

# SHAIRA F. BAÑEGA, R.Agr

Plant Breeding minor in Molecular Biology and Biotechnology

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## About Me

Dedicated researcher and educator with experience in vegetable breeding and crop science instruction. As a Research Specialist in yardlong bean and eggplant breeding and a lecturer for Licensure Examination for Agriculturists review classes, I bridge practical research and academic learning. I am eager to contribute to biotechnology education through evidence-based teaching and mentorship that connect theory with real-world agricultural innovation.

## Work Experience

### **Crop Science Review Lecturer- Licensure Examination for Agriculturists**

UP Step Review Center | *January 2025- Present*

- Served as crop science review lecturer for the LEA takers from Ifugao State University.

### **Research Specialist I**

East- West Seed Co., Inc. | *August 2023- Present*

- Managed multiple breeding projects aimed at developing new eggplant and yardlong bean varieties with improved yield and resistance to insect pests, viral, and fungal diseases through marker- assisted breeding and conventional techniques.
- Supervised a team of 8 members, optimized methods, and innovative techniques in trial implementations.
- Regularly prepared data analysis and trial reports for data- driven decision-making.
- Collaborated with Molecular Lab, Cell Biology, and Pathology team for fast-paced production of improved eggplant and yardlong bean materials.

### **University Researcher I**

Institute of Crop Science, College of Agriculture and Food Science, University of the Philippines, Los Baños, Philippines | *July 2021 to December 2022*

Project Title: *Physicochemical Analysis and Fiber Tensile Strength Evaluation of Different Varieties of Abaca (*Musa textilis* Nee) in the Philippines*

- Assisted in drawing- up project work plan and corresponding budget requirements to implement specific research activities.
- Managed field monitoring and maintenance of abaca germplasm collection.
- Led and managed the collection, analysis, and evaluation of physicochemical and molecular data of abaca.
- Presented regular progress reports and conducted complete data analysis to be used in breeding new abaca varieties.

### **University Research Associate I**

Institute of Plant Breeding, College of Agriculture and Food Science, University of the Philippines, Los Baños, Philippines | *April 2018 to April 2019*

- Assisted in the advanced evaluation of abaca hybrids with high fiber yield and resistance to the bunchy top virus through molecular detection.
- Managed field monitoring and maintenance of abaca hybrids plantation.
- Assisted in conducting training and workshops for abaca farmers and cooperators on proper abaca production, fertilization, fiber harvesting, grading, and baling.
- Developed information, education, and communication (IEC) materials about abaca production and post-production processing of abaca fibers.

### **Science Research Assistant**

Philippine Rice Research Institute, Bicol, Philippines | *Dec 2017 to Feb 2018*

- Led the promotion of rice science through Technology Information Campaign.
- Assisted capacity enhancement through the development of rice demonstration fields and conducting seminars and training for agriculture students, rice farmers, and Local Government Unit employees.

## Education History

### **Master of Science in Plant Breeding minor in Molecular Biology and Biotechnology**

Institution: University of the Philippines Los Baños, Laguna, Philippines

*Year of Graduation: 2022*

- *Awardee*, Department of Science and Technology- Accelerated Science and Technology Human Resource Development Program (DOST- ASTHRDP) Scholarship
- MS Thesis: Validation of Transcriptome-Derived Microsatellite Markers and Identification of their Association with the Tensile Strength of Abaca (*Musa textilis* Nee)

### **Bachelor of Science in Agricultural Biotechnology**

Institution: University of the Philippines Los Baños, Laguna, Philippines

*Year of Graduation: 2017*

- Undergraduate Thesis: DNA Fingerprinting of National Seed Industry Council (NSIC)- Released Sweetpotato (*Ipomoea batatas* (L.) Lam.) Varieties

## Scientific Conferences, Seminars, and Training

### **49th Philippine Society of Biochemistry and Molecular Biology (PSBMB) Annual Convention**

*Participant*

Virtual International Conference, November 23-26, 2022

### **Research Methodologies- Rubber Molecular Breeding Related Training**

*Resource Speaker*

May 23-27, 2022 at the Institute of Crop Science, University of the Philippines Los Baños, Philippines

