

November 2019

Highlights of Activities and Achievements in 2018-2019

We are delighted to report that our students and staff had a very successful 2018-2019 academic year. The students had won awards in regional and international competitions, through successful applications of knowledge they learned in classroom and tremendous dedication to their aspirations. The teaching staff members have earned international recognition for their research excellence.

Below are excerpts from news/articles in the departmental website (www.mech.hku.hk). Please scan the QR Codes to read more details concerning these items.

ME = Mechanical Engineering

ACHIEVEMENTS OF OUR UNDERGRADUATE STUDENTS

Payload Challenge 5 of the British Model Flying Association 2019 University and Schools Flight Challenge

Three "Design, Build and Fly" teams from the Department of Mechanical Engineering competed with 14 teams worldwide, and won the champion, the 1st and 3rd runners-up.



From left: Team #2, Team #4 and Team #3.



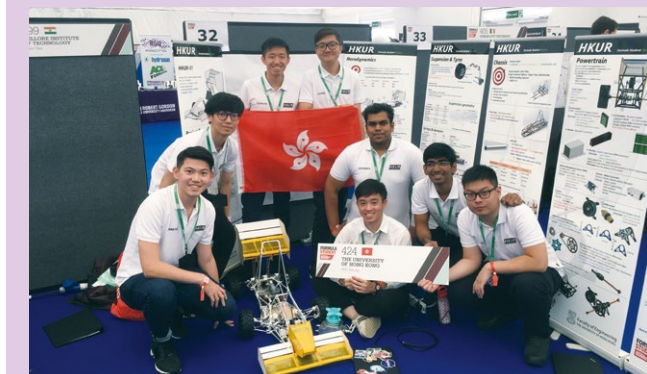
HKU Engineering students achieved the best ever result of Hong Kong teams at 23rd AIAA Design

Our "Design, Build and Fly" was ranked 13th among 104 eligible teams, the best ever result of Hong Kong teams since 2013.



AIAA = American Institute of Aeronautics and Astronautics

Third place in the Formula Student UK 2019 Class 2 Competition



"HKU Racing" at the Design Event.

The 'HKU Racing' team (8 HKU Engineering students, 6 from ME) joined the Formula Student UK 2019 competition in the class 2 category in July 2019. As the first team from Hong Kong ever in this event, we secured runners-up in the design event and the 3rd position overall in the class 2 category.



Second runner-up in AI Driving Olympics

2019 IEEE
International Conference on
Robotics and Automation
May 20-24, 2019 • Montreal (QC) Canada



The "HKU DuckieTown Team" (6 HKU Engineering students, 2 from ME) won the 2nd runner-up in the "AI Driving Olympics" challenge among 192 competitors, at the International Conference on Robotics and Automation in Montreal, Canada in May 2019.



1st runner-up in the 8th IMechE Greater China Design Competition

Five ME students won the second place in the 8th IMechE Greater China Design Competition 2018-19 (March 2019) by working on a topic of "Energy Relay".



The Robocon 2019 Hong Kong Contest

Supervised by Dr. K.W. KWOK and supported by the Tam Wing Fan Innovation Wing, "Team Sapientia" won the 1st runner-up at The Robocon 2019 Hong Kong Contest among 13 competitors in June 2019, with two innovative robots based on the theme "Sharing the Knowledge 飛奔大漠中".



HKU Engineering-led student team wins the 1st runner-up at Global Grand Challenges Summit 2019 in London



A student team led by HKU (with 1 ME member) was awarded the 1st runner-up at the Student Competition of 2019 Global Grand Challenges Summit in London in September 2019. These 15 student teams from around the world attempted to address global grand challenges in engineering.



Top Prizes at the 18th Asia Pacific Information and Communication Technology Alliance (APICTA) awards



One winner at APICTA 2018 is Tale, a student project on Artificial Intelligence (A.I.) enabled solution for the coaching of presentation skills by 3 HKU engineering students (one from ME).



