

Women in Engineering 2.0

At CUHK, about 25% of engineering students are now females. Misconception of what it is like to be an engineer and lack of role models are probably the reasons for low female graduation rate. In modern society, a diverse set of abilities (e.g. intelligence, creativity, problem-solving, communication) are needed to tackle challenges we all face. Below are the sharing of our female alumni.





CHOI Yuk Chin Azura

2016 BEng (Biomedical Engineering) graduate Assistant Electronics Engineer, Electrical and Mechanical Services Department, HKSAR

I joined the EMSD as a Biomedical Engineering Graduate to undertake the HKIE accredited 2-year Scheme "A" training. During the training, I was attached to various divisions of EMSD and Department of Health to acquire professional experience in the maintenance and operation of engineering systems and management of biomedical engineering services. Upon

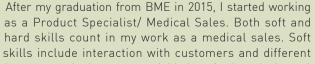


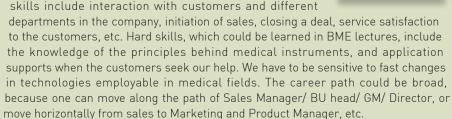
completing the training, I was appointed as an Assistant Electronics Engineer. I provided biomedical and electronics systems engineering services to the public healthcare sector, including Hospital Authority and Department of Health.

In addition to my responsibilities at work, I actively supported the activities and promotion of engineering in Hong Kong. I joined HKIE's President's Protégé Scheme and shadowed the President of HKIE. I participated as a helper in various significant engineering events, e.g. International Engineering Alliance Meetings, Presidential Address and Engineer Day, to raise the visibility of engineers and promote our image.

TANG Yu Lam Anna

2015 BEng (Biomedical Engineering) graduate Senior Sales Executive, Roche Diagnostics





FOK Tsz Ki

2013 BSc (Computer Science and Engineering) graduate Vice President – Front Office Developer, Societe Generale Securities (HK) Limited

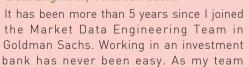
Since graduation from Computer Science, I started working in the financial industry, from application support, to agile dev-ops, to development for front office. The knowledge I have acquired as an engineering student allowed me to work in different roles in the technology field and adapt



rapidly. I obtained a master's degree in finance 3 years after college, which allowed me to further develop the career path in the financial industry. I am thankful for all the opportunities that the Engineering Faculty has offered to me and enjoyed the time we spent at CUHK a lot.

YUNG Man Lee Lily

2016 BSc (Computer Science and Engineering) graduate
Data Engineer, Goldman Sachs





spreads globally in America and Europe, I often need to work long hours and have late night meetings. Recently I became a mother. I would like to spend more time with my little one, while still striving for the best in my career. Sad to say, this is generally less expected from men, and you need to put in extra effort to prove yourself when it comes to competition. Although it was really tough and tiring, it was a very rewarding experience. Throughout the years, I did grow a lot in my career. There is no reason to stop a woman from doing great in career while taking care of the family.



WONG Hiu Tung Hilda

2014 BEng (Electronic Engineering) graduate
Acting Senior Design Engineer – Signalling & Electronic
Control Engineering, MTR Corporation Limited

After graduation, I joined MTR as a Graduate Engineer and have gone through the HKIE Scheme A training. During various rotations and attachments in different departments

and sections, I have familiarized the organization, operations and international business of the corporation.

Currently, I am undertaking a range of design tasks for the signalling and control systems for the operating railway including preparation of system specifications, review of design submissions, support of testing and commissioning activities, fault investigation and recommendation of improvement initiatives in accordance with statutory requirement(s) and international standard(s).

As inspired during the study in EE department that we shall not limit ourselves by the given boundaries while we could explore more opportunities based on the fundamental knowledge, I also participated in a few innovative projects on top of regular duties to develop solutions with non-ordinary and/or new technologies to tackle the pain points encountered during operations and maintenance of the whole railway network. Let's go smart and beyond.

