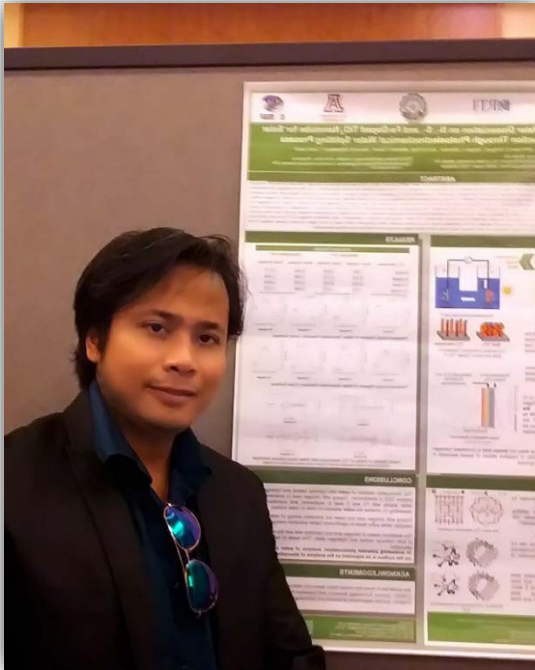


Advanced Research Scholar – Post-doctoral

Al Rey Villagrancia, Ph.D.

De La Salle University



Field of Study:
Research Period
US University
US Professor
Research Title

Computational Physics
April 2017 – March 2018
University of Arizona & University of Florida
Dr. Joel Cuello & Dr. Adrian Roitberg
Molecular Dynamics Study for Microalgae Drying and Cultivation

Describe your research conducted in the US.

My research focused on the application of electric field in drying and cultivating microalgae by molecular dynamics simulation. Through this research, I aimed to increase my knowledge and skills on drying/cultivating microalgae, business planning and patent, data science and molecular dynamics. By learning from the experts, I conducted my research from computational to actual application and technological development.

What was the highlight of your research in the US?

The highlight of my research in the United States is the novel application of electric field for cultivation and drying of microalgae. This is implemented by the use of molecular dynamics through the High-Performance Computing (HPC) facilities in the United States.

In what way has the USAID scholarship changed you?

USAID scholarship has provided me opportunities that enhanced my skills and knowledge from the workshops and collaboration with outstanding scientists in the United States.

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

Using the use of knowledge and skills I gained through my research experience, I plan to collaborate with the industry and establish a start-up company. Through this, I can contribute to the economic growth of the Philippines.

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

As a young scientist, I envision that the number of companies owned by Filipino scientists will increase in the next 10 years through technological advancement and patents. This technological development will produce more jobs for the Filipinos, and boost the economy of the Philippines.

Dr. Al Rey plans to go back to teaching in De La Salle University, and continue his research collaboration with the US professors and Philippine industries.

E-mail: arcvillagrancia@gmail.com