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35th Year Celebration – April 24th – 26th !

A 35th-year celebration of the NMSU Molecular Biology and Interdisciplinary Life Sciences Graduate Program was held in April. This was in conjunction with Research and Creativity Week.

Alumni reconnected, sharing memories of the past and excitement for the future with our newest students.

Outstanding RA, TA, and Leadership Awards presented

- 1) Outstanding TA: **Grace Olagunju**, Ph.D. Student
- 2) Outstanding TA: **Doris Alexa Arnedo**, Ph.D. Student
- 3) Outstanding RA: **Fatima Muhammad**, Ph.D. Student
- 4) Outstanding RA: **Sahithi Pulicherla**, Ph.D. Candidate
- 5) Outstanding Leadership: **Anna Harmon**, Ph.D. Candidate

Student Graduations Fall 2024 & Spring 2025

Woohoo! Congratulations on your well-deserved success!

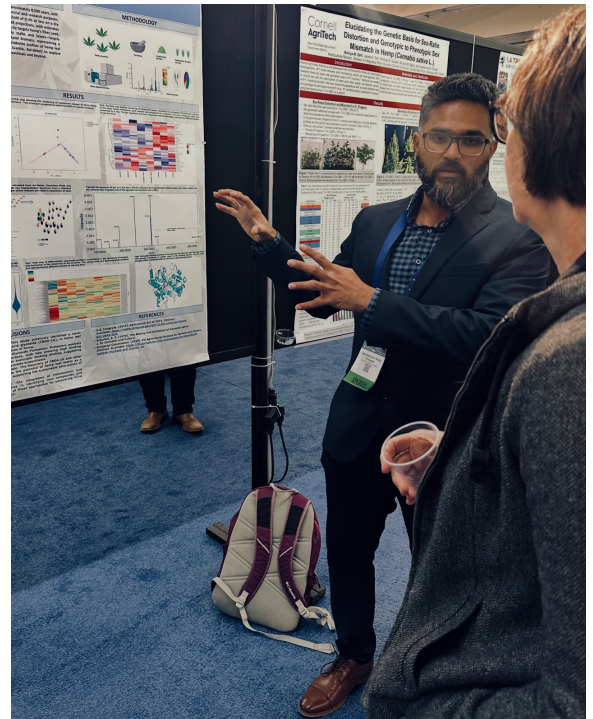
- Doris Alexa Arnedo, M.S.
- Josiah Brooks, M.S.
- Grace Olagunju, M.S.
- Alicia Marmolejo, M.S.
- Naga Potlapalli, Ph.D. (summer)



Reichert & Baldwin Endowment Fund - Travel Awards

Congratulations to students who received a Reichert & Baldwin Molecular Biology Endowment Fund - Student Travel Award. These awards offered up to \$1,000.00. Students were encouraged to apply and take advantage of this opportunity to further their academic and professional growth.

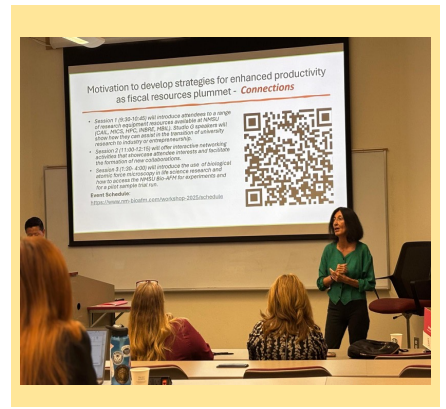
- **Sara Ruiz Flores:** for her attendance at the American Society of Horticultural Sciences Conference in Orlando, Florida. Sara gave a talk on “Nutritional Diversity of Chile Peppers Unraveled through Widely Targeted Metabolomics”.
- **Alicia Marmolejo:** for her attendance at the 2025 Botany Conference in Palm Springs, California. Alicia presented her research titled “Taxonomic and phylogenetic Circumscription of the *Heterotheca subaxillaris* Complex”.
- **Olabisi Adebisi:** for her attendance at the APS Conference in Hawaii. Her poster was titled “Exploring the Antagonistic Potential of *Slafractonia leguminicola* and its Metabolites on Soil-borne Fungal Plant Pathogens.”
- **Naga Potlapalli:** for his attendance at the Plant & Animal Genomic Conference in San Diego, CA January 2025. Naga presented both a poster titled “Unveiling Novel Cannabinoid Glycosides in Hemp Leaf Waste: Metabolomic and Proteomic Insights for Value-Added Nutraceutical Development”, and an oral presentation in the proteomics workshop. *(Picture to the right).*



