

REMMER LANZARROTE SALAS

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Teaching Experience

July 2007 – Present

Instructor 1

College of Teacher Education, Arts and Sciences

Visayas State University Tolosa

Tanghas, Tolosa, Leyte

- Developed and implemented comprehensive learning materials for General Chemistry, Inorganic Chemistry, Organic Chemistry, Analytical Chemistry, Biochemistry, Environmental Chemistry, Geochemistry, General Ecology, General Physics, and Calculus while effectively assessing student performance to ensure academic success.
- Fostered social and academic engagement among students by organizing interactive activities as the adviser of the Science Educator's Association.
- Enhanced student performance by leading chemistry tutorial classes in coordination with the department and student organization.
- Organized and managed the university's laboratory safety and chemical waste management committee.

Research Experience

August 2019 – Present

Doctoral Researcher

Good Virtual Biochemical Explorations Laboratory

Principal Investigator: Dr. Ricky B. Nellas

Institute of Chemistry, University of the Philippines Diliman

- Developed machine learning models to predict the antimicrobial activities of peptides reliably.
- Designed, synthesized, characterized, and evaluated the antimicrobial activities of ultrashort histidine-based peptides.
- Analyzed the molecular interactions of the peptides with target proteins using nuclear magnetic resonance spectroscopy, molecular docking, and molecular dynamics simulations.
- Authored two research papers currently under review in top-tier journals, showcasing innovative findings in peptide design and discovery.

June 2012 – March 2014

Master Thesis Student

Biochemistry and Synthetic Organic Chemistry Laboratory

Principal Investigator: Dr. Portia Mahal G. Sabido

Institute of Chemistry, University of the Philippines Diliman

- Designed, synthesized, purified, and characterized the derivatives of palmitoylated anoplin.
- Evaluated the antimicrobial activity of the palmitoylated anoplin derivatives.

- Authored a scientific article based on thesis output, published in *Peptides*, and recognized with publication incentives, highlighting the impact and quality of the work.

Education

2019 – Present

Doctor of Philosophy in Chemistry (by Research)

Institute of Chemistry, University of the Philippines Diliman

Scholar, Department of Science and Technology-Advanced Science and Technology Human Resource Development Program

Dissertation: Understanding the antibacterial activity of histidine-based lipopeptides through machine learning and biomolecular simulations

Advisers: Dr. Ricky B. Nellas and Dr. Portia Mahal G. Sabido

2010 – 2016

Master of Science in Chemistry

Institute of Chemistry, University of the Philippines Diliman

Scholar, Commission on Higher Education-Faculty Development Program Phase II

Thesis: Effects of truncation on secondary structure and antimicrobial activity of palmitoylated anoplin

Adviser: Dr. Portia Mahal G. Sabido

2003 – 2007

Bachelor of Secondary Education major in Biology-Chemistry

College of Education, Visayas State University Main Campus

Scholar, Commission on Higher Education-State Scholarship Program

Cum laude

Licensed Professional Teacher

Technical Expertise:

Solid-phase peptide synthesis, high-performance liquid chromatography purification, peptide quantification, circular dichroism spectroscopy, antimicrobial assay, protease stability assay, molecular docking, molecular dynamics simulation, machine learning, Python programming

Publication and Presentations

R.L. Salas, J.K.DL. Garcia, A.C.R. Miranda, W.L. Rivera, R.B. Nellas, P.M.G. Sabido, Effects of truncation of the peptide chain on the secondary structure and bioactivities of palmitoylated anoplin, *Peptides* 104 (2018) 7-14, <http://doi.org/10.1016/j.peptides.2018.03.019>

Ultrashort histidine-based lipopeptides show more potent activities than ampicillin against Escherichia coli and Staphylococcus aureus. Poster presentation, 13th International Peptide Symposium (October 2023)

Interpretable machine learning models for the accurate prediction of antibacterial activity of peptides against specific bacteria. Oral presentation, 37th Philippine Chemistry Congress (July 2023)

Predicting the antibacterial activity of modified peptides against specific strains of bacteria using ML-based methods. Oral presentation, International Conference on Chemistry (February 2023)

Unraveling the protein targets of potent antibacterial myristoylated ornithylhistidine by reverse docking. Poster presentation, 48th Philippine Society of Biochemistry and Molecular Biology Annual Convention: A Virtual International Conference (December 2021)

Strength of cation- π interaction and antibacterial activity of His-based lipopeptides. Oral presentation, 35th Philippine Chemistry Congress (September 2021)

Effects of truncation on the peptide chain on the secondary structure and bioactivities of palmitoylated anoplin. Oral presentation, 2020 Taiwan-Philippines Bilateral Symposium on Chemical Science and Technology (February 2020)

Enhancing the bioactivities of anoplin, an antimicrobial peptide from the venom of solitary wasp. Oral presentation, 2nd Regional Symposium of the Philippine Society of Biochemistry and Molecular Biology Visayas Chapter (February 2019)

Short helical derivatives of palmitoylated anoplin. Poster presentation, 25th Federation of Asian and Oceanian Biochemists and Molecular Biologists International Conference and 43rd Philippine Society of Biochemistry and Molecular Biology Annual Convention (December 2016)

References

Portia Mahal G. Sabido, PhD.

Master's Thesis Adviser

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Ricky B. Nellas, PhD

Dissertation Adviser

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