TAM Hiu Yin Yan

2013 BEng (Electronic Engineering) graduate Lead Consultant Specialist, The Hongkong and Shanghai Banking Corporation

I have been working for HSBC almost 10 years, I joined the company back to 2012 through the work study program when I was a year-2 students until now. Thanks for the program, I not only gained the valuable exposure for working in a global company, but also gave me the opportunity to pursue my career



in HSBC after my graduation as the trading applications support. It was the position to provide the rapid response & fix the system problem for internal users. Now I am managing a small team which not only provide the support but also deliver the projects to enhance the system to fit the users' daily need.

Thanks EE department, gave me the entry point to develop my own career where I demonstrate my value as well as gained a lot of satisfaction. I also knew my husband here and form a family of 3 already. It was memorable & happy time when I studied here.





CHEUNG Ting Ting Tracy

2012 BEng (Mechanical and Automation Engineering) graduate Postdoctoral Research Fellow, UQ Centre for Natural Gas, University of Queensland

Over the last ten years, my research and teaching experiences have been in energy transitions, climate change, and planning and development in European and Asia-Pacific cities and regions. Through the engineering training at MAE and the general education courses in CUHK's curriculum, I developed an interdisciplinary interest in clean energy technology and its implications for sustainable development. After my B.Eng. studies, I pursued an M.Sc. degree in Integrated Climate System Science at Universität Hamburg, Germany. I recently completed a joint doctoral degree between Universität Hamburg and Macquarie University, Australia. My current research at Queensland explores expectations and opportunities for shared value and regional benefits from new energy projects, focusing on large-scale solar and hydrogen.

CHAN Pui Ying

2016 BEng (Energy Engineering) graduate Senior Consultant, PwC Hong Kong

I have been working as a consultant specializing in corporate sustainability since my graduation. Now I am part of the climate and sustainability team in PwC which provides environment-related consulting services.

With climate change becoming an emerging global challenge over the past few years, enterprises in Asia and even the globe are more aware of the relationship between environment and their business performance. Therefore, consultants play a more important role in the commercial world. I would like thank MAE for equipping me with solid knowledge which is essential and irreplaceable for my career.





LUK Pui Ki

2009 BEng (Information Engineering) graduate Associate Director (Digital Banking), Standard Chartered Bank

After graduation, I joined HSBC as a digital channel frontend developer of digital retail banking in the Asia Pacific region for six years. After that, I worked as

a product owner in HSBC and currently in SCB to make Business Internet Banking and Mobile Banking services available for Hong Kong commercial and personal clients in another six years.

I always believe technology can improve human lives by saving time and hassle. I am glad that digital transformation (e.g., eStatements) can help protect the environment by reducing paper use and allowing people to manage finance on the go, even during the pandemic.

I feel so blessed that CUHK IE has equipped me as a fast learner with solid technical knowledge to innovate in this rapidly changing world.

YEUNG Wing King Annabelle

2015 BEng & BSc (Mathematics and Information Engineering) graduate

Solution Lead, Cathay Pacific Airways

I have been in my current company for more than six years, starting as an IT Graduate Trainee. My current role is to lead the team to deliver projects or support applications relating



I am attracted to the IT industry because I enjoy the process of problem-solving, the satisfaction of converting users' vague requirements to a real commercial product. Nowadays, a successful IT person in business is no longer the stereotypical programmer sitting in front of a computer and coding all day. Instead, modern project management and execution demand soft skills such as effective communication, conflict management, and people management. Besides being the party with the technical capability to produce deliverables, IT also acts as a consultant to advise the business on how technology can drive efficiency or revenue growth.

Therefore, if you are good at problem solving and communication, and you are eager to learn about technology, you are always welcome to join this industry.



Systems Engineering and Engineering Management

YIU Shan Mei

2014 BEng (System Engineering and Engineering Management) graduate Associate, Nomura International (Hong Kong) Limited

If life is a roller coaster, it is always amazing and inconceivable when you turn around and realize the up-and-down paths you actually have passed. It has been around 7 years after my graduation but I still remember clearly every milestone and difficulty that i ever experienced.

