CURRICULUM VITAE

MA GINA MARAMARA BABB

Home Address:	205 SE 16th Ave. 11A Gainesville, FL 32601
Work Address:	2464 Hull Road, Bldg. 711 Plant Cell and Molecular Biology Laboratory Horticultural Sciences Department University of Florida Gainesville, FL 32611
Contact Information:	Mobile Phone: (863) 632-7183 Office Phone: (352) 392-3182 Lab Phone: (352) 273 4606 Email: maramarababbm@ufl.edu mgmbabb@gmail.com gina.babb@outlook.com

EDUCATION

Doctor of Philosophy in Plant and Environmental Science (major in Agronomy), 2014
New Mexico State University (NMSU), Box 30003 MSC 3Q, Las Cruces, NM, U.S.A.
Dissertation: "DNA Marker Assisted Selection to Improve Alfalfa (*Medicago sativa* L.) Drought Tolerance."

Master of Science in Plant Pathology (minor in Plant Breeding), 2002
University of the Philippines Los Baños (UPLB) College, Laguna, Philippines
Thesis: "Cloning and Expression of the Rice Tungro Bacilliform Virus (RTBV) Coat Protein (CP) Gene."

Bachelor of Science in Agriculture (major in Plant Protection), 1991
Visayas State College of Agriculture (ViSCA), Baybay, Leyte, Philippines
Thesis: Seedcoating with *Trichoderma viride* Pers. to Control Sclerotium Wilt in Mungbean (*Vigna radiata* (L.) Wilczek).
Graduated with Latin honors (*Cum Laude*)

PROFESSIONAL EXPERIENCE

Biological Scientist II, Plant Cell and Molecular Biology Laboratory **August 2019 - present**
Horticultural Sciences Department
Institute of Food and Agricultural Science (IFAS)
University of Florida, Gainesville, FL 32611

Responsibilities:

USDA-APHIS contact person for the Settles lab (Plant Cell and Molecular Biology Laboratory). Submits request for permits and notifications of the lab's transgenic materials; writes planting reports of these materials when they are released in the field. Oversees and manages the Settles lab's maize field operations, seed analysis laboratory, high-throughput seedling imaging platforms, and seed storage cool rooms. Also, maintains the lab's field breeding materials, and assists in conducting the lab's major field projects, such as generating super synthetics, MTC Illinois high oil (IHO), Florida high oil (FLHO) test crosses, sugary1 (su1) synthetic induction crosses, IHO haploid inducer testcrosses, ILHO haploid synthetics, bulk haploids and test donors, Shrunken2 (Sh2)-m1 introgressions, Chr2 Cd QTL introgressions, and Alex high oil materials. Maintains and conducts single kernel near infra-red (SK-NIR) spectroscopy, assists in conducting emergence assay, ABA-NAM, and transgenic research projects.

Associate Professor, Agricultural Studies Department **August 2014 - July 2019**
Warner University, 13895 Highway 27 Lake Wales, FL 33859

Responsibilities:

Design, Develop and Teach Courses in the Traditional (In-person, classroom) and Distance Education (Online) Formats

AGS 2001 Introduction to Plant Science (Traditional and Online, offered every semester)

Course Description: Understanding the basic principles of plant growth and development as applied to agronomic and horticultural crops and the industries related to the production, marketing, and utilization of crops. Introduction to the physical, biological, physiological, and chemical principles underlying the growth and development of crops in managed ecosystems.

AGS 2020 Plant Nutrition/Soil Science (Traditional, offered every semester)

Course Description: Fundamentals of soil science emphasizing the physical, chemical and biological properties of soils in relation to factors affecting soil productivity, soil management and crop production, soil classification/taxonomy, organic matter/amendments, soil water, drainage and irrigation, soil fertility/fertilizers, nutrient management, soil sampling and testing, soil conservation, tillage and cropping systems, horticultural/urban uses of soil, precision agriculture, and sustainable agriculture.

AGS 2100 Agronomy (Online, offered every semester)

Course Description: Introductory Agronomy course for the Agricultural Studies major and workers of the agriculture industry to learn the basics of crops, water and soils and their management strategies vital to the production of crops. Topics include crop growth and development; crop management; soil physical, biological and chemical properties; soil, nutrient, and water management; pest and disease management; crop harvest and storage; and precision agriculture. This course is designed to help interested individuals learn the principles of growing and managing agricultural crops through readings, quizzes and assignments in a distance education setting. The course is specifically designed for those who have not taken an Agronomy course and cannot attend a traditional Agronomy class due to distance and nature of their work.

AGS 3020 Plant Production/Plant Propagation (Traditional and Online, offered every semester)

Course Description: Basic understanding of the global fruit, vegetable, and specialty crop industries. Emphasis on biology, soils, nutrition, types of fruits and vegetables, site selection, propagation techniques, tissue culture, and cultural methods. This course is a continuation of AGS 2001: Introduction to Plant Science.

