Hong Kong Academy of Engineering Sciences
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Hong Kong Joint University Team won 2nd Prize in Student Competition of the Global Grand Challenges Summit 2019 in London

A great news and an encouraging one coming at a time when many of the Hong Kong younger generation are in doubt of their future. The Hong Kong Joint University Team, composed of 4 HKU students (Chung Yu WOO, Jiaacheng MA, Utkarsh GOEL and Ahmed Abbas ALVI) plus 1 student each from City U (Man Yee YIP) and HKUST (Padmanabhan KRISHNAMURTHY), has won the 1st Runner Up Prize in the Student Competition of the Global Grand Challenges Summit held in London. Well done and great achievement by the students.

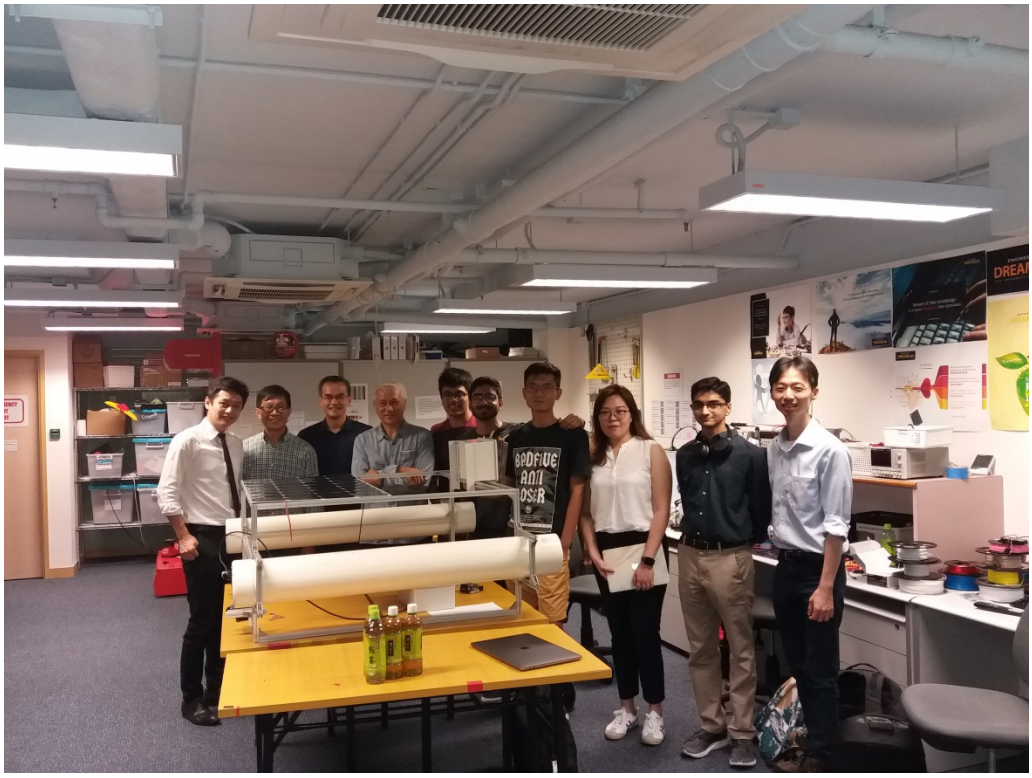
The 4th Global Grand Challenges Summit (GGCS) – jointly organized by National Academy of Engineering (NAE) of USA, Royal Academy of Engineering (RAE) of UK and Chinese Academy of Engineering (CAE) is hosted by RAE in London, 12-18 September 2019. The last two bi-annual summits were held in Beijing (2015) and Washington D.C. (2017) respectively. Background of this event and details of GGCS 2019 can be found on the websites of the three academies (e.g. http://www.engineeringchallenges.org/14500.aspx, and https://www.raeng.org.uk/policy/partnerships/international-policy-and-development/ggcs/2019/.)

There is one important part of GGCS 2019 that involve student participation, viz. the Student Competition on 13-16 September 2019 preceding the official beginning of the Summit. For Student Competition, university teams are invited to propose an innovation or novel approach to address global challenges associated with the sub-themes of the Summit, namely 'Will AI and other transformational technologies change humanity for the better?' and 'Can we sustain 10 billion people?'. Five teams from each country – UK, US and China – will compete against each other, presenting a 3-5 minute pitch of their proposals to a selection of senior judges and other Summit participants on the first day of the student event. While a fully-fledged start-up business is not needed, a rigorous entrepreneurial and design approach which shows that the

teams have moved beyond an initial idea or technology concept will be expected. The innovation must be viable with a clear route to growth and sustained impact.