As a SEEM graduate, getting into risk field is not easy and it all started when I was a trainee in a large bank. But without endeavors, I can hardly keep staying at risk area even though I was given the opportunity. And actually what I learnt from Financial Engineering stream that I focused on is practical to my current work. It helps a lot when I have to study and analyse some pricing models and market risk figures. During this 7-year period, i exposed myself into different risk areas, like product control, market risk, liquidity risk, stress testing and so on. All these decisions and precious experience constitute a clearer picture of Risk in my mind and a better myself with confidence and self-satisfaction.

In the coming future, I definitely would continue to expose myself into more different kinds of projects and absorb knowledge and skills to enrich my ability, work experience and importantly, my life.

LAI Sharon

2011 BEng (System Engineering and Engineering Management) graduate FinTech Manager, Hang Seng Bank

"Reset, be innovative", it's a daily cheer to myself. I enjoy so much for learning new thing, solving new problems. Don't be satisfy for being an expertise, it's fun to explore the untapped areas and challenge the status quo. Break the boundaries now and get out of your comfort zone.



Be passionate, be open-minded, be a sponge, you will find a path blending your career and fulfilling!

New Faculty Staff



Prof. CHANG Hing-Chiu Charles

Prof. Chang Hing-Chiu Charles received his PhD degree in Biomedical Electronics from the National Taiwan University in 2012, and completed his postdoc training at Duke University Medical Center. Before joining the academia, he worked in a medical imaging industry and developed prototype magnetic resonance imaging (MRI) software for research purpose. He has pioneered several 2D and 3D multi-shot echoplanar imaging (EPI) techniques to enable high-resolution and time-efficient brain diffusion-tensor imaging (DTI) on clinical MRI scanner

for neuroscience research. He is practically interested in clinical application and routine examination of MRI, and has been actively working with radiologists on improving diagnosis and patient care using different advanced MRI techniques. In July 2021, he joined the Department of Biomedical Engineering in the Chinese University of Hong Kong as Assistant Professor.



Prof. MAK Wing Cheung Martin

Dr. Mak Wing Cheung Martin has more than twenty years' international research experience in Sweden, Singapore, Germany, and Hong Kong in the field of biosensors and materials sciences. His research activities are focused on biosensors and bioelectronics, advanced transducer materials and wearable sensors, membrane/paper-based biosensors and analytical chemistry, and with a strong interest in advanced material design and fabrication strategies to improve biosensor performance. He has authored over 70 peer-reviewed research articles

covering the fields of biosensors, bioelectronics, analytical chemistry, materials science, and biomedical engineering. He is actively interested in transferring academic research to industrial applications. He has considerable experience in industrial R&D as a technical manager, entrepreneur of spin-off companies, and inventor of several patents in the field of biosensors and healthcare diagnostics. In December 2021, he joined the Department of Biomedical Engineering at the Chinese University of Hong Kong as Associate Professor.



Prof. FARNIA Farzan

Prof. Farzan Farnia joined the Department of Computer Science and Engineering as an Assistant Professor on 5 July 2021. He received M.Sc. and Ph.D. degrees in electrical engineering from Stanford University and his B.Sc. degree in electrical engineering and mathematics from Sharif University of Technology. Prior to joining CUHK, he was a postdoctoral research associate at the Laboratory for Information and Decision Systems, Massachusetts Institute of Technology, from 2019-2021.

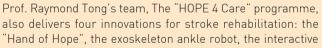


Prof. HO Tsung-Yi

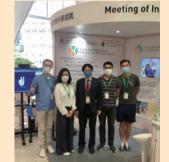
Prof. Tsung-Yi Ho joined the Department of Computer Science and Engineering as a Professor on 2 August 2021. He received Ph.D. in Electrical Engineering from National Taiwan University in 2005. His research interests include several areas of computing and emerging technologies, especially in design automation of microfluidic biochips. He is a Distinguished Member of ACM. His research interests include machine learning, deep learning theory, optimization, and information theory.



Prof. Raymond Tong, Chairman of the Department of Biomedical Engineering, has been honoured with the "Global Ageing Influencers 2021" award at the 9th Asia Pacific Eldercare Innovation Awards Ceremony held by the Ageing Asia in Singapore, in recognition of his outstanding achievements in rehabilitation innovations, programmes and services that advance the standard of living for older adults on a global scale.



functional electrical stimulation cycling system and the AR Rehab Training System. They also are the winner of the Best Rehabilitation Programme in the world in 2021.