AGS 3050 Weed and Pest Management (Traditional, offered every fall, odd years)

Course Description: Study of weeds, diseases, parasites, pathogens, and insect pests in agricultural crops. The basic principles of insect, disease and weed control in crops through applicable integrated pest management approaches. Emphasis on identification of common weeds, diseases, and insect pests and the practical application of control methods.

AGS 3060 Agriculture Post-Harvesting (Traditional, offered every fall, even years)

Course Description: Instruction in preparing and packaging agricultural products for consumption. Preparation to receive, inspect, store, process, and package food products according to safety and health requirements. Examination of recordkeeping practices for food safety compliance and traceability.

AGS 3070 Specialty Crop Production (Traditional, offered every spring, odd years)

Course Description: Culture and management of specialty crops. Recognition of practical aspects of production, processing, marketing, and rotational adaptations of current, new and emerging high value crops. A focus on berries, peaches, tomatoes, and nursery/ornamentals. Discussion of the role of small specialty crop agribusinesses and local market outlets, and the organic and biochemical aspects in specialty crop production.

AGS 3165 Plant Disease Diagnosis (Online, offered every spring)

Course Description: Study of the various plant diseases caused by fungi, bacteria, nematodes, viruses and other parasitic plant pathogens in agricultural crops. Identification of plants and plant parts affected by the pathogen, and identification of the disease symptoms and/or signs to properly diagnose what organism(s) or pathogen(s) cause the disease. Application of advanced biotechnological tools in plant pathogen detection to successfully diagnose the different plant diseases.

AGS 4020 Fruit Production (Traditional, offered every spring, even years)

Course Description: Commercial aspects and cultural practices of fruit production in protected and unprotected environments. An emphasis on citrus production, including citrus botany, scion and rootstock selection, fruit quality, grove design, and disease management practices.

AGS 4030 Vegetable Production (Traditional, offered every fall, even years)

Course Description: Principles and practices for the production of commercial vegetable crops focused on crop requirements and growing techniques. Emphasis on hydroponic vegetable production. Planting, maintenance, and harvesting of hydroponically and conventionally grown vegetables. Examination of hydroponic production globally.

AGS 4040 Principles of Plant Breeding (Traditional, offered every fall, odd years)

Course Description: Principles, theories and applications of plant breeding for the genetic improvement of crop plants. Discussion of traits that improve the yield of crop plants, crop quality, resistance to stresses such as drought, salinity, freezing, insect pests, and diseases.

Other Courses Taught

AGS 1000 Introduction to Agricultural Studies (Fall 2014)

Course Description: Provide information about the Agricultural Studies degree program. Introduce the discipline of agriculture by exploring careers, problems, issues, and philosophies from a local and worldwide view. Development of an Experiential Learning Plan, consisting of preparation, projected knowledge and skills learning outcomes, career goals, steps for implementation, evaluation and assessment measures, reflection of Agricultural Practicums I-III, and Agricultural Capstone courses.

AGS 2030 Agricultural Policy (Spring 2015)

Course Description: Study of agricultural, food, and natural resource policy development. Survey of current public policies and programs at the state and federal government levels, and addresses international policy issues. Observation of agricultural policy development in the Florida legislature. Considers the role of economic analysis in policy decisions. Focus on worker protection, guest workers, Best Management Practices, food safety and the Farm Bill.

BSC 1010 General Biology Online (Summer 2017)

Course Description: An introductory biology course designed to give a broad overview of many aspects of biology. The science of biology has had a great impact on the quality of life on Earth and will continue to do so in the future. Biology is extremely important to our everyday life, and an understanding of the basic concepts of life is vital to being an active and informed member of society. The topics covered in this course have been chosen to help students make informed decisions on issues that affect their lives.

Lectures and Workshops Delivered at the FFA and Other Organizations

- Lecture and hands-on workshop on 'DNA Analysis and Technology' presented at the 'Interactive Teaching Lab for Florida's Agricultural Educators' Warner Classroom during the 90th Florida FFA State Convention, June 13, 2018. Caribe Royale Orlando, 8101 World Center Drive, Orlando, FL.

- Lecture and hands-on workshop on 'Soil Sampling and Testing' conducted at the 'Interactive Teaching Lab for Florida's Agricultural Educators' Warner Classroom during the 89th Florida FFA State Convention, June 15, 2017. Caribe Royale Orlando, 8101 World Center Drive, Orlando, FL.

- Lecture and hands-on workshop on 'Soil Sampling and Testing' conducted for the participants of the second Homer and Annette Thompson Summer Ag Camp on June 25-27, 2018. Darby Hall, Warner University, Lake Wales, FL.

- Lecture and hands-on workshop on 'Plant Nutrition (Got Elements?)' delivered to the participants of the first Homer and Annette Thompson Summer Ag Camp on June 26, 2017. Darby Hall, Warner University, Lake Wales, FL.

- Lecture on Plant Health delivered to the 4-H Club 'Orange Blossoms' members on April 18, 2017. Darby Hall, Warner University, Lake Wales, FL.