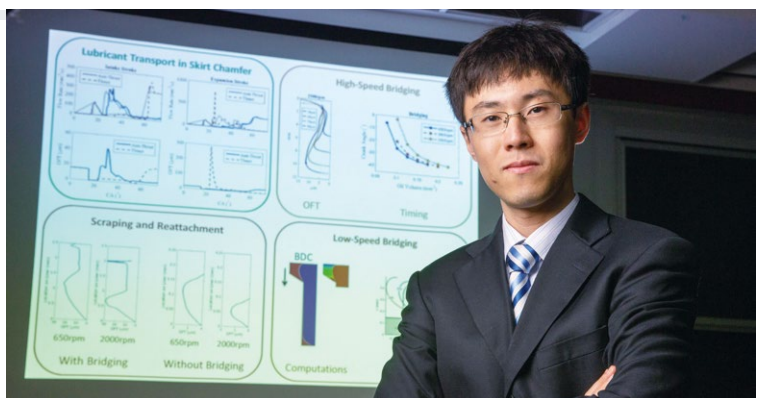
HKIE Scholarship 2018-2019

The Hong Kong Institution of Engineers
New Members' Reception of Engin
17 May 2019



Mr. Cheuk Yiu FUNG is awarded the HKIE Scholarship for his outstanding academic performance and leadership ability.

HKIE = Hong Kong Institution of Engineers



Alumni studying in MIT

Dr. Tianshi FANG, BEng(ME) 2012, has obtained the Ph.D. degree in Mechanical Engineering from the Massachusetts Institute of Technology (MIT), USA in 2019. He has been conducting research in lubricant flow in automotive engines and has identified alternative sources of lubricant consumption. This MIT research team collaborates with major automotive manufacturers in the United States.

STUDENT EXCHANGE

"Internationalization", a strategic theme in the mission of HKU, is demonstrated concretely through the exchange visits of our undergraduates, in which 58 students participated in academic programmes at universities overseas for one semester or a whole year in 2018-2019.

Beijing Normal University	China
Bremen University of Applied Sciences	Germany
Central South University	China
Drexel University	U.S.A.
Embry-Riddle Aeronautical University	U.S.A.
Fudan University, Shanghai	China
Harbin Institute of Technology	China
Lanzhou University	China
McGill University, Canada	Canada
Monash University	Australia
Nagoya University	Japan
Nanjing University	China
National University of Singapore	Singapore
Peking University	China
Pusan National University	Korea
Shanghai Jiao Tong University	China
Shaoguan University	China
Simon Fraser University	Canada
Technische Universität Darmstadt	Germany
Universidad de Montevideo	Uruguay
University College Dublin	Ireland
University College London	U.K.
University of Aberdeen	U.K.
University of Calgary	Canada
University of California, Berkeley	U.S.A.
University of California, San Diego	U.S.A.
University of Canterbury	New Zealand
University of Leeds	U.K.
University of Leicester	U.K.
University of Melbourne	Australia
University of Navarra	Spain
University of Sydney	Australia
University of Waterloo	Canada
Uppsala University	Sweden
Wilfrid Laurier University	Canada
Wuhan University	China
Yunnan University	China

14 exchange students from these overseas institutions came to study in the Department in 2018-2019.

Centrale Supélec	France
Institut national des sciences appliquées de Toulouse	France
McGill University	Canada
Northeastern University	U.S.A.
Peking University	China
Sabancı University	Turkey
Shandong University	China
Technische Universität Darmstadt	Germany
Universiti Sains Malaysia	Malaysia
University of Sydney	Australia
Utrecht University	Netherlands
Xi'an Jiaotong University	China

ACHIEVEMENTS OF OUR ACADEMIC STAFF

Harvard SEAS MoU signing on establishing a Laboratory for Instrumentation for Precision Medicine



The Faculty of Engineering at the University of Hong Kong (HKU), and the Harvard John A. Paulson School of Engineering and Applied Science (Harvard SEAS) signed a Memorandum of Understanding (MoU) in December, 2018 to set up a Laboratory for Instrumentation for Precision Medicine. Professor Christopher CHAO, Dean of Engineering of HKU and Dr. Fawwaz HABBAL, Executive Dean for Education and Research, Harvard SEAS officiated at the signing ceremony.



HKU & Tohoku Univ. sign Agreement on Collaboration in Transformative AI and Robotics Technologies



Hong Kong Government celebrates winners in renowned regional and international competitions on innovation and technology

A celebration was organized in May 2019 to recognize the excellent performance of HKU teams at renowned regional and international competitions on innovation and technology. Professor L.Q. WANG and Dr. Pingan ZHU; Dr. M.X. HUANG and Dr. Binbin HE of the TechConnect Global Innovation Awards attended the event.



Dr. M.X. HUANG Dr. A.H.C. SHUM

Two ME projects were awarded Research Impact Fund 2018-19

Congratulations to Dr. M.X. HUANG and Dr. A.H.C. SHUM, as their groups were awarded grants from the Research Impact Fund scheme from the Research Grants Council (RGC).



