Participation in the Chem-E-Car Final Competition of the 2016 AIChE Annual Student Conference

A team of CBME undergraduate students from the Department of Chemical and Biomolecular Engineering participated in the finals of the Chem-E-Car competition organized by the American Institute of Chemical Engineers (AIChE) in San Francisco, California, in November 2016. The event included multiple regional competitions among the US universities and the finals at the Annual Student Conference. This was the first time HKUST had participated in this annual competition.

Our team comprised of Min Li YEOH, Hon Fai WONG, Horace Ho Him CHAN, Jason Yat Ming CHIU, and Ka Chun LI, and was under the supervision of Mr. Ricky Y L SZETO, Mr. Timothy K T TANG and AIChE advisor, Prof. Zhengtang Tom LUO.

To qualify for the competition, the team was asked to design and prototype a small-scaled car that is fueled and mechanically controlled by chemical energy while carrying a specific load over a given distance. Through the competition, the participants developed skills and knowledge to creatively solve open-ended problems, acquired hands-on experience and learned about safety documentation methods.
The HKUST car is powered by manganese oxide batteries and the movement of the car is controlled by an iodide clock reaction - all designed by the team. To regulate the car’s movement in a precise manner, the team combined both chemical reaction and light-sensing mechanisms that alter the circuit that determine if a car should stop or continue its projection. Towards the end, the team managed to out-compete a total of 14 teams from renowned universities round the globe. The project is funded by CBME, the Undergraduate Student-initiated Experiential Learning (USEL) Program and also the GCE Student Enrichment Grant Scheme at the Hong Kong University of Science and Technology.