SUMMARY of TEACHING EVALUATIONS*

Topic	AGS 2001 Intro to Plant Science	AGS 3050 Weed and Pest Management	AGS 4020 Fruit Production
1. Instructor's lectures and activities were effective in helping student learn course material	3.82	3.85	3.92
2. Instructor provided opportunities for students to ask questions	3.91	3.92	3.92
3. Instructor demonstrated concern for student learning	3.91	3.92	3.92
4. Instructor was well prepared for class	3.91	3.92	3.92
5. Instructor clearly communicated what was expected of students in the course	3.91	3.92	3.92
6. The course syllabus was a useful guide/resource	3.82	3.77	3.75
7. Instructor was receptive to discussing different viewpoints from students	3.82	4.00	3.92
8. Interactions between instructor and students in the course were positive	3.91	3.92	3.92
9. Instructor created an environment where all students had an equal opportunity to learn	3.91	4.00	3.92
10. Feedback from instructor on papers, exams and other assignments was helpful	3.91	4.00	4.00
11. Standards for evaluating student work were consistently applied by instructor	4.00	3.92	3.92
12. Graded work for this course focused on the important aspects of this course	4.00	4.00	3.92
13. Instructor used multiple methods to evaluate student progress and learning	3.73	3.77	3.92
14. Student found him/herself interested in this subject as a result of the course	3.73	3.85	3.92
15. Student achieved the learning objectives of the course	3.91	3.92	3.92
16. Student's knowledge in this area is increasing because of this course	3.91	3.92	4.00
17. What aspects of this course have student enjoyed or contributed most to student learning?	- "Getting hands-on experience within the class." - "Just learning under Dr. Babb made me appreciate plants and really get into our class." - "I have really enjoyed the field trip and the enthusiasm that Dr. Babb has about the subject."	- "I have really learned more about and gained an appreciation for the plant industry." - "How willing Dr. Babb is to help." - "The open discussion environment of the class." - "The lectures and guest speakers are very interesting and relevant to my career path."	-"Fruit production." - "Everything." - "Great course, great teacher." - "My favorite part was the hands-on learning about propagation." - "I really enjoyed learning about the fruits that can be grown in Florida."
18. What recommendations or suggestions do you have for improving any aspect of this course?	- "No recommendations. This class is perfect." - "None." - "Absolutely nothing."	- "None." - "N/A."	- "More activities." - "None. Dr. Babb does a great job keeping students engaged and enlightened." - "She is the reason why I have found interest in plant science."

***Evaluation based on a 4-point scale: 4 = Strongly agree, 3 = Agree, 2 = Disagree, 1 = Strongly disagree, administered by Warner University Office of the Dean of Faculty**

Faculty Evaluation by Former Students**

Question	Former Student 1	Former Student 2	Former Student 3
1. What's one word that you would use to describe this professor or their teaching style?	"To describe Dr. Babb's teaching style, I think I would use the word enthusiastic. Her passion for her students and for her topics is portrayed through her enthusiastic teaching style. She has a gift for making students want to learn what she is teaching."	"Helpful. I chose this word because Dr. Babb was the most helpful teacher when it came to my education. She is there for her students 110% and always goes above and beyond her calling to make sure you understand each topic."	"If I would describe Dr. Babb's teaching method with one word it would have to be engaging. I chose engaging because a lot of the materials we learned in the classroom would go along with some of the different labs and trials that we would do. I always engage in what Dr. Babb was teaching."
2. What's one interaction or lesson you've had with this professor that you think is a good example of this professor's personality?	"One of the most memorable interactions with Dr. Babb would be when she took us on a field trip to a horticulture nursery. Through this experience she was able to use tangible objects and hands-on learning to teach us the different types of plant breeding options. While I do feel that even in the classroom lectures we still learn. The way her passion flows in hands-on learning was a great representation of her teaching style."	"During my senior year of college, I was driving 2 and half hours every Friday morning to get to Dr. Babb's class. My other class was Capstone and I was completing that back home. I did not mind driving 5 hours for one class because of Dr. Babb. She is so invested in her students, I say that because she took the time to come to my family's farm and business on a field trip with my class that semester. That was one of the interactions with me that I think the world of. She drove the 2 and half hours to get to know my family and farm business. She has a personal connection to each of her students and gets to know them and their families as best as she can."	"One lesson would have to be planting at the HEART (Hunger Education and Resource Training) village. Dr. Babb loves to watch plants grow and I could really see her love for plants and nature when we did the planting."
3. Would you recommend that other students take classes from this professor?	"I would definitely recommend other students to take a class with Dr. Babb. Before her classes, I knew very little about the science behind plant production and weed & pest management. After taking her classes I feel that I have a solid foundation in both of those topics and could apply it in the workforce."	"Of course! I signed up for her classes every semester. She does a lot of preparation for each class and takes the time to go over every single part of the notes so we could do well on our exams. If we needed help, we always were welcome in her office."	"I would certainly recommend any student that wants to learn about plants, and what it takes to grow them for commercial agriculture to take one of Dr. Babb's courses. She has a lot of knowledge in the field and she presents the material in a way that is easy to learn."
4. Other comments?	"One thing I would like to emphasize about Dr. Babb is her love for her students. I feel that something makes Warner standout from other institutions would be the relationships built between faculty and students. Dr. Babb lives out her calling to loving others, showing Christ, and educating about things she loves."	"Over the course of the two years of knowing Dr. Babb, I have grown to love her as a teacher and a person. We still to this day text and check in on each other. This year she is coming to a blueberry farm that I currently work at with class for a field trip. After all this time, she still continues to be interested in her students' lives and what they are doing. She is an amazing Godly woman and I would truly recommend her to anyone."	"Dr. Babb is a caring person. She definitely cares about students and her job."