Prof. Jonathan Choi and His Team Develop Novel Gold Nanoparticle as Alternative Treatment for Psoriasis



Prof. Jonathan Chung Hang CHOI, Associate Professor of the Department of Biomedical Engineering and his team have developed a new gold nanoparticle as a self-therapeutic treatment for psoriasis. Devoid of steroids or biologics, this gold nanoparticle can downregulate the genes that are linked to epidermis hyperproliferation and inflammation and is an effective treatment for psoriasis.

Chen BAI Won William J. McCalla ICCAD Best Paper Award at ICCAD 2021

Congratulations to Chen BAI (a PhD student supervised by Prof. Bei Yu and Prof. Martin Wong) and co-authors (Qi Sun, Jianwang Zhai, Yuzhe Ma, Bei Yu, Martin Wong) won William J. McCalla ICCAD Best Paper Award (Front-End Award) at the ACM/IEEE International Conference on Computer-Aided Design (ICCAD 2021) for their paper "BOOM-Explorer: RISC-V BOOM Microarchitecture Design Space Exploration Framework".



Prof. HUANG Chaoran

Prof. Chaoran Huang joined the Department of Electronic Engineering at the Chinese University of Hong Kong as an assistant professor in April 2021. She received her Ph.D. degree from CUHK in 2016. After graduation, she worked as a postdoctoral research associate at Princeton University in Prof. Paul Prucnal's group, investigating and developing new fronts in computing and information processing using light. Her current research at CUHK is dedicated to building faster and more efficient hardware for neuromorphic computing on photonic integrated circuits and developing related applications.



Prof. REN Hongliang

Prof. Hongliang Ren received his Ph.D. from The Chinese University of Hong Kong (CUHK) in 2008. He has been navigating his academic journey through Chinese University of Hong Kong, UC Berkeley, Johns Hopkins University, Children's Hospital Boston, Harvard Medical School, and National University of Singapore. He joined the Department of Electronic Engineering, The Chinese University of Hong Kong in 2020 as Associate Professor. He served as publicity chair and Organizing Chair (workshop on Surgical Robots) for ICRA 2017, and video chair for ICRA 2021. He is the recipient of IFMBE/IAMBE Early Career Award 2018, Interstellar Early Career Investigator Award 2018, and ICBHI Young Investigator Award 2019. He is also the recipient of Best Conference Paper Awards at IEEE ROBIO 2019, IEEE RCAR 2016, IEEE CCECE 2015, IEEE Cyber 2014, and IEEE ROBIO 2013.



Prof. CHEN Fei

Prof. Fei Chen received the B.S. degree from XITU in 2006, the M.S. degree from HIT in 2008, and the PhD in robotics from Nagoya University, Japan, in 2012. Then he found the Active Perception and Robot Interactive Learning laboratory at IIT, Italy. Since 2020, he has been an assistant professor with MAE, CUHK. His research interests lie in robot learning and control for various types of mobile manipulation robots.



Prof. WONG Hay

Prof. Hay Wong (HW) obtained his B.A and M.Eng from the University of Cambridge, then Ph.D from the University of Liverpool in 2019. He joined the MAE as an Assistant Professor in 2020. HW's research interests include metal additive manufacturing and quality control. His work has earned him 2 international patents-pending and 2 IET Innovation Awards. HW is the first/ solo author of 8 published peer-reviewed journal articles.



Prof. CHEN Yue

Prof. Yue Chen is an assistant professor at MAE, CUHK. She received her B.E. ('15) and Ph.D. ('20) degrees in Electrical Engineering from Tsinghua, and her B.S. ('17) degree in Economics from Peking University. She was the awardee of Stanford Bits & Watts Postdoc Fellowship and was selected as the 2020 EECS Rising Stars by UC Berkeley. Her research interests include optimization, game theory, and their applications in integrated energy systems.