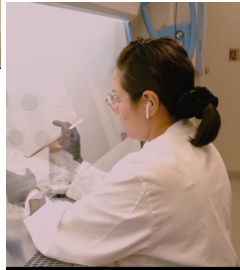
One-day Workshop: Core Facilities & Bio-AFM



On July 17th a workshop titled “Strategic Research: Leveraging Institutional Core Facilities for Life Sciences Innovation and Discovery” was held in Domenici Hall. This was hosted by Dr. Elba Serrano, Biology Department. It was a big success!



Biomedical Video Filmed this Summer



A 4-minute video was filmed this summer focusing on biomedical training and highlighting several MBIL students (clips from videos shown above)!

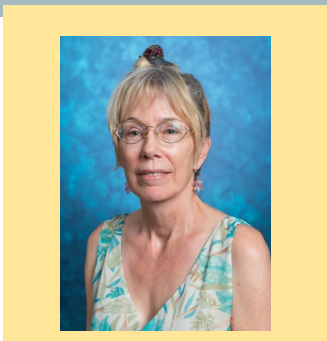
MBIL is Highlighted on Graduate School Page



The Graduate School highlighted MBIL by spotlighting Anna Harmon. They posted her video to their website and YouTube account:

<https://gradschool.nmsu.edu>
<https://youtu.be/dh4RFJycVIs>

Changes to MBIL Faculty



Dr. Barbara Lyons, Professor in Chemistry and Biochemistry for more than 20 years and active in MBIL retired July 1, 2025. We wish her the best!

- Dr. Adriana Romero-Oliveras – accepted a position at the University of California-Riverside and leaves January 2026. We will miss her!
- Dr. Kimberly Cervantes, Asst. Professor & Extension Horticulture Specialist Texas A&M AgriLife Extension has joined the MBIL program as affiliated faculty.
- Dr. John Nolan, Affiliate Faculty at New Mexico State University has also joined the MBIL program as affiliated faculty.

Student Highlights

Tim Loomis, Ph.D. Graduate

Advisor – Dr. Omar Holguin & Dr. Ivette Guzman

Tim competed in the cycling events at the National Senior Games in Des Moines, IA.

He ended up placing 3rd in the 5K individual time trial, 4th in the 10K individual time trial, and 8th in the 20K road race for the men's 55-59 age group.

Presentation

New Mexico Chile Conference. Seeing Red: Capsanthin in Chile Peppers. (2025)



Student Highlights - continued

Taylor Landfair, Ph.D. Student

Advisor – Dr. Brad Shuster

Besides being a student within MBIL, Taylor is in the G-RISE program at NMSU. G-RISE, Graduate Research Training Initiative for Student Enhancement, provides funding support for Ph.D. students conducting research in the areas of biomedical, biobehavioral, and bioengineering sciences.

Taylor attended “The Southwest Transformative Educational Advancement Mentoring (STEAM) Network Program”, 2nd Annual Summit in Flagstaff, AZ. She presented and won 1st place for Graduate Student Poster. Title of her presentation was “PI3K activity influences cell fate in response to mitotic arrest.”



Grace Olagunju, Ph.D. Student

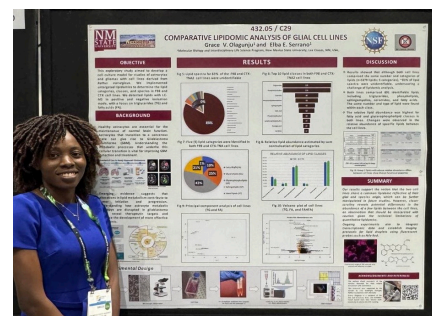
Advisor – Dr. Elba Serrano

Grace was selected as one of 25 students worldwide to attend the 2024 Q-Bio – UQ-Bio Summer School at Colorado State University, Fort Collins, Colorado, where she received advanced training in quantitative biology and computational modeling.

