

Advanced Research Scholar – PhD Dissertation

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Field of Study:	<i>Biodiesel</i>
Research Period	<i>August 2016 – July 2017</i>
US University	<i>Texas A&M University</i>
US Professor	<i>Dr. Sergio Capareda</i>
Research Title	<i>Microwave and ultrasound transesterification of microalgae using synthesized novel alkali catalyst</i>
Publication(s)	https://www.sciencedirect.com/science/article/pii/S2468203917303758

Describe your research conducted in the US.

The research I conducted at Texas A&M university aimed to determine efficient and less expensive way to produce biodiesel from microalgae. This was done by investigating the performance of a synthesized novel catalyst formed by using pumice, an inexpensive material which has very good ultrasound absorbing properties. The biodiesel production underwent ultrasound and microwave assisted transesterification to shorten reaction time and improve yield.

What was the highlight of your research in the US?

The highlight of my research was when I was able to make biodiesel from microalgae using the synthesized novel catalyst. The whole research is all about the performance of the synthesized catalyst. I consider my research to be a success because it has proven that the catalyst we utilized works.

In what way has the USAID scholarship changed you?

Through the scholarship, I was able to obtain my PhD degree and publish my research in scientific journals. Doing research in the US allowed me to think outside the box and collaborate with the experts in my field of study.

How would you use the knowledge and skills gained through your research to contribute or influence economic growth in the country?

I can fully say that my research experience in the US gave me insights in research and technology that I never had before. I can now make research drafts once a week because of the knowledge and exposure that I have had when I interacted with other researchers at Texas A&M University. Hopefully, I can conduct more researches that can help the environment and society in the future.

As a young scientist, what do you envision for the Philippine science, technology and innovation ecosystem in the next 10 years?

With more scholars being exposed abroad, I think there would be a point in time that Filipinos will able to revolutionize research and development in the country. At the moment, we are still far behind in research and technology compared to western countries. The influx of scholars coming in and out of the country would help improve our standards and eventually our researches someday. There are still a lot that we can do in fields of alternative energy, water pollution, air pollution and waste recycling.

Paulo is working as Assistant Professor at Capiz State University and is currently writing his dissertation paper. He is set graduate with a PhD Degree in Environmental Engineering from University of the Philippines - Diliman on June 2018.