****Results based on the Full Faculty Evaluation administered by the Warner University Office of the Dean of Faculty on March 9-22, 2018**

Faculty Evaluation by Peers***

Topic/Question	Peer Evaluator 1	Peer Evaluator 2	Peer Evaluator 3
1. Preparation: Is this particular class a coherent part of the planned sequence of the course? Is the instructor prepared? Is the time used effectively?	"This session is part of the planned instruction of this course. Dr. Babb was well prepared and presented the material very effectively."	"Great preparation and attention to detail from Dr. Babb! Time is used effectively in both lecturing and activities. This unit is appropriate in the educational sequence for this course."	"Yes, this topic fits perfectly with the overall sequence of the course. The professor has the lecture prepared and presents it in a timely manner."
2. Content: Is the level of material presented appropriate to the class? Is the class intellectually challenging and stimulating?	"The material is indeed appropriate for the class and as a part of the subject material for this course. Dr. Babb used a variety of teaching methods to involve, engage and challenge her students."	"This lesson is very appropriate for an Intro to Plant Science course. Dr. Babb uses various sources of media to deliver class material. For example, she uses videos, Powerpoint, and live plant props in this course. During this observation, Dr. Babb's material had challenging vocabulary, but students were introduced to these terms in prior lessons."	"The level of material is at the upper level subject matter. The stimulation or interaction with the students could be more present in delivery."
3. Organization: Is material presented in an orderly, understandable fashion?	"Yes, the material was presented following an orderly progression of subject matter."	"The material was presented in an orderly and understandable fashion. To make more understandable, students were asked to participate in an activity on the white board. The activity was completing a hybrid Punnett square."	"Powerpoint was used to explain the information about the chapter."
4. Delivery: Does the instructor communicate well with students? Are there physical or verbal mannerisms that bear comment?	"There was considerable interaction between the students and Dr. Babb during the class discussion. Dr. Babb paused at appropriate times to allow students to express their understanding of the subject matter. Students were free to ask questions and did so during the classroom visit. I did not observe any physical or verbal mannerisms that were objectionable in any way."	"Dr. Babb has a great communication ability with her students. She uses correct terminology and body language when presenting. Dr. Babb's language ability is great, especially considering English is not her native language."	"The instructor does communicate well with the students. She does a great job speaking directly to students, by name, to keep their attention."
5. Student Response: Are students attentive to what is going on? E.g., do students enter discussion and take notes at appropriate times?	"Yes, absolutely! The students were interactive during the class discussion and most were taking notes although class notes were provided for the students."	"Students regularly answer questions Dr. Babb poses during her lecture. One area to improve would be for her to wait a few seconds longer when asking students if they have question before moving on to the next material."	"The students do seem to be engaged and are very comfortable to add input or ask question of the professor."
6. Additional Comments:	"Dr. Babb did an excellent job in teaching this class, covering the subject matter, and holding the attention of her students."	"Dr. Babb does a good job of using examples during her lecture that students can relate to using their prior knowledge. Also, Dr. Babb uses educational props in the lesson (actual plants) to make the lesson realistic. This brings the content to life for her students."	"Dr. Babb truly loves the students and wants them to succeed in their plant science studies."

***Results based on the Full Faculty Evaluation administered by the Warner University Office of the Dean of Faculty on March 9-22, 2018**

Agriculture Industry/ Private Farms/ Research Institutions Collaborated

- Astin Strawberry Exchange (Strawberry and blueberry production and packing house) – Plant City, FL
- Bok Tower Gardens (Horticulture, bird sanctuary, wildlife) – Lake Wales, FL
- Buckhead Beef Company (Beef supplier, food safety) – Auburndale, FL
- Crooked Lake Ranch (Livestock production) – Lake Wales, FL
- Crop Production Services (Agrichemicals and fertilizers) – Mulberry, FL
- Fern Trust Inc. (Foliage industry) – Seville, FL
- Florida's Natural Juice Company (Citrus groves and juice plant) – (Lake Wales, FL)
- Florida Strawberry Growers Association (Strawberry field production) – Dover, FL
- Griffin Fertilizer Company (Dry and liquid fertilizers) – Frostproof, FL
- Griffin Fresh Produce Division (Fresh citrus packing) – Frostproof, FL
- H.E.A.R.T. Institute (Hunger, Education, and Resources Training - Horticulture) – Lake Wales, FL
- Highland Precision Ag (Precision agriculture) – Mulberry, FL
- Highland Packaging Solutions (Custom produce packaging, labeling) – Plant City, FL
- Lightsey Cattle Co. (Cattle production) – Lake Wales, FL
- Peace River Packing Company (Fresh citrus packing facility) – Ft. Meade, FL
- Phillip Rucks Citrus Nursery Inc. (Citrus and peach nursery/rootstocks) – Frostproof, FL
- Premier Citrus (Citrus production, packing, food safety) – Arcadia, FL
- Purvis and Corbett Farms (Vegetable production and packing house) – Immokalee, FL
- Roosevelt Academy (Vegetable/fruit hydroponics and aquaponics facility) – Lake Wales, FL
- Starling Nursery (Landscape plants) – Seville, FL
- Sunshine Nursery (Ornamentals and Cut-flower industry) – Ft. Meade and Lakeland, FL
- The Story Companies (Citrus growers) – Lake Wales, FL
- Tom West Blueberries (Blueberry production, U-pick) – Ocoee, FL
- University of Florida GCREC (UF-Gulf Coast Research and Education Center) – Wimauma, FL
- WW Citrus Nursery (Citrus production, rootstocks) – Ft. Meade, FL
- Young Farms (Strawberry production) – Ft. Meade, FL