Highly cited researchers 2018

Professor James LAM and Professor Dennis LEUNG were named as highly cited researchers 2018.



HKU signed an agreement with Tohoku University, Japan (Tohokudai) in March, 2019 to collaborate on general academic exchange, as well as research of transformative A.I. and robotics technologies. The partnership will transform and upgrade AI and robotics technology, and will open up new technologies for the manufacturing sector and industrial base of these two cities.



HKU recognised Engineering scholars for excellence in teaching and research



Prof. D.Y.C. LEUNG (2nd left) and Dr. M.X. HUANG (1st left)

Professor D.Y.C. LEUNG received the "Outstanding Research Student Supervisor Award" in recognition for the guidance to his research postgraduate students for pursuing academic excellence. The "Outstanding Young Researcher Award" aims to give recognition to young researchers who are demonstrating extremely high quality research and Dr. M.X. HUANG was among the eight awardees this year.



Professor D.Y.C. LEUNG and Dr. A.H.C. SHUM win two Silver Medals at the 47th International Exhibition of Inventions of Geneva



Innovative paper-based aluminum-air batteries developed by the research team of Professor D.Y.C. LEUNG.



Encapsulation machine for making edible bubbles with different ingredients for archiving a wide variety of textures and tastes, developed by the research team of Dr. A.H.C. SHUM.



ACHIEVEMENTS OF OUR RESEARCH POST-GRADUATE STUDENTS AND RESEARCH STAFF

- Ms. Yingguang ZHANG and Ms. Holly Yu Ho KWOK have been awarded the First Prize under the Category of Energy, Environmental and Chemical Engineering



at the Hong Kong University Student Innovation and Entrepreneurship Competition.

- Dr. S.C. TANG and group members were conferred the First Place Prize Paper Award for 2017 in the IEEE Transactions on Power Electronics with a paper on wireless power transfer for implantable heart pumps.



- Ms. Lin GUO won the Second Prize at Young Persons' World Lecture Competition 2018.



- Mr. Haoran SUN won the Best Poster Award at the European Materials Research Society (E-MRS) 2019 Spring Meeting.



- A team of ME postgraduate and undergraduate students led by Dr. K.W. KWOK won the best poster paper award at the IEEE International Conference on Robotics and Automation.



- Ms. Shan HE won the Excellent Oral Presentation Award at the 2019 Chinese Biomaterials Congress & International Symposium on Advanced Biomaterials.



- A ME team (Professor Dennis LEUNG, Dr. Yi Fei WANG, Ms. Holly Yu Ho KWOK and Mr. Wending PAN) received a Gold Medal Award, iCAN 2018 Special Inventor Award and IFIA Best Invention Award at the International Invention Innovation Competition of 2018.



Inauguration of The Hong Kong Young Academy of Sciences



The Hong Kong Young Academy of Sciences (YASHK), a chapter of The Hong Kong Academy of Sciences (ASHK), was inaugurated on June 9, 2019. Dr. A.H.C. SHUM is one of the 31 founding members of the Academy.

Record-breaking indoor photovoltaic cell for future self-powered devices in IoTs networks



Dr. S.P. FENG and his group developed a triple-anion perovskite film with special bandgap designed to better fit the indoor light spectra. A record high efficiency of 36.2% is achieved and outperforms the existing state-of-art indoor photovoltaic cells.

HKU scientists reveal how material viscosity modulates living cells behavior and functioning



Dr. Y. LIN and his group, in collaboration with researchers from the University of Pennsylvania, University of Virginia and Stanford University, have made a significant breakthrough in the area of cell mechanics, with a new fundamental understanding on how cells perform their biological duties in vivo.

Young Scientist Award in the Microsystems and Nanoengineering Summit 2019



Dr. A.H.C. SHUM (2nd left)

Dr. A.H.C. SHUM of the Department of Mechanical Engineering was awarded the Young Scientist Award at the Microsystems and Nanoengineering Summit 2019 (MINE2019).



Support from TSSSU@HKU for engineering start-ups

Two start-up companies established by teachers, students or alumni of the Department received funding support from 2019/20 Technology Startup Support Scheme for University @ HKU:

- High Performance Solution Limited (led by Dr. T. FENG), and
- InterLitho Technology Limited (led by Dr. W.D. LI).



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