Project Title :

Transforming Science and Engineering Talents into Technopreneurs: Hong Kong as a Technology Dragon

Leading University :

City University of Hong Kong

Participating UGC-funded University(ies) :

The Hong Kong Polytechnic University, The University of Hong Kong

Project Leader(s) :

Dr Derek HO, Assistant Professor, Department of Materials Science and Engineering, City University of Hong Kong

Summary of Proposal

From Apple, Google to Tencent and Alibaba, technology entrepreneurs are praised for their ability to combine expertise in science/technology and entrepreneurship to benefit mankind; leading to job creation, economic growth and improved human well-being. All science and technology students and graduates have the potential to be technology entrepreneurs. The question is "how" to do so and how to help them transition to be technology entrepreneurs. Although formal entrepreneurship education has been around for a long time, most of them focus on entrepreneurship in general (e.g. setting up a restaurant, a small trading firm) and do not have a strong technology focus.

In this project, we propose a technological entrepreneurship education platform that embraces the international context and global business opportunities as the core part of engineering and science students' learning experience. Specifically, students who are enrolled onto this technology entrepreneurship education platform will embark on a collaborative, discovery-enriched innovation journey, which is supported by systematic training, personalized coaching, and participation (e.g. in design competitions) internationally (e.g. in United States, European Union, and One-Belt-One-Road countries). Students will experience immersive training through several key stages of technological entrepreneurship such as identification of problems and opportunities, implementation of ideas into prototypes, and the process of Internet Protocol (IP) protection, knowledge transfer, negotiation and technology commercialization. Overseas and mainland collaborators will host student visits and periodically provide feedback from their respective local economic and cultural perspectives.

The proposed platform targets a rather broad audience, especially to senior students in science and engineering in various countries where we can make the most impact. Upon completion, students will have strengthened their skills in critical thinking, collaborative project management, interdisciplinary analysis, technological entrepreneurship, and communication across cultures. To ensure sustainability, upon project completion, training material and resources will be compiled into a file repository to be made available to the public via a massive open online course (MOOC) platform.

Summary of Final Report

Technology entrepreneurs are praised for their ability to combine expertise in science/technology and entrepreneurship to benefit mankind, leading to job creation, economic growth and improved human well-being. All science and technology students and graduates have the potential to be technology entrepreneurs. The question is "how" to do so and how to help them transition to be technology entrepreneurs. Although formal entrepreneurship education has been around for a long time, most of them focus on entrepreneurship in general (e.g. setting up a restaurant, a small trading firm) and do not have a strong technology focus.

In this project, we have established a technological entrepreneurship education platform that embraces the international context and global business opportunities as the core part of engineering and science students' learning experience. Specifically, students who are enrolled onto this technology entrepreneurship education platform embarked on a collaborative, discovery-enriched innovation journey, which was supported by systematic training, personalized coaching, and participation in design competitions internationally.

Students have experienced immersive training through several key stages of technological entrepreneurship such as identification of problems and opportunities, implementation of ideas into prototypes, and the process of IP protection, knowledge transfer, negotiation and technology commercialization. The established platform targeted a rather broad audience, especially to science and engineering students across disciplines and across various countries. Quantitative results have indicated that students have strengthened their skills in critical thinking, collaborative project management, interdisciplinary analysis, technological entrepreneurship, and across-culture communication.