Chair, Agricultural Studies Department **August 2014 - January 2019**
Warner University, 13895 Highway 27 Lake Wales, FL 33859

Responsibilities:

- Develop and teach plant and soil science-based courses of the Agricultural Studies degree program
- Prepare Agricultural Studies curriculum proposals and program plans
- Write yearly assessment reports and plan for student learning outcomes of the Agricultural Studies curriculum to establish criteria for student success
- Advise students of the Agricultural Studies major in their registration process to qualify them to graduate with a Bachelor of Arts in Agricultural Studies degree
- Update Agricultural Studies Syllabi and Catalog descriptions
- Manage academic transactions of the Agricultural Studies department
- Control departmental academic budget
- Implement monthly departmental meetings

- Serve as member of the following Warner University committees:
  a. Curriculum committee- reviews academic proposals for approval and implementation, and/or removal of current courses from the catalog.
  b. Academic Council- approves all policies, courses of study, course scheduling, conditions for graduation, and all rules and methods for the educational work of the university.

Notable Accomplishments

- Together with the Agricultural Studies faculty and staff, contributed to the growth of the Ag Studies program within five years of teaching and chairing the Ag Studies department from nine (9) students enrolled in 2013 to over 80 students in spring of 2019
- Designed, developed and taught traditional (in-person) plant/soil science/pest management-based courses of the Agricultural Studies degree program
- Designed, developed and taught plant/soil science/pest management courses of the newly-implemented Associate of Science in Agricultural Studies degree, an online (distance education) degree for non-traditional students
- Advised more than 100 students and mentored them to succeed in agriculture, to recruit other students, family members and friends to enroll in the Agricultural Studies degree program, leading to increase in student enrollment and ~90% retention of continuing students, and their graduation with a Bachelor of Arts in Agricultural Studies degree
- Demonstrated excellence in teaching as proven by consistent Outstanding student evaluations
- Consistently received positive student feedback of my methods of teaching and the classroom learning environment because of inherent ability to inspire, engage, and motivate students
- Servant leader and caring team member of the Agricultural Studies department, showing a positive outlook and attitude, giving advice, encouragement and support to students and colleagues to cultivate a positive learning and working environment for all in the Agricultural Studies department and the university.

Graduate Research and Teaching Assistant **January 2009 - July 2014**
Department of Plant and Environmental Sciences,
New Mexico State University, Las Cruces, NM

- Conducted alfalfa genetics and breeding research including performance of population crosses in the greenhouse, seed harvesting, seed cleaning, seed packing, seed planting in the field, field data gathering, and data analysis using SAS software
- Screened and genotyped 200 full-sib plant populations using SSR markers associated with water use efficiency and biomass productivity in alfalfa
- Used DNA MAS for increased alfalfa biomass, relative water content and forage quality under normal and water-limited field conditions
- Used DNA MAS to transfer DNA marker alleles associated with increased biomass production and water use efficiency from an experimental alfalfa population (*Medicago falcata* subsp. *falcata* var. Wisfal and *M. sativa* subsp. *sativa* var. Chilean cross) into three commercial cultivars (Malone, Melton, Multileaf)
- Served as Laboratory instructor for Introductory Plant Science (Agronomy/Horticulture 100) for ~20 students each semester for three semesters

- Set up laboratory activities, graded laboratory reports every week to evaluate students' understanding of subject matter, graded test results of all students
- Served as advisor to students on the laboratory courses they take
- Served as Student Teaching Assistant and graded quizzes, essays, term papers and exams for three semesters of Horticulture 302V (Forestry and Society) for ~50 students each semester
- Organized and led field trips to identify plants in the University campus and crops growing around the Mesilla Valley in Las Cruces, NM

Skills: *Agronomy, plant breeding, molecular biology, laboratory and greenhouse management, genotyping, phenotyping, DNA marker design, DNA marker-aided selection, DNA marker-trait validation, polymerase chain reaction (PCR)-based DNA marker analyses, gel electrophoresis, DNA extraction/isolation, plant sampling, cultivar evaluation and selection, soil sampling and testing, plant propagation, aseptic technique, tissue culture, experimental design, data analysis, scientific report writing and presentation.*