Alumnus Wong Kwan Hang Won Silver in Tokyo Paralympics

Wong Kwan Hang, an alumnus of Department of Computer Science and Engineering (Class of 2017), and his teammates won a silver medal for Hong Kong in the mixed pair boccia BC4 event at the Tokyo Paralympic Games this year. He was diagnosed with spinal muscular atrophy at a young age, and began his life in a wheelchair. His excellent achievements through determination and perseverance are well recognized by his outstanding results in both academic and sports.



Prof. LEE Tan's team helped an oral cancer patient who lost her natural voice after surgery to "speak" again in her own voice. This was done using a tailored text-to-speech system based on deep learning models. The patient can communicate with others by typing words or sentences in the App and the App will generate speech in the patient's own voice. The team is improving the technology in the hope of helping more people in need in the future.



Prof. Chester SHU elected 2022 Optica Fellow

Prof. SHU Ching Tat, Chester, Professor and Chair of the Department of Electronic Engineering, was elected an Optica Fellow in the 2022 class for seminal contributions to "effective control and processing of

optical signals in communications". Fellows are members who have served with distinction in the advancement of optics and photonics through distinguished contributions to education, research, engineering, business and society.

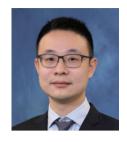
Optica, formerly known as The Optical Society (OSA), has been the world's leading champion for optics and photonics since its establishment in 1916. It aims to advance optics and photonics worldwide, and deliver high-quality scientific and technical information that is authoritative, accessible and archived.

CUHK Team "404NoBrain" Won the Championship of the PwC HackaDay 2021

The CUHK team "404NoBrain" won the PwC Hackaday 2021. This is the third time our students won this event since its inauguration in 2017 -



Champion for 2017, 2018 and 2021. The winning team is composed of two CS and two IE students



Prof. Zhenyu Yan awarded "Rising Star Award" from ACM SIGBED China Chapter

The ACM SIGBED (ACM Special Interest Group on Embedded Systems) China Chapter is a regional professional community in the fields of embedded systems, Internet of Things, electronic design automation, and Cyber-Physical Systems. Every year, no more than three young scholars who have demonstrated outstanding scientific research

achievements and scientific research potential in related fields are selected to win the mentioned award.

Silver Award in the Intelligent Logistics Handling of the "Smart +" Category in the national finals of the 2021 China University Students Engineering Practice and Innovation Ability Competition

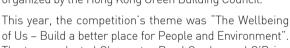


The CUHK team, comprising four undergraduates Miss WANG Xingyu (MAEG), Miss KOWK Tien Wing (MAEG), Mr. WANG Wenhao (MAEG) and Mr. CHEN Yiwei (EEEN), received the Silver Award in the Intelligent Logistics Handling of the "Smart +" Category in the national finals of the 2021 China University Students Engineering Practice and Innovation Ability Competition.

This year, the competition was held synchronously on site at Tsinghua University and online on 16^{th} - 18^{th} September 2021.

Champion (Tertiary Division) in the Hong Kong Green Building Council "My Green Space" Student Competition 2020-21

Mr. HO Ka Chun from the EEEN programme and his team member received the Champion (Tertiary Division) in the "My Green Space" Student Competition 2020-21 organized by the Hong Kong Green Building Council.







Robotics, STEM and Green Innovation (Phase2)



InnoCarnival 2021

Exhibition 'InnoCarnival 2021' was successfully held during Oct 23 – 31, 2021 at Hong Kong Science Park. It could serves as a platform to promote and celebrate local innovation development with the public. Throughout the 9-days event, winning teams from 'Mitsubishi Electric Green Innovation Competition 2021' were invited to showcase their

designs and give live demonstration to all visitors. To create synergy, we have created 'sustainable lifestyle' theme online game that was posted on the online platform co-created with 'The Chinese University of Hong Kong' and 'Innovation and Technology Student Club' this year. Through displays, online game platform and on-site robotic games, we could no doubt arouse public awareness in STEM education and green technology.

This year, we have attracted more than 5000 people to visit our project booth and we are gladly awarded as the event's My Favorite Booth' Top 2. On Oct 23, Financial Secretary Mr. Chan Mo-Po, Secretary for Innovation and Technology Mr. Sit Wing Hang, Commissioner for Innovation and Technology, Ms. Pun Ting Ting, and Permanent Secretary for Innovation and Technology Ms. Choi Suk Han, had come to visit our booth and chatted with the winning teams to learn more about their inventions.

