

## Professional Science Master's Scholar

### Melanie Salinas

University of the Philippines Manila



**PSM Degree**  
**US University**  
**Date of Completion**  
**GPA**

*Professional Science Master in Bioinformatics*  
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*3.76*

#### Professional Science Master in Bioinformatics

I studied Professional Science Masters in Bioinformatics with Concentration in Life Sciences at the University of Delaware-Center for Bioinformatics & Computational Biology. The program, comprised of a scientific curriculum with a “Plus” component for professional skills and an immersive internship, is designed to prepare PSM graduates to pursue a professional career in industry, business, government agencies, or nonprofit organization. The Life Sciences Concentration equips the students with knowledge and industry experience in applying bioinformatics methods, tools, and databases as an integral approach to modern biotechnology and medicine.

#### As a PSM student, what was the highlight of your study?

The highlight of my study as a PSM Bioinformatics student was my research internship at the Georgetown University-Protein Information Resource (GU-PIR) in Washington DC. The project I worked on was an application of Bioinformatics to Cancer Drug Discovery where I developed a systematic computational approach for the screening of nuclear receptor binding SET domain-containing protein 1 (NSD1) inhibitors for acute pediatric myeloid leukemia based on compound selectivity and binding affinity using publicly available databases and bioinformatics tools. This workflow aided in prioritizing candidate compounds from among thousands in compound libraries for testing in the biochemical assays being developed at the HTS/Drug Discovery Lab. This project also inspired new ideas for projects of fellow students in Bioinformatics, and Chemical Engineering of UD as outgrowth of my results and workflow.

#### In what way has the USAID scholarship changed you?

The USAID PSM Scholarship has truly widened my horizons by giving me the opportunity to discover and develop my capability of working effectively in a new field of study with people who have diverse backgrounds, cultures, and interests. The insights I gained from my experiences in the US continue to inspire me to use my talents, skills, and interests to help improve the lives of the marginalized in the spirit of genuine service and gratitude.

#### How would you use your degree to contribute or influence economic growth in the country?

With my training in MS Pharmacology, I intend to use my degree in PSM Bioinformatics to advance the natural products research and development in the Philippines by engaging in collaborative research programs with the Institute of Herbal Medicine, NIH-UPM, the UP College of Pharmacy, the Philippine Genome Center, and local pharmaceutical companies. This aims to establish the safety, efficacy, mechanism of action of herbal medicines derived locally to provide a solid foundation of their rational use, which will eventually boost the local pharmaceutical industry, and provide more jobs for Filipinos, especially the herbal medicinal plant farmers.

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

I envision that, in the next 10 years, the culture of collaboration between universities, industries, government agencies, non-government organizations, and local start-up companies is already flourishing and fueled by shared undertakings such as annual conventions of these sectors. By then, more researchers educated abroad are going back to help continue the improvement of the research and innovation landscape in the country, and to serve as good role models to many young Filipinos so as to encourage them to pursue careers in science and research. Lastly, I envision a significant improvement in the procurement system in the country – a wish shared by most Filipino researchers.

*After her return to the Philippines, Melanie has worked as a Science Research Specialist at the Philippine Genome Center. She is finishing her MS in Pharmacology at UP Manila, and at the same time, preparing for PhD studies at the National University of Singapore.*

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