Senior Science Research Specialist **October 1994-December 2008**

Molecular Genetics Lab., Plant Breeding and Biotechnology Division, Philippine Rice Research Institute (PhilRice), Maligaya, Munoz, Nueva Ecija, Philippines 3119

- Laboratory Manager and overseer of research projects conducted at the Molecular Genetics Laboratory of PhilRice
- In-charge of laboratory equipment procurement and maintenance, purchasing laboratory supplies and consumables, training junior staff on conduct of basic laboratory procedures such as DNA extraction/isolation, polymerase chain reaction, aseptic technique, microbial pathogen isolation and purification, ELISA, DNA-MAS, induced disease inoculation, IPM, data collection, field varietal selection.
- Implemented project on incorporating bacterial blight resistance genes, tungro virus resistance genes, blast resistance genes and stemborer resistance genes to popular inbred rice cultivars IR64, BPI Ri-10 and PSB Rc14 using DNA-MAS.
- Implemented project on producing polyclonal antisera against the tungro viruses for disease diagnosis and resistance in rice.
- Implemented project on characterizing and identifying prevalent races of *Xanthomonas oryzae pv. oryzae* in major rice producing areas in the Philippines for effective breeding and gene deployment strategies to bacterial blight disease.
- Implemented project on cloning the rice tungro virus coat protein gene.
- Co-implemented PhilRice-DANFORTH (Missouri, USA) collaborative project on "Improving tungro disease resistance through over-expression of transcription factors," basically to evaluate the potential involvement of the rice bZIP transcription factor RF2a and RF2b in rice tungro disease development and to improve rice tungro disease tolerance through over-expression of such factors." Activities included tungro disease screening, ELISA and Western blotting.
- Implemented "Chemical and Hazardous Waste Management Project" of the Environmental Management Program of the PhilRice Institute. Involved in managing (safe and proper handling, use, storage and disposal) of chemical and hazardous wastes generated by the institute, recording of wastes generated on a monthly basis, recommending to PhilRice management measures on how to improve system on waste generation, treatment and utilization.

- Advised and supervised BS and MS students of the Central Luzon State University, Munoz, Nueva Ecija, Philippines on the conduct of their thesis research at the Philippine Rice Research Institute.

Skills: *Agronomy, molecular biology, plant breeding, plant pathology, research project management, laboratory and greenhouse management, cultivar evaluation and selection, gene cloning, DNA marker-aided selection using SSR, STS, RAPD and RFLP markers, PCR analysis, Gel electrophoresis, DNA extraction/isolation, Southern blotting, Western blotting, ELISA, protein expression, polyclonal antisera production, Taq polymerase isolation and purification, plasmid mini-preparation, greenhouse screening for pest and disease resistance, GLH antibiosis, integrated pest management (IPM), plant disease diagnosis, pest and disease scouting, aseptic technique, microbial pathogen isolation and purification, tissue culture, soil sampling and testing, plant propagation, experimental design, data analysis, scientific report writing and presentation.*

University Research Associate **June 1993-September 1994**

Institute of Plant Breeding, University of the Philippines,
Los Banos College, Laguna, Philippines

- Assisted project leader on the screening and maintenance of peanut germplasm and breeding lines for resistance to major peanut diseases in the Philippines.
- In-charge of the isolation and purification of major peanut diseases for germplasm inoculation.
- Implemented aseptic technique, microbial pathogen isolation, inoculation and purification.
- Conducted peanut cultivar field selection with resistance to major peanut diseases.

Science Research Assistant **October 1992-May 1993**

Philippine Root Crop Research and Training Center,
Visayas State College of Agriculture, Baybay, Leyte, Philippines

- Assisted project leader on the screening of antagonistic microorganisms to control major root crop pathogens of the Philippines.
- In-charge of the isolation and purification of major root-crop diseases for germplasm inoculation.
- Implemented aseptic technique, microbial pathogen isolation, inoculation and purification.
- Conducted root crop cultivar field selection with resistance to major peanut diseases.

Community Organizer/Process Documentor **May 1991-September 1992**

GTZ (Gesellschaft für Technische Zusammenarbeit)
Environment Program of the Social Action Project
Center for Social Research, Visayas State College of Agriculture, Baybay, Leyte, Philippines

- Lived among farmers, organized, and documented projects of reforestation, coral reefs reclamation, small animal and vegetable production, and teaching farmers' wives dressmaking and cooking projects in Leyte province in the Philippines.

