. I have learnt not only the technical knowledge and skills, but also the experience and sharing from my colleagues and supervisors, as well as the work culture of the company. I was excited to take part in various meetings as they have widened my horizons. The internship has opened the gate for me to real work life.

What did the employer say?

“Hayton joined our infrastructure department as a summer intern for eight weeks between June and

August 2017. It was the first time for our department to have summer intern from SEE. Understanding Hayton's background in energy engineering, she was assigned to participate in some of our oil & gas and offshore wind projects, as well as to assist in setting up our energy project database. Hayton was also given a taste on other aspects of infrastructural engineering design work. Apart from work, we also invited Hayton to give us a short lunch talk on a topic of her own choice as an opportunity to make presentation in English with visual aids.

We are confident that SEE is nurturing quality graduates for the industry. It is also a pleasure to see SEE's support to the employer and the summer intern through face-to-face meetings among the employer, student and faculty member. This allowed exchange of views on what could be further improved in the internship programme. It also facilitated us to relay our expectations on the quality and skill set of future graduates from the programme.” – Mr. James Sze, Director of Infrastructure, ARUP

Lo Tak Yan Kum Shing (K.F.) Construction Co., Ltd.

Working at Kum Shing (K.F.) Construction Co., Ltd. for seven weeks is comparable to taking an intensive course about power plants. With the guidance from my supervisors, I managed to learn the operation procedures, safety concerns, flue gas de-sulfurisation plant and selective catalyst reduction technique, so on and forth. Site visits were eye-opening and taught me practical solutions to different challenges. There was once an opportunity for me to assist in a tender submission. This task allowed me to understand more about the safety standards of the potential client company from the forefront. I am glad to overcome challenges during the internship period with the knowledge acquired from SEE. It gave me the greatest satisfaction of all time.

Poon Ying Tao The Hongkong Electric Co., Ltd.

During the internship in The Hongkong Electric Co., Ltd., I studied various reference materials, such as noise control ordinance, environmental impact assessment, operation and maintenance manual of analysers that were prepared by my colleagues and attended sharing sessions of other departments. During my stay in the Corporate Development Division/ Environmental Affairs department, I learnt the operational principal of monitoring equipment and rationale of environmental protection works conducted by the company. I also took part in NOx emission analysis of different generation unit in 2016 and 2017 to see how the type of coal, percentage of excess air and loading would affect the NOx emission performance. The Hongkong Electric Co., Ltd. provided a professional environment for me to experience the work life of an engineer. The training also equipped me with more technical knowledge. I am grateful that I could be an intern in this company.



SEE Student Ambassadors Programme 2016-17



SEE has launched the Student Ambassadors Programme (SAP) since the academic year 2016-17.

A group of outstanding SEE non-final year students were selected to be our student ambassadors. Under the SAP, the ambassadors are provided with opportunities to attend a series of training workshops and activities related to personal and professional developments in areas of sustainability, energy and environment. They will also represent the School at different occasions to promote the School to stakeholders.

In 2016-17, the student ambassadors took part in a training workshop on communication, presentation and inter-personal skills. This workshop, consisted of several modules, opened that gate for our student ambassadors to professional manners and inter-personal skills. Some student ambassadors also took the lead in being the masters of ceremony at various school events.

Programme Objectives	Student Ambassadors' Roles	Activities Exclusively for Student Ambassadors
<p>To enable the ambassadors to:</p> <ul style="list-style-type: none"> develop transferable skills such as communication, leadership, interpersonal and organization skills enhance their knowledge and expand their network in local, regional and global development of sustainability, energy and environment enhance their sense of belongings to SEE and CityU promote programmes and activities of SEE effectively 	<ul style="list-style-type: none"> To represent and promote SEE to the public To assist in SEE activities, e.g. Professional Life Series, School Orientation, Information Day To serve as mentors of new SEE students 	<ul style="list-style-type: none"> Personal development workshops, e.g. workshops on communication skills, presentation skills, public speaking, business etiquette and grooming Visits to local energy- or environment-related companies/organisations Master/Mistress of Ceremonies and/or student helpers of SEE activities Priority admission to student activities hosted by SEE, e.g. overseas study tours, student exchange programme, internship programme, career-related events