Corporate Visits to Mitsubishi Electric (Hong Kong) Limited Headquarter

A group of secondary school students have visited the Headquarter of 'Mitsubishi Electric (Hong Kong) Limited on Dec 14. During the visit, Engineers have shared their work and career path to interested student. Students were also engaged in the Showroom tour where the staffs happily introduced them with the company contribution in local green technology applications and energy saving strategies.



Systems Engineering and Engineering Management

The Department of Systems Engineering and Engineering Management (SEEM) was established in 1991 as the first of its kind in tertiary educational institutions in Hong Kong. Its research addresses challenges in decision making in pillar industries in Hong Kong, such as finance, logistics and services, by utilizing technology, data analytics, mathematical models and optimization methods for making smart and sound decisions. Some quintessential problems addressed by SEEM include but are not limited to, optimizing investment performance in financial markets, designing logistics and supply chain networks for large-scale e-commerce platforms, resource allocation in healthcare systems such as the scheduling decision for surgery operations, and building information systems to detect fraudulent credit card transactions. As a foundation for decision support systems, the knowledge from SEEM is frequently adopted in confronting COVID-19. For example, data analytics can facilitate contact tracing; mathematical modelling can help design a prudent group testing scheme in order to increase testing capacity without compromising accuracy; optimization methods can maximize the efficiency of the vaccine allocation mechanism so that limited vaccines can be used in the most effective way in reducing infection risk over the whole society.

Over the past 30 years, the Bachelor of Engineering Programme in SEEM is committed to nurturing technologically capable and business savvy talents for pillar industries in Hong Kong, with a comprehensive and practical curriculum covering technology, quantitative skills and business domain knowledge. Our graduates work in a variety of companies in the finance, logistics, services and IT sectors taking up positions of typically analyst, consultant and developer. We are proud to have many alumni who have become leaders or made important contributions in their fields.

Specialization of SEEM graduates in recent years Pinance & Accounting Information Technology Logistics & Operations Sales & Marketing Management & HR Consultancy Education Research Further Studies

Innovation and Technology Student Club 創新科技學生會

INNOVATION AND TECHNOLOGY STUDENT CLUB

To prepare Hong Kong for the upcoming challenges in developing into a knowledge-based economy, the Faculty of Engineering of The Chinese University of Hong Kong (CUHK) has founded the "Innovation and Technology Student Club" (ITSC) jointly with the Innovation and Technology Commission (ITC). Our vision is to nurture young talents in becoming future technological elites, who will bring about innovative and technological advancement to our city. Since May 2009, over 2,000 secondary students with similar interests in science and engineering have become our club members.

ITSC Summer Camp

The ITSC Summer Camp is held on 25-27th July,2021 at Wu Kai Sha Youth Village. The camp aims to provide hands-on experience to the members by constructing a robotic car. As intended to be a focus and concentrated workshop, lessons and in-class activities are held to familiarise participants' knowledge in programming and mechanics. With the help of STEM Tutors, which mainly comprises of undergraduates from CUHK, participant can catch a glimpse of the curriculum of engineering major while getting a taste of being an engineer.



Participants are building the robotic car by themselves.

STEM Tutor

This year, we have recruited a total of 15 students and begun training workshop in Sept. To help them coping with the challenges ahead, we have organised a communication workshop to share essential tips in giving an engaging yet exciting lessons to local secondary school students. Besides learning the techniques of soft skills, a series of workshop about programming language UNITY is held to equip them with necessary hard skills.



STEM tutor learning the tips of giving public speech.

ITSC is holding a range of activities like technology ambassador, camp and workshops in the coming months. You may review our past events and learn more about them on our Facebook https://www.facebook.com/ITSC.HK page and IG https://www.instagram.com/itsc_cuhk/.

If you are a secondary student, you are welcome to join our activities and sign up for ITSC membership through online application https://forms.gle/AjFV8bVPi8PrWG3cA . If you become our member, most activities will be free of charge.

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