Highly Cited Researcher Recognized by Clarivate Analytics

Dr Gang Li has been named as one of the 2017 Highly Cited Researchers in the Materials Science and Physics categories by the Clarivate Analytics. Clarivate Analytics is an annual list recognizing leading researchers in the sciences and social sciences from around the world. The 2017 list focuses on contemporary research achievement which only Highly Cited Papers in science and social sciences journals indexed in the Web of Science Core Collection during the 11-year period 2005-2015 were surveyed. Highly Cited Papers are defined as those that rank in the top 1% by citations for field and publication year in the Web of Science. This is the fourth consecutive year Dr Li has been selected in the list. Congratulations to Dr Li for his achievement!

IEEE Circuits and Systems Society Distinguished Lecturer

We are pleased to share that Prof. Michael Tse has been appointed as an IEEE Circuits and Systems Society Distinguished Lecturer for 2018-2019 by the IEEE Circuits and Systems Society (CASS) under the CASS Distinguished Lecturer Program (DLP). The Program is to serve the needs of the members of the CAS Society to enhance their professional knowledge and vitality by keeping them informed of the latest research results and their practical applications. Prof. Tse had also been appointed for this prestigious title in IEEE twice in 2005 and 2010.

Faculty Award for Outstanding Performance/Achievement in Research and Scholarly Activities

Congratulations to Dr Man Wai Mak on winning the Faculty Award for Outstanding Performance/Achievement in Research and Scholarly Activities 2016/17! Dr Mak is an expert in the fields of speech recognition, bioinformatics and machine intelligence. His research has received extensive attention from both academia and industry recently. He has authored more than 180 technical articles in speaker recognition, machine learning, and bioinformatics. Dr Mak won 4 GRF grants consecutively in the last 4 years. He is also active in international professional activities. He is the Associate Editor of 4 international journals, including the top-notch journal "IEEE Transactions on Speech and Language Processing" in his field.
Best Paper Award in 2017 International Conference on Advanced Technologies for Communications

Prof. Francis Lau and Dr Tam Wai Man were awarded the Best Paper Award in the 2017 International Conference on Advanced Technologies for Communications (ATC) for the paper “Reducing the Bit-Mapping Search Space of a Bit-Interleaved Polar-Coded Modulation System” in Quy Nhon City, Vietnam, between 18 and 22 October. The Conference is an annual conference co-organized by the Radio & Electronics Association of Vietnam and the IEEE Communications Society to foster an international forum for scientific and technological exchange among Vietnamese and worldwide scientists in the fields of electronics and communications. Prof. Lau received the Award Certificate from Prof. Ke Wu, ATC 2017 Technical Program Chair, President of IEEE MTT-S 2016 and Tier-I Canada Research Chair at Polytechnique Montréal.

Winning in Silk Road Robotics Innovations Competition 2017

Led by Dr Frank Leung, two BEng in Electronic Engineering students, Han Zhuangyu and Xiao Zidong, received the Excellent Prize in the Silk Road Robotics Innovations Competition 2017 held in Xi’an Jiaotong University on 4 June. The competition was organized by Shaanxi Science and Technology Department and Xi’an Jiaotong University. 16 teams coming from different countries, including China, Italy, Russia, Egypt and the USA demonstrated their robots in this contest. It was a valuable opportunity for our students to exchange their technical ideas among the competitors from other regions.

First Runner-up in Inter-tertiary-institution Capture the Flag Contest (CTF) 2017

Two BSc in Information Security Programme students, Chan Yiu Fung and Chau Tsz Ping, teamed up with another student from The Open University of Hong Kong won the First Runner-up of the Inter-tertiary-institution Capture the Flag Contest (CTF) 2017 on 10 June. The Contest was organized by the Hong Kong Applied Science and Technology Research Institute (ASTRI) and iChunQiu.com. CTF is a globally recognized popular platform modelled as a series of simulated cyber-attacks that emulate what happens in the real-life digital space. This competitive platform and the Contest gauged the students’ skills in managing information security and deterring cyber-attacks.
First Runner-up in Robocon Hong Kong Contest 2017