Innovations by Students and Graduates

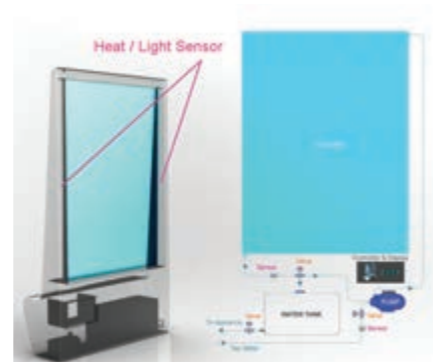
"Aqua Facade"

Mak Kin Wai Sunny and Luk Shun Sang Martin, two recent graduates from Bachelor of Engineering in Energy Science and Engineering, participated in the "Green Building Ideas Pitch 2016" organised by Construction Industry Council and the Hong Kong Green Building Council. Sunny and Martin, together with their teammate who is a product designer, developed a product called "Aqua Facade" that is designed for reducing the electricity use by controlling energy consumption of air-conditioner.

"Aqua Facade" itself is composed of two layers of glasses with water filled in between. The water could carry the heat away to reduce the amount of heat from entering into the apartment. Thus,

the cooling load requirement of the air conditioner will be lowered. Besides, the heated water will be stored in a storage tank for future use. The original design is a portable standing product that could be moved along the sunshine. Yet, taking the limited living space in Hong Kong into account, the product design has been later modified to directly attached to windows of newly built apartments. The ultimate objective is to ease the global warming issue.

Although the team did not make it to championship, their participation in the event was rewarding. "We did learn a lot. The mentor coached us to consider different factors while designing the product. Take risk management as an example, it is crucial for us to tackle the possibility of Legionnaires' disease as



warm water provides breeding ground for the growth of this pathogen. Besides, we also acquired business skills from this competition. Concepts of competitive analysis, B2B and B2C business systems are no longer new to us. They are essential for determining our promotion strategies," Sunny commented, "we also further improved ourselves by putting in place the knowledge we have learnt from SEE and the business skills we have newly obtained from the competition."



Preparation for Solar Car Competition 2018

SEE students and some from other academic departments formed into team to prepare for the "The Sasol Solar Challenge", a world-class Solar Car Competition to be held in Africa in September 2018. While the competition is still months away, the team has already participated in various public activities not only to raise publicity, but more importantly public awareness in energy efficiency and sustainable energy.

The solar car team was invited by True Light Girl's College in April 2017 to demonstrate the first generation's solar car, as well as to deliver a talk to the secondary school students. It was a wonderful platform to arouse the new generation's awareness on solar energy. The team was keen to showcase the solar car and to promote alternative energy transportation. About a month

later, the team was also invited to represent CityU in the "Zero Carbon Fun Fair" organised by the Environmental Campaign Committee Secretariat. This fun fair, themed "Climate Ready and Green Living", served as a platform for non-government organisations, green groups, public utilities and schools to jointly promote environmental awareness among the society.

Achievements in World Sustainable Built Environment International Youth Competition