REFEREED PUBLICATIONS

- Dai, S., X. Wei, A.A. Alfonso, L. Pei, U.G. Duque, Z. Zhang, **M.G.M. Babb**, and R.N. Beachy. 2008. Transgenic rice plants that overexpress transcription factors RF2a and RF2b are tolerant to rice tungro virus replication and disease. PNAS 105(52):21012-21016.
- Ravelo, G.B., S.A. Abdula, X.H. Truong, E.H. Batay-an, D.A. Tabanao, **M.G.M. Babb**, and L.S. Sebastian. 2008. The Tungro Resistant Matatag Lines in the Philippines. Pages 142-149 in: *The rice tungro virus disease: A Paradigm in Disease Management.* ER Tiongco, ER Angeles, and LS Sebastian (editors). Science City of Muñoz, Nueva Ecija, Philippines. Philippine Rice Research Institute and Honda Research Institute Japan Co. Ltd. 262 p.
- Sinangote, B.S., R.G. Gerona, M.D.M. Reformina, **M.G.M. Babb** and L.M. Borines. 2007. Reaction of hybrid rice and component lines to rice black bug (*Scotinophara coarctata* (Fabricius), Hemiptera: Pentatomidae). Annals of Tropical Research 29(2):91-104.
- Aldemita, R., Alfonso, A. **Babb, G.M.,** Desamero, N., Ilar, G., Redoña, E., and Solis, R. Q & A: RICE BIOTECHNOLOGY Series No. 05. Date of publication: November 3, 2005. Date Registered: January 12, 2006. **Copyright Registration No. B 2006-08**. Registered at the National Commission for Culture and the Arts, The National Library, Manila, Philippines.
- **Maramara, M.G.V.,** G.O. Romero, L.S. Sebastian and N.B. Bajet. 2001. The cloning of rice tungro bacilliform virus (RTBV) coat protein (CP) gene. Philippine Journal of Biotechnology 12:1-14.
- Sebastian, L.S., L.R. Hipolito, D.A. Tabanao, **M.G.V. Maramara,** and R.A. Caldo. 1998. Molecular diversity of Philippine-bred rice cultivars. SABRAO Journal of Breeding and Genetics 30(2):83-90.
- Sebastian, L.S., L.R. Hipolito, J.S. Garcia, D.A. Tabanao, **M.G.V. Maramara**, and R.A. Caldo. 1998. Microsatellite marker analysis of the allelic composition of Philippine-bred modern rice varieties. Philippine Journal of Crop Science 23(1):21-27.
- Sebastian, L.S., L.R. Hipolito, D.A. Tabanao, and **M.G.V. Maramara.** 1998. Applications of molecular markers in the identification and establishment of origins of selected Philippine rice cultivars. Philippine Journal of Crop Science (PJCS) 23(1):28-34.
- **Maramara, M.G.V**. 1997. Utilization of restriction fragment polymorphisms for rice improvement in the Philippines. Rice Genome Publication Volume 6, No. 1. July 1997. Tsukuba, Ibaraki, Japan.
- **Maramara, M.G.V.** and R.A. Paningbatan. 1993. Seedcoating with *Trichoderma viride* Pers. to control sclerotium wilt in mungbean (*Vigna radiata* (L.) Wilczek). Philipp. Phytopathol. 29:54-66.

HONORS AND AWARDS

PERSONAL HONORS/AWARDS

- ***Graduate Research Enhancement Grant Award***, January 2009-July 2011
  Office of the Vice President for Research, New Mexico State University, NM, USA
- ***Graduate Teaching Assistantship Award***, August 2011-December 2013
  Plant and Environmental Sciences, New Mexico State University, NM, USA
- ***Outstanding Senior Researcher*, Philippine Rice Research Institute,** during the18th PhilRice Anniversary Celebration, November 7, 2003, Maligaya, Muñoz, Nueva Ecija, Philippines.
- ***Outstanding Junior Researcher*, Philippine Rice Research Institute,** during the 12th PhilRice Anniversary Celebration, November 4, 1997, Maligaya, Muñoz, Nueva Ecija.

- ***International Travel Award*** to attend and present a research poster on Polyclonal Antisera Production at the First International Rice Congress, September 16-20, 2002, Beijing, China.
- ***Training Course Award*** *on the preparation of competent cells, transformation, plasmid mini-preparation and the basic techniques of gene cloning.* November 13-30, 1999 and January 2-31, 2000. Asian Rice Biotechnology Network (ARBN), International Rice Research Institute, UPLB, College, Laguna, Philippines.
- ***Training Course in Biotechnology Award***. Japan International Cooperation Agency (JICA). May 13-October 4, 1996. Rice Genome Program (RGP), STAFF Institute, Tsukuba, Ibaraki Japan.
- ***Graduated with Latin Honors (Cum Laude)****,* Bachelor of Science in Agriculture, April, 1991, Visayas State College of Agriculture, Baybay, Leyte, Philippines