We are delighted to share that the EIE Robocon Team won the First Runner-up in the Robocon Hong Kong Contest 2017. The contest was organized by the Hong Kong Science and Technology Parks (HKSTP) on 18 June. It aims to encourage the design and construction of robots, and to provide real experience for post-secondary students and future engineers. The winning team “Red Shadow” spent nearly a year for preparation and building the disc-throwing robot to compete with the other 12 teams coming from different post-secondary institutions. Their technical skills, team spirit and outstanding performance were highly recognized by the judges and audience in the contest. Congratulations to the following team members:


Championship and Most Innovative Award in Microsoft Imagine Cup 2017 - Hong Kong

Chang Shuhao, a BEng in EIE student, won the Champion and the Most Innovative Award of the Microsoft Imagine Cup 2017 - Hong Kong together with two other team members from the Department of Computing. Imagine Cup is a global student technology competition which gives students an opportunity to showcase their creativity and capability in making games and applications that can bring impact to the world. The winning mobile app “Sense+” is a cognitive application built on the Microsoft’s AI tools with cognitive service to enable the visually impaired to see, explore, get notified and search with ears. The team gained a chance to represent Hong Kong to visit Seattle, USA, in July to compete with more than 54 national teams worldwide.
Congratulations to Mr Nandeesh Veeranna, our PhD student, on receiving the Third Place in the DAC 2017 Hardware Security Contest held in Austin, Texas, USA, between 18 and 22 June. Participating teams in this contest were required to mimic the behavior of a malicious or secure-unaware CAD engineer. The objective was to show that reasonable modifications to CAD algorithms could have unintended security consequences. The winning project “Conspiring the semiconductor IP customer by infecting the obfuscated IP with hardware” was supervised by Prof. Francis Lau.

Best Presenter Award at the Ewha-Luce International Seminar (ELIS): Expanding Horizons 2017

Supervised by Dr Ben Cheng and Prof. Michael Tse, our PhD student, Ms Wang Jing, received the Best Presenter Award at the Ewha-Luce International Seminar (ELIS): Expanding Horizons 2017. The event was held at the Ewha Womans University, Seoul, Korea, from 26 June to 13 July. Its aim is to promote equal opportunities for female graduate students form the USA and East Asia who are conducting researches in science, technology, engineering, and mathematics (STEM) fields. A total of 23 USA and East Asian female researchers pursuing their Masters or PhD degrees in STEM were selected for this seminar. Apart from presenting research work and exchanging ideas, the Seminar provided its participants with multiple workshops and various training programs in leadership development.

Second Prize in the 2nd Wise Friends Competition 2017

Three students from the BSc in Information Security Programme, Wong Wai Cheong, Leung Paak Tung and Ho Wai Lun William, won the Second Prize of the 2nd Wise Friends Competition 2017 organized by the BBPOS Limited in August. The competition targets to encourage innovation and creative thinking among the new generation of potential mobile payment (mPOS) technology developers. The winning project “Mobile Electronic Payment System” developed a new payment model, which can reduce the transaction fee compared with the traditional payment system by bypassing the banking system and providing a more secure and reliable payment system through using the block chain technique.

Second Prize in IEEE 2017 Video and Image Processing Cup

Supervised by Prof. Kenneth Lam under the initiative of International Capstone Project, two BEng in EIE students, Feng Weixi and Zhang Jiawei, teamed up with the other students from the University of Technology Sydney and the University of New South Wales, won the Second Prize in the IEEE 2017 Video and Image Processing Cup in Beijing on 17 September. The competition was organized by the IEEE Signal Processing Society. The goal of this challenge was to implement traffic sign detection algorithms that can robustly perform under challenging environmental conditions. Congratulations to the students!
Winning in Dragon Boat Races

The EIE Dragon Boat Team had excellent achievements this year. They attained five trophies in different local dragon boat races between April and November! The Team won the:

- 1st Runner-up in Inter-Company Cup of the Kwun Tong Dragon Boat Race 2017;
- 1st Runner-up in Men’s Gold Plate B of the Stanley Dragon Boat Warm Up Races 2017;
- 2nd Runner-up in the Tsing Yi Small Boat Race 2017;
- 3rd Runner-up in Community Group Silver Plate of the Deep Water Bay Small Dragon Boat Race 2017; and
- 9th Runner-up in Men’s B Gold Cup of the Stanley International Dragon Boat Championships 2017;