### **Training on Molecular Techniques in Abaca Breeding**

*Resource Speaker*

Virtual Training, November 11-12, 2021

### **Utilization of In- Vitro Technology for Conservation and Micropropagation for Sugarcane Variety Improvement and Enhanced Farm Productivity**

*Participant*

March 26- 27, 2019 at the Institute of Plant Breeding, University of the Philippines Los Baños, Philippines

### **CRISPR Cas9: Principles, Applications, & Related Issues**

*Participant*

March 25, 2019, at the Institute of Biological Sciences, University of the Philippines Los Baños, Philippines

### **48th Crop Science Society of the Philippines Conference**

*Participant*

July 2-7, 2018 at La Piazza Hotel, Legazpi City, Philippines

### **New Policies and Guidelines for Testing Vegetable Crop Varieties for Official Registration for Commercialization**

*Participant*

November 23, 2018, at the Institute of Plant Breeding, University of the Philippines Los Baños, Philippines

### **CAFS Writing Refresher Day 2: Scientific and Technical Writing**

*Participant*

May 27, 2021, at the College of Agriculture and Food Science, University of the Philippines Los Baños

### **Advanced Business Writing**

*Participant*

May 27-30, 2024, at East- West Seed Philippines

### **Data Analysis and Statistics Training**

*Participant*

November 6,7, 12, 13, 19, 20, 2024 at East-West Seed Philippines

### **Genetic Diversity Analysis: Applications and use-cases in Breeding**

*Participant*

September 8, 2025 at East- West Seed Co. (Global)

### **Tools for Smarter Breeding – Making Genomic Selection Practical**

*Participant*

September 11, 2025 at Seed World (Webinar)

## Publications/ Posters

### **Association Analysis of Tensile Strength in Abaca (*Musa textilis* Nee) Fibers with Transcriptome-Derived SSR Markers**

Shaira F. Bañega\*, Eureka Teresa M. Ocampo, Melquiades Emmanuel C. Reyes and Antonio G. Lalusin  
Poster Presented at the 49th Philippine Society of Biochemistry and Molecular Biology (PSBMB) Annual Convention, Virtual International Conference, November 26, 2022

### **DNA Fingerprinting of National Seed Industry Council (NSIC) Released Sweet Potato (*Ipomoea batatas* (L.) Lam.)**

Shaira F. Bañega\*, Mary Ann M. Abustan, Mariecris Rizalyn DLR. Mendoza, Antonio G. Lalusin  
Poster Presented at the 48th Crop Science Society of the Philippines Scientific Conference, July 5, 2018.

## Professional Certifications

### **Professional Licensed Agriculturist**

*2017 to Present*

### **Introduction to Genomic Technologies**

Johns Hopkins University (online non-credit course)  
*April 2011*

## Affiliations and Organizations

### **Philippine Association of Agriculturists, Inc.**

*Member, 2021 to Present*

### **Phi Sigma Biological Sciences Honor Society, Alpha Chi Chapter**

*Member, 2017 to Present*

## SKILLS

### **Plant Breeding**

- Phenotyping
- Genotyping, Marker- Assisted Selection
- Maintenance and Evaluation of Crops in Greenhouse and Field Trials
- Data collection and analysis for multilocation trials

### **Molecular Biology/ Biochemistry**

- Isolation and Identification of Protein, DNA, and RNA
- Electrophoresis (PAGE/ AGE)
- Polymerase Chain Reaction
- Plant Tissue Culture

### **Other Relevant Skills**

- Statistical and data analysis: R software
- Use of Bioinformatics tools: Galaxy, TASSEL, STRUCTURE, BLAST, etc.
- Media preparation
- Administrative work

## Character References

### **Dr. Eureka Teresa M. Ocampo**

Professor 1

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### **Dr. Renerio Gentallan, Jr.**

Assistant Professor 7

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