

Acceptance Speech for ATS Educational Awards 2017: Pure Science

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First of all I would like to thank the Anglo-Thai Society for organising this Educational Awards, as well as our sponsors, in particular Khun Saipin Lee for supporting the award in the category 'Science.' I would also like to thank my supervisor Professor Richard Compton for his extraordinary support and guidance, as well as the Development and Promotion of Science and Technology Talents Project or DPST who provides funding for my studies since high school until now.

I am working in the field of electrochemistry. In the past three years, my research has focussed on both the fundamental aspects and the application sides of it. Electrochemistry is a quick and inexpensive measurement technique, and so is suitable for applications in sensors. They can be used in the food industry, medical diagnosis, environmental monitoring and many other applications, and will surely make a great impact and be beneficial to Thailand. For example, electrochemistry can be used to detect and quantify nanoparticles. As nanoparticles have been used in various commercial products, the issues of environmental and health concerns have been raised. The electrochemical sensors that we developed allow accurate and quick detection of nanoparticles and are much cheaper than most of the other current methods. Apart from nanoparticles, the technique can be employed to detect molecular species. One of my current projects is the development of sensors for molecular biomarkers or the indicators of diseases in biological samples such as blood, plasma and saliva. Collaboration with medical researchers is on-going to realise a vision for at point-of-use sensors for various conditions including bipolar disorder.