The Team is celebrating its 10th anniversary this year. A 10th Anniversary Celebration Dinner was held in PolyU Staff Club Restaurant on 30 October with the President, Professor Timothy W. Tong, as the honored guest for the event. You are welcome to join this big family to get fit and enjoy dragon boat races! Please send an email to the Team Captain, Mr Jason Tsui, at jason99tsui@hotmail.com for enrollment.

Hong Kong ICT Awards 2017 - Best Smart Hong Kong (Digital Inclusion Application) Silver Award

The Hong Kong ICT Awards aims to recognize and promote outstanding ICT inventions and applications. Our BEng in Electronic Engineering alumnus, Co-Founder & CEO of the CHEARS Technology Company Ltd., Mr Wen Zhihui, has obtained the Best Smart Hong Kong (Digital Inclusion Application) Silver Award in this contest organized by the GS1 Hong Kong Limited. The winning mobile application, CHEARS, is an intelligent hearing aid application designed for hearing impaired people. Through smartphones and ultra-high audio processing function of the earphones, CHEARS is able to generate soft and clear sounds which enable hearing impaired people to have a better communication with families and friends.
The Department is strengthening the BSc in Information Security Programme by collaborating with VMware, Inc. to provide virtualization platform and cloud computing training to our students recently. VMware, Inc. is a global leader in cloud infrastructure and digital workspace technology. The VMware IT Academy Program supports the use of virtualization applications in teaching and research. The program provides both desktop and infrastructure software for personal use, whether as part of STEM classes, in research projects, or for gaining hands-on experience with VMware products. VMware software and eLearning materials are available free of charge now for all EIE staff and students.

**VMware IT Academy Program**

**AAEIE Ukulele Interest Class**

The Alumni Association of Electronic and Information Engineering (AAEIE) organized a Ukulele Interest Class in PolyU on 10 June. About 15 participants joined this activity and enjoyed learning the basic playing technique of this fun Hawaiian musical instrument.

This summer, the Department has organized a range of activities for students of the Department, the Faculty and secondary schools who are fond of robot to enhance their interest and technical know-how in robotics:

**EIE Robotic Challenge Junior 2017: Robot Hunter**

The Department organized the “EIE Robotic Challenge Junior 2017: Robot Hunter” competition for 44 teams of secondary school students between May and July. The competition was sponsored by the Propagation System Ltd., EGG Technologies Ltd., iOT Solution Ltd, Samsung, Avnet, and ECCN.com. Four workshops related to 3D printing, hardware design and programming techniques were held for more than 150 participants to build up their technical skills before the final competition. The Champion is the GCCITKD Lau Pak Lok Secondary School this year. The winning team also represented Hong Kong to join the “EIE Robotic Challenge Junior for Greater China 2017: Robot Hunter” in the Hong Kong Computer and Communications Festival 2017 on 28 August. The event successfully aroused secondary school students’ creativity, enhanced their problem solving skills and stimulated their interests in electronic engineering.
EIE Robotic Challenge 2017: Robot Hunter

In order to enhance students’ interest and technical knowledge in electronic product designs, the Department organized the “EIE Robotic Challenge 2017: Robot Hunter” competition for the EIE undergraduate students on 25 August. The participants were required to design a robot to fight and take the opponents’ flags within a specified period of time. The competition was supported by the Propagation Systems Ltd. and EGG Technologies Ltd. by providing microcontrollers, Bluetooth modules and technical advice for students. Congratulations to the following winners of the Challenge!