The Academy has been invited by CAE again to select a Hong Kong Joint University Team to be one of the five teams representing China engaging in the Student Competition. A local competition was organized in June, and with the help of a distinguished Panel of Judges chaired by Dr. Andrew CHAN, Former President of HKAES and Chairman of Arup Group Trust, together with other members including Mr. Hugh CHOW, CEO of ASTRI, Mr. Johnny CHAN, President of Hong Kong Venture Capital and Private Equity Association and also Acting Chief Investment Officer of Cyberport, Mr. Victor NG, Managing Director of Micom Tech Ltd and Prof. Ronald CHUNG, Dean of School of Continuing Education, Baptist University, the winning team was selected. Subsequently, there were many rounds of discussion and refinement of project outcome, further coaching and drilling by Panel of Judges before the students flied to London in September. The performance of the Team was just marvelous and they really had made a great presentation in front of a large audience of experts and peers. The award of the 1st Runner-Up Prize in this international competition was well deserved! The Academy looks forward to creating more new opportunities for students and engineers to realize their dreams.

What a Happy Moment - Bravo !



Further Drilling by Panel of Judges before Flying Off – Excited & Nervous !

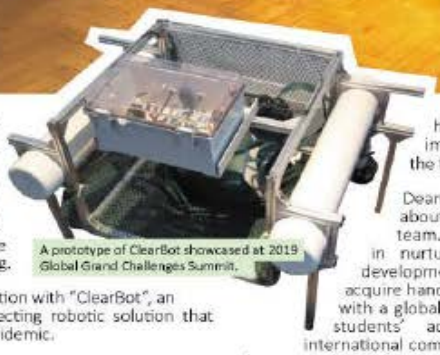
The President with the Winning Team in London

Report from HKU

An HKU-led student team won the first runner-up at the Student Competition of 2019 Global Grand Challenges Summit in London.

First runner-up at Global Grand Challenges Summit 2019 in London

A student team led by the University of Hong Kong was awarded first runner-up at the Student Competition of 2019 Global Grand Challenges Summit (GGCS) in London in September 2019, where 15 student teams from around the world competed on solutions that address the world's grand challenges in engineering.



A prototype of ClearBot showcased at 2019 Global Grand Challenges Summit.

The Hong Kong team won the competition with "ClearBot", an AI-powered, autonomous plastic-collecting robotic solution that took aim at the global ocean plastic epidemic.

The 2019 Global Grand Challenges Summit, co-hosted by the US National Academy of Engineering, the UK Royal Academy of Engineering, and the Chinese Academy of Engineering is the 4th in a series of biennial international event where world leaders, engineers, researchers, and entrepreneurs convene to share their views and innovations to sustain our future world. An important part of the GGCS is its Student Competition, where the best young engineering students from around the world address the questions "Can we sustain 10 billion people?" and "Will AI and other transformational technologies change humanity for the better?" with innovative solutions.

The HKU team first won the local competition organised by the Hong Kong Academy of Engineering Sciences (HKAES) among five universities from Hong Kong in June 2019 with an early prototype of "ClearBot". The HKU team, comprised of Angel Woo Chung-yu (BEng(CompSc)), Utkarsh Goel (BEng(CompSc)), Ahmed Abbas Alvi (BEng(ME)), Ma Jiacheng (BSc(ActuarSc)) and Sidhant Gupta (BEng(CE)), was coached by Dr Hayden Kwok-Hay So of the Department of Electrical and Electronic Engineering through the support of the Tam Wing Fan Innovation Wing and the Gallant Ho Experiential Learning Fund. Upon winning the local competition, the HKU team was joined by Padmanabhan Krishnamurthy from the Hong Kong University of Science and Technology and Theresa Yip Man Yee from the City University of Hong Kong to form a Joint University Team of Hong Kong under the direction of Dr So to compete as one of the China teams on the world stage.

The award-winning project, "ClearBot", represents a truly multi-disciplinary solution that puts heavy emphasis on the relationship between technology and the people who are most affected by this plastic epidemic. From the initial experiential learning trip to Bali, to the open-source software/hardware development model, the development of "ClearBot" remains hinged on the belief that real-world impact can only be achieved by engaging the target communities at every step.

Dean Christopher Chao was delighted about the remarkable performance of the team. He said: "At HKU Engineering, we focus in nurturing students with an all-rounded development. Students are encouraged to acquire hands-on experience and equip themselves with a global outlook. We are delighted to see our students' achievements and growth in the international competition. The team truly demonstrated the power of collective wisdom."

Dr C.K. Chui, Director of Tam Wing Fan Innovation Wing, said: "We emphasise on student experiential learning. It is definitely a remarkable experience for our students. We would also like to thank our donors, including Mr and Mrs Tam Wing Fan, and our alumni for their supports throughout the project."

Professor Ching Pak-chung, President of HKAES, said: "HKAES strives to pursue, encourage and maintain excellence in the entire field of engineering to useful purpose in order to promote the advancement of the science, art and practice of engineering for the benefit of the public. We always fosters education and training of engineers. The student team had joined forces from various universities in Hong Kong and representing China in the national competition. We are proud to see their outstanding achievements in the GGCS 2019 Student Competition."

ClearBot is a system of AI-enabled, trash-collecting marine robots that connects people.

The team continues to win the Alibaba Jumpstarter IdeaPOP 2020.

What a Great Achievement ! Congratulations to the Team