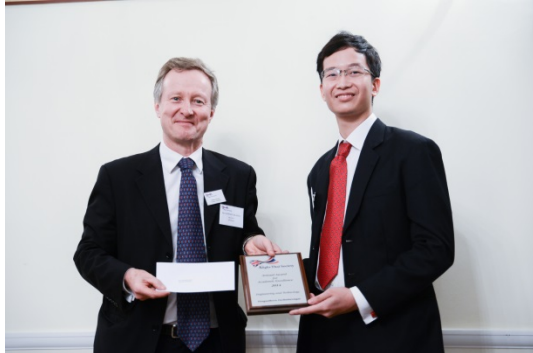


Engineering and Technology

Title: A Study of the Growth and Hydrogen Production of Photosynthetic Microalgae

Acceptance Speech:



Award presented by former Ambassador to Thailand Mr Quinton Quayle non-executive Chairman of ThaiBev for (UK, Europe & USA)

First of all, I would like to express my sincere gratitude to the Anglo-Thai Society for creating an Educational Award scheme. It is my great privilege to be selected by your excellent academic panel as the winner of Engineering and Technology category.

My PhD research is in the field of renewable bioenergy, with particular emphasis on hydrogen (H₂) production by photosynthetic microalgae. H₂ has a great potential to be an alternative and sustainable fuel option of the

future, since it can provide completely clean combustion as well as extremely high-energy output for electricity generation, heating and transport. Microalgae have the ability to produce H₂ from sunlight and water, both of which are two of the world's most plentiful resources.

An ultimate aim of my PhD study is to develop the practical and commercial biofuel production facility. I have intensively performed studies on two important aspects: 1) the design of an effective, inexpensive, and scalable system for growing microalgae and 2) process optimisation to maximise an energy output of our biological platform. Based on my knowledge and skills, I can serve as an expert, who provide direct advisory to governmental and industrial sectors on how to start-up a biofuel facility in Thailand. I am also planning to establish my academic research group to continue our work on improving the efficiency of the process and to transfer my knowledge to new generations of young students. By relying more on bioenergy, we would not only succeed in securing the energy future for next generations, but also create new business opportunities for local Thais. In addition, more national budget could have been invested in fundamental infrastructures and educational systems, as less would be spent on the fossil fuel subsidies. In the long run, Thailand's investment in algae-based biofuels would significantly improve the living standards of Thais and reward our nation with a new commercial strength.

In the end of my acceptance speech, I would like to spend some times acknowledging people who have been greatly involved during my long journey. My PhD study was funded by the Royal Thai Government Scholarship, whom I am highly appreciated. I would also like to thanks two of my academic advisors – Prof. Klaus Hellgardt and Prof. Geoffrey Maitland for their supervisions and guidance. Last but not least, I would not be able to stand right here without incomparable supports from my beloved family. Thank you very much.

Pongsathorn Dechatiwongse