Champion: Cheung Geoffrey Kai Laam
Lui Shing Yuen Barrie

1st Runner-up: Wang Haoyuan
Xue Quan
Zhang Jichen

2nd Runner-up: Chan Cheuk Hei
Fan Yifei
Lai Ho Tin
Zang Wenshuo

Merit Award: Chung Hoi Ki
Kwok Hoi Yan
Leung Wai Lun
Li Ka Yee
Tsang Chi Long
Wong Yuk Ching

Dr Frank Leung led the students of the FENG Robotics Club to visit several factory sites of the Karrie International Holdings Limited in Dongguan on 8 August. The Karrie International Holdings Limited is principally engaged in the manufacturing and sales of metal and plastic products. The company has a long history of applying robots in production. Our students were able to get in touch with the latest robotic technology in different areas like re-industrialization, catering services and entertainment during this trip.

Visit to Karrie International Holdings Limited
20 staff and students from the Zhejiang University paid a visit to the Department on 8 August. Prof. Chao Lu and Dr Changyuan Yu received the delegation with an introduction of EIE and our postgraduate programmes. The delegates also visited the Interactive Multimedia Laboratory and the Optical Communications and Networking Research Laboratory to learn more about our undergraduate student projects and the research work in communications.

Research Student Gathering 2017

The Department organized the Research Student Gathering 2017 for more than 50 MPhil and PhD students on 8 September. The gathering provided an excellent opportunity for research students to share their study experience and mingle with the other students in different EIE research areas. Prof. Francis Lau, the Departmental Research Committee Chairman, also gave a presentation to outline the research degree study requirements to the participants in this occasion.
Seminar by Dr Jiajia Chen, KTH Royal Institute of Technolo, Sweden

Dr Jiajia Chen, Associate Professor of the KTH Royal Institute of Technolo, Sweden, held a seminar "Next Generation Optical Interconnection Network Architectures for Datacenters" on 8 September to highlight the challenges related to the increasing importance of datacenter services and the growing datacenter traffic. Dr Chen is an author/co-author of over 100 publications in international journals and conferences. Her main research interests are optical transport and interconnect technology supporting future broadband access, 5G and cloud environment.

Seminar by Prof. Liang Wang, University of Science and Technology of China

A seminar titled "After 193i; The Next Generation Nanolithography Methods" was delivered by Prof. Liang Wang from the University of Science and Technology of China on 9 September. Prof. Wang presented two low cost high resolution lithography methods which could become the next generation lithography tool selection. He also demonstrated that laser direct writing with bowtie aperture could achieve sub-50nm resolution with very low cost in the seminar. Dr Wang’s research interest is nano-optics and nanofabrication. In 2011, Dr Wang joined the Lam Research Corp, one of world’s top semiconductor equipment companies in Silicon Valley, California, as senior engineer, staff engineer, then technical manager. Dr Wang has successfully transferred many of his research works to industry applications. Some of them are now being used by the leading technical companies such as Seagate, Western Digital, Toshiba and TSMC.

Seminar by Prof. Dan Wasserman, University of Texas Austin, USA

Prof. Dan Wasserman from the University of Texas Austin, USA, conducted a seminar "The Mid-Infrared as an Optical Playground" on 20 October. In this seminar Prof. Wasserman discussed his research work on developing novel optoelectronic, all-dielectric, plasmonic and phononic devices and structures for mid-IR wavelength applications. Prof. Wasserman is an Associate Professor of Electrical and Computer Engineering at the University of Texas Austin. He is the recipient of the NSF CAREER Award and the AFOSR Young Investigator Award. His research interests include microelectronics and photonics, and semiconductor lasers and photonics devices.

Seminar by Prof. Kunihiko Mitsubori, Takushoku University, Japan

A seminar titled "Theoretical Analysis of One-Period Operation of Boost Converter by Mapping Method in Phase Space" was held by Prof. Kunihiko Mitsubori of the Department of Electronics and Computer Systems of the Takushoku University, Japan, on 3 November. Prof. Mitsubori was an Associate Professor at the Japan Coast Guard Academy before joining the Takushoku University in 2006. His research interests are in chaos and bifurcation in nonlinear circuits and systems, reinforcement learning algorithms, and multi-agent systems. Prof. Mitsubori analyzed the dynamics of one-periodic operation in a boost converter without feedback control by using exact solutions in this seminar. He also gave the analytic formulae to calculate the periodic point of DCM, and the simple implication of the boundary situation of CCM and DCM in the phase space.