BEST PAPER and POSTER AWARDS and PRESENTATIONS

- **Babb, Ma. Gina**. 2014. DNA Marker Assisted Selection to Improve Alfalfa (Medicago sativa L.) Drought Tolerance. New Mexico State University Ph.D. Dissertation.
- **Babb, Ma. Gina**, C.A. Pierce, and I.M. Ray. 2013. Marker-Assisted Selection to Improve Alfalfa Productivity during Drought. NMSU Graduate Research & Arts Symposium. March 11-13. Las Cruces, NM.
- ***Best Paper*** **(*First Place*)** - **MGM Babb**, MJC Duque, IM Modina, RC Braceros, J Yapchiongco Jr., R de Guzman and TF Padolina. "DNA Marker-Assisted Breeding for Resistance to Bacterial Blight and Tungro Diseases of Rice." Philippine Phytopathological Society (PPS) Best Paper Competition during the 39th PMCP (Pest Management Council of the Philippines) Annual Scientific Conference. May 5-9, 2008, Asturias Hotel, Puerto Princesa City, Palawan, Philippines.
- ***Best Poster (First Place)*** – **Ma. Gina M. Babb**, Ma. Johna C. Duque, Ivy M. Modina, Rustom C. Braceros, Jose Yapchiongco, Ronaldo de Guzman and Thelma F. Padolina. "Developing Bacterial Blight and Tungro Resistant Rice." 34th PSBMB (Philippine Society for Biochemistry and Molecular Biology) Annual Scientific Convention. Nov. 29-Dec.1, 2007, Philippine Rice Research Institute, Maligaya, Science City of Muñoz 3119 Nueva Ecija, Philippines.
- ***AFMA (Agriculture and Fisheries Modernization Act) Research and Development Paper Award*** – Lucia M. Borines, Reny G. Gerona, Ma. Dinah M. Reformina, Maricel Gasco and **Ma. Gina M. Babb.** "Reaction of hybrid rice and component lines to important diseases and insect pests." 19th National Research Symposium of the DA-Bureau of Agricultural Research (BAR), October 4-6, 2007. Diliman, Quezon City, Philippines.
- ***Best Paper (First Prize)*** **-** RE Tabien, MC Abalos, MP Fernando, ER Corpuz, YA Dimaano, GM Osoteo, RC San Gabriel, TF Padolina, **MGM Babb**, DA Tabanao, HS Rapusas, JP Rillon, and LS Sebastian. "DNA marker-aided selection and evaluation of bacterial leaf blight resistant IR 64, PSB Rc 14 and BPI Ri-10." 17th Annual Scientific Conference of the Federation of Crop Science Societies of the Philippines, April 22-25, 2003, Aklan State University, Banga, Aklan, Philippines
- ***Best Poster (Upstream Category)*** **-** Marlou C. Abalos, Maricar P. Fernando, Rodante E. Tabien and **Ma. Gina M. Babb**. "Marker-aided pyramiding of bacterial blight resistance genes *xa-5*, *Xa-21* and *Oryza minuta* gene and evaluation of resistant rice lines." 17th National Rice R&D Conference, April 2004. Philippine Rice Research Institute, Maligaya, Science City of Muñoz, Nueva Ecija, Philippines
- ***AFMA Best R&D Paper*** **(*Upstream Category*)** -- **Maramara, M.G.V**., G. O. Romero, L.S. Sebastian, R.O. Solis and N. B. Bajet. "Cloning and expression of the coat protein gene of rice tungro bacilliform virus." 14th National Research Symposium of the Bureau of Agricultural Research, November 26-28, 2002, BSWM, Diliman, Quezon City, Philippines.

- ***Best Poster* (*First Prize*)** -- **Maramara, M.G.V**., G. O. Romero, L.S. Sebastian, and N. B. Bajet. "Cloning of rice tungro bacilliform virus (RTBV) coat protein (CP) gene." 28th Annual National Convention of the Philippine Society of Biochemistry and Molecular Biology (PSBMB), December 3-4, 2001, Thomas Aquinas Research Complex, University of Santo Tomas, Manila, Philippines.
- ***Best Paper* (*First Prize*)** – **Maramara, M.G.V.** and R.A. Paningbatan. "Seedcoating with *Trichoderma viride* (Pers.) to control sclerotium wilt in mungbean." 4TH Regional Symposium on R & D Highlights, June 2-4, 1992, University of Eastern Philippines, Catarman, Northern Samar, Philippines.

PROFESSIONAL MEMBERSHIPS

- American Association for the Advancement of Science (AAAS), 2011-2013
- American Society for Horticultural Science (ASHS), 2013
- Sam Steele Society, College of Agricultural, Consumer and Environmental Sciences, New Mexico State University, 2013-2014
- Crop Science Society of the Philippines, 1994-2008
- Philippine Society for Biochemistry and Molecular Biology, 2000-2008
- Philippine Phytopathological Society, 1991-2008
- Pest Management Council of the Philippines, 1994-2007

CIVIC/PERSONAL ACTIVITIES

- Volunteer, Warner Cares Day, Warner University, Lake Wales, FL, 2014-2019
- Bible Teacher, Lake Wales Church of Christ, Lake Wales, FL, 2014-2018
- Cultural Member, Performer, Filipino-American Society of Las Cruces, NM, USA 2010-2013
- Soloist, PhilRice Choral Ensemble, 1994-2008, Maligaya, Munoz, Nueva Ecija, Philippines
- Soloist, Guitarist, *Laetare Chanters* Choral Group, 1987-1991, ViSCA, Baybay, Leyte, Philippines
- Wedding Singer (over 100 weddings) 1991-2008 Baybay, Leyte; Los Banos, Laguna; and Munoz, Nueva Ecija, Philippines.