

Advanced Research Scholar – Post-Masters

Iris Bea Ramiro

University of the Philippines Diliman



Philippine University

Field of Study:

Research Period

US University

US Professor

Research Title

University of the Philippines Diliman

Biochemistry, Conus peptides and their biological activity

June 2017 – April 2018

University of Utah

Dr. Baldomero M. Olivera

Identification of bioactive Conus rolani peptides and related Contulakin Peptides from the Asprella Clade

Describe your research conducted in the US.

The research focuses on *Conus rolani*, one of the deep-water cone snail species. Cone snails are known to produce biologically active peptides, which they use in feeding and defense, but these peptides are also drawing interest as potential therapeutics and research tools. The aims of the research is to investigate the chemistry and biological activity of a novel *C. rolani* peptide and to identify new biologically active peptides and other contulakin-like sequences from the *Asprella* clade, where *C. rolani* belongs.

What was the highlight of your research in the US?

A new family of peptides has been discovered from the venom of cone snails belonging to the *Asprella* clade. The first peptide from this family was isolated from *Conus rolani* venom and caused unresponsiveness in mice. Understanding the chemistry and bioactivity of this peptide will lead to identifying the potential target of the new group of peptides and looking into possible applications for these peptides.

In what way has the USAID scholarship changed you?

The USAID scholarship has given me the opportunity to work closely and discuss with the experts in my field of study, broadening the horizons of what questions have to be asked and the possible experiments that can be performed to answer these questions.

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

My research could potentially affect the biomedical/pharmaceutical industry, specifically the discovery and development of new therapeutic agents. It would most likely take time before the Philippine pharmaceutical industry would expand from manufacturing and distribution of medicines to discovery and development of new compounds or medicines. Building up a compound library of possible therapeutics through discovery of new compounds is a start. It is important to understand the compounds and their biological activities before further developing them into medicines. Overall this industry drives the economy by creating jobs and investments.

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

The Philippines will not only be a source of raw materials but also a country with human resource capable of producing innovative products and technology. Basic researches done in universities could be linked up with appropriate industry partners at an appropriate stage of research.

After completing her research in the US, Bea plans to continue the research on Conoidean venom peptides in the laboratory at the UP Marine Science Institute or at the Central Visayas Institute Foundation's research center in Jagna, Bohol. She also intends to pursue a PhD degree.

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