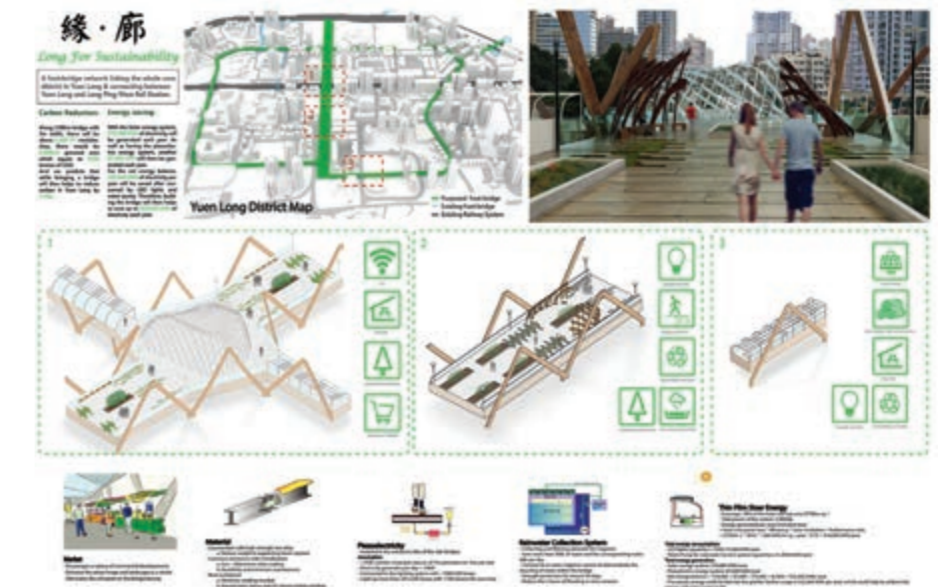
Tommy Yap Chun Yin, James Khong Yew Yuen and Calvin Gan Jing Fang from SCE led a team with four other students from local and overseas universities to participate in the World Sustainable Built Environment International Youth Competition, jointly organised by the Construction Industry Council and the Hong Kong Green Building Council in June 2017. They won the "The Most Innovative Urban Sustainability Award."

Supervised by Prof. Michael Leung, Tommy and his team designed a sustainable footbridge system, "Long for sustainability", for Yuen Long district in

Hong Kong. The team presented their innovative ideas in the World Sustainable Built Environment Conference 2017.

The sustainable footbridge system aims to promote sustainable neighborhoods and to enhance quality of Hong Kong's built environment. The footbridge system integrates renewable energy systems such as solar energy and piezoelectric energy to help reach energy-saving target in Hong Kong. The green compartment of the bridge is also a climate responsive architecture to further reduce carbon emission through greening. With this innovative and harmonic design, the heavy traffic in Yuen Long district could be mitigated through encouraging residents to walk more instead of using ground transportation.

Besides, Zoe Lee Hei Yan, also a student from SEE, and her team won "The Most Holistic Super-High-Dense Neighbourhood Award" in the same competition with their project on "Kowloon City Castle 2.0". By designing buildings for mixed-land use, her team dedicated to the idea in creating a sustainable neighborhood to enhance the quality of life under high population density.



From Waste to Wind Energy - Vertical Axis Wind Turbine



A competition was held among 43 students from SEE's Master of Science in Energy and Environment to design

and build the most effective vertical axis wind turbine (VAWT). The competition, as part of the course Energy Generation and Storage Systems, was organised to enhance hands-on experience and promote creativity among the students. The course aims to educate students on the basic principles of energy supply, from fossil fuel, combustion, power plant to renewable energies such as wind, tidal and solar.

In the competition, the students used scrap materials to build the wind turbines. Their masterpieces were judged based on cost, style and performance, where the VAWTs were placed in front of a fan to measure the rotation speed. Simplicity was the key, but at the end of the day, potato chips, cup noodle, beer and Red Bull are probably the students' favourites.

News on Alumni Association

In 2014, CityU Postgraduate Alumni Association of School of Energy of Environment Limited was founded by a group of dedicated alumni with Mr. Siu Pui Fung Bob elected as Chairman, Miss Wong Wai Sen Monique as Vice-chairlady, Miss Sun Li as Treasurer, and Miss Yang Xiya as Secretary. The team had contributed to strengthening network between alumni and the School.

With the expansion in SEE alumni family that now also includes graduates from Bachelor's degree programme, the alumni association is renamed to The CityU Alumni Association of School of Energy and Environment Limited (CAASEE). It is an alumni group that contributes to encouraging all alumni to stay connected. The missions are:

- strengthening bonds between alumni and SEE
- acting as a major platform for alumni engagement
- promoting the welfare of SEE by serving as advocates for the SEE
- establishing a mutually beneficial relationship between SEE and its alumni by providing tangible benefits including career services, networking opportunities, events, lectures, etc.

