

Fellow Report (Fall 2014 and Spring 2015)

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Professor Yoke Khin Yap was appointed as the Faculty Fellow at Michigan Technological University (MTU) in the area of Economy Development and Technology Commercialization during the Fall semester of 2014 and the Spring semester of 2015. During the tenure of his fellowship, Professor Yap has focused on achieving the following goals in collaboration with Dr. Jim Baker and his staffs in the Office of Innovation & Industry Engagement (IIE):

- 1) Formulate a strategy to reach out to our faculty on the economic and intellectual merits of technology commercialization.
- 2) Design the theme of a seminar on sustainability, which has been delivered to our faculty, to create the awareness on the importance of basic research and technology commercialization.
- 3) Mentoring and sharing his personal experience to our faculty by introducing a “Five Gentle Steps towards Technology Commercialization”.
- 4) Provide mentoring to individual faculty about technology commercialization.

To meet Goal 1), the team has discussed and decided to first conduct a 30-minutes long seminar to **all Deans and Department Chairs** and let them decide whether or not they are interested to bring the same seminar to **faculty members** in their departments. The theme of the seminar was designed in such a way that it is more acceptable among faculty with **minimum psychological resistance** (Goal 2). The seminar was aimed at stimulating awareness among faculty to secure **more research funding in BOTH basic and commercial research projects**. This will help the university to be **more economically (grant revenue) and intellectually (IP) sustainable**.

The seminar has included an analysis on the revenue stream of MTU in comparison to that of the University of Michigan. It was observed that tuition and fees in both schools have continuously increased for more than 20 years, partly due to the decrease of state funding to the universities. This is consistent to the nation-wide scenario. The analysis further revealed an interesting fact on the revenue ratio between those generated by tuition and fees versus those generated by sponsored research activities. For fiscal year 2013, the University of Michigan received revenue from both of these sources in approximately 1:1 ratio (excluding the revenue from the hospital). However, MTU’s revenue generated by tuition and fees is approximately 2.4-fold higher than those generated by sponsored research projects. This means, there are significant room for MTU faculty to further enhance their efforts in securing more research funding towards a more economic sustainable and competitive status.

The seminar also included a discussion on “**Five Gentle Steps towards Technology Commercialization**” (Goal 3), which is part of the mentoring component that Professor Yap offered to MTU faculty. This discussion starts from generating a primitive project idea, and then

receive entrepreneurial training, to securing a SBIR/STTR Phase I award. This seminar has been delivered to,

- 1) Deans and Chairs in the College of Sciences and Arts, College of Engineering, and the Dean and faculty in the School of Technology.
- 2) Department of Physics, Department of Biological Sciences, Department of Materials Science and Engineering, Department of Mechanical Engineering and Engineering mechanics.

Professor Yap has also shared with the faculty about his time effort invested in a technology commercialization project. He has also shown his own funding record during the past three years where he has served as a PI and co-PI in basic research sponsored projects (NSF, DOE, NSF MRI) that worth a total project value of approximately \$2 million. Concurrently, he has earned more than \$380,000 from technology commercialization projects (MIIE, REF-TC, MI ETF, NSF STTR Phase I and Ib, etc). His example could help to convince MTU faculty that **one can perform well simultaneously in securing funding from both basic research and technology commercialization.**

Finally, Professor Yap has also started to provide one-on-one mentoring to a few faculty in a casual setting. He think that this could be more acceptable to most faculty. One of them has actually signed up for the Houghton I-Corps program organized on January 20, 2015.