Mr. Ben Ip, Chairman



After graduating from Master of Science in Energy and Environment in 2015, I have founded a startup company, Smartrs (HK) Limited, with

my friend to develop new solution on waste reduction or renewable energy through recombining the use of existing mature industry technologies. Alongside with my contribution to the company, I also work full-time as Officer in IT Project Management team of Hong Kong Broadband Network Limited. This role provides me with the opportunities to explore potential internal system development and enhancement, manage the project lifecycle, and act as technical consultant on infrastructure and backend system development.

Miss Natalie Law, Vice-Chairlady



I graduated in 2016 and am now working at WSP (Asia) Ltd, a renowned international engineering consultancy firm.

I am currently an Assistant Engineer, responsible for overseas railway infrastructure projects as well as lecturing risk management courses to CLP Power internal staff.

I am glad to be elected as the Vice-chairlady in representing the Alumni Association to provide continuous contribution to the School and fellow alumni.

Mr. Alex Yeung, Secretary



I am now a consultant (green building) in Allied Environmental Consultants Limited. I graduated from

Bachelor of Science in Environmental Science at The Australian National University. Before taking the Master's programme in SEE, I had been a Graduate Engineer (Building Sustainability) in Ove Arup & Partners Hong Kong Limited for two years.

The Master's programme successfully filled me up with the knowledge of energy, it also enhanced my career and professional development. I am now not only applying the knowledge of carbon audit and building performance assessment to my daily work, but also assessing the performance of renewable energy system with statistical skills acquired from the programme. Moreover, the dissertation course has provided me with a great experience in academic research, which is valuable for pursuing a PhD degree in future.

Mr. Kollsman Chan, Treasurer



I have worked as a sustainable building consultant in Ove Arup & Partners Hong Kong Limited after

completing my bachelor's degree in SEE. With Hong Kong government's growing attention to sustainability development, I believe that the relevant industry is expanding. The bachelor's degree programme has well prepared us for the opportunities ahead and has provided us with the knowledge to tackle any challenges. As a core member of the Alumni Association, I wish to further strengthen the connection between alumni and industry, as well as the relation between alumni and SEE.

To continue your role and connection with the SEE family, you are strongly advised to join the SEE Alumni Association by just filling in the application form.

We look forward to welcoming you to our alumni activities throughout the years to come. See you soon!

Application

- Free application
- Please complete the Membership Application Form and return to "CityU Alumni Association of School of Energy and Environment Limited" by email (see.enquiry@cityu.edu.hk) or by fax (3442 0688)



Editorial Team:
Professor Chak K Chan (Dean)
Ms. Alice Wong (School Secretary)
Miss Vivian Kong (Executive Officer)

CityU Alumni Association of School of Energy and Environment Limited

Membership Application Form

General Information

Graduate Year: _____

Student ID: _____

Name of Most Recent Programme:

- Doctor of Philosophy (Ph.D.)
 Master of Philosophy (M.Phil.)
 Master of Science (MSc) in Energy and Environment
 Bachelor of Engineering (BEng) in Energy Science and Engineering

Personal Particulars

Name: _____ (English) _____ (Chinese as applicable)

Gender: Male / Female (*Please delete as appropriate)

Correspondence address : _____

Mobile phone No.: _____ Email address: _____

Current Status

- Full-time employment Part-time employment Self-employment Employment seeking
 Further Studies Others (please specify):

Employment Status (if employed)

Name of Employer: _____ Year of Service: _____

Department : _____ Current Job Title: _____

Range of Current Monthly Salary**:

- Below HK\$10,000 HK\$10,000 – 14,999 HK\$15,000 – 19,999
 HK\$20,000 – 24,999 HK\$25,000 – 29,999 HK\$30,000 – 34,999
 HK\$35,000 – 39,999 HK\$40,000 – 44,999 HK\$45,000 – 49,999
 HK\$50,000 or above

****Non-mandatory**

Applicant's signature: _____ Date: _____

General Enquiry

Phone: +(852)-3442-2410 / 3442-2414

Fax: +(852)-3442-0688

Email: see.enquiry@cityu.edu.hk

Address: G5702, 5/F, Yeung Kin Man Academic Building (AC1), City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong SAR