Grace had the privilege of serving as a student moderator at the ABRCMS 2024 Conference in Pittsburgh, where she presented her research titled “*Lipidomic Analysis of Triglyceride Composition of a Glioma Cell Line.*” Her work focuses on how metabolic alterations in cancer cells can be detected through lipidomic profiling. This was supported by the MBIL Travel Fund.

Additionally, Grace was honored to have been recognized as one of the New Faces of Tech this spring, a distinction that celebrates women making an impact in STEM and innovation.

Lastly, Grace attended the 2025 Society for Neuroscience Meeting in San Diego, California. She was privileged to present her master’s thesis at the meeting, titled “*Comparative Lipidomics Analysis of Glial Cell Lines.*”



Student Publications & Presentations

Sahithi Pulcheria, Ph.D. Candidate

Advisor – Dr. Jennifer Randall

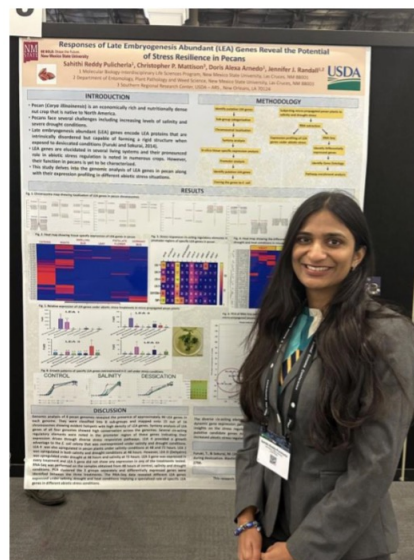
Publication

Pulicherla, S.R., Clermont, K., Prestenburg, E., Mattison, C.P., & Randall, J.J. Stress Regulatory capabilities discovered in late embryogenesis abundant (LEA) proteins expressed during pecan (*Carya illinoensis*) kernel development. *BMC Genomics* 26, 845 (2025).

<https://doi.org/10.1186/s12864-025-12040-8>

Presentation

Sahithi Reddy Pulicherla, Christopher P. Mattison, Doris Alexa Arnedo, Jennifer J. Randall, 2025, Responses of Late Embryogenesis Abundant (LEA) Genes Reveal the Potential of Stress Resilience in Pecans, Plant and Animal Genome Conference.



Alicia Marmolejo, Ph.D. Student

Advisor – Dr. Sara Fuentes-Soriano

In addition to being a student within the MBIL program, Alicia is also in the LEADING program at NMSU. The LEADING (Leading and Enhancing Agricultural Development in the Next Generation) program creates pathways for students to enter the federal food, agricultural, natural resources, and human sciences workforce after completing college.

Published Abstract

Alicia Marmolejo and Dr. Sara Fuentes-Soriano. Circumscription of the *Heterotheca subaxillaris* Complex. (2023)

Presentation

Botany Conference - July 26-30, 2025. Circumscription of the *Heterotheca subaxillaris* Complex.



Student Publications & Presentations

Anna Harmon, Ph.D. Candidate

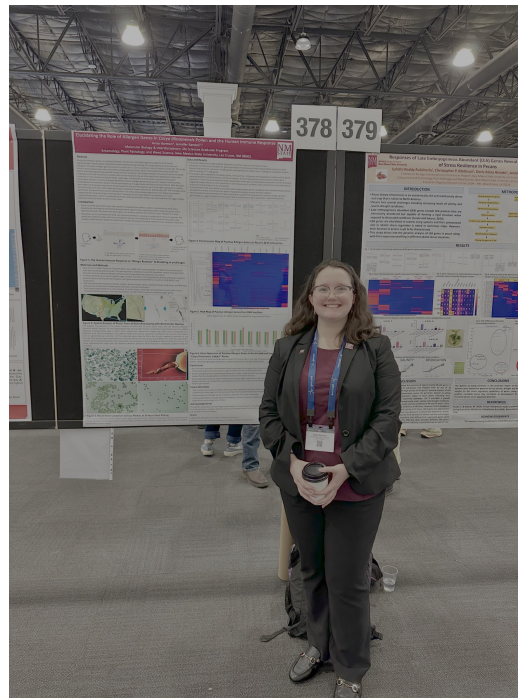
Advisor – Dr. Jennifer Randall

Alongside her involvement in the MBIL program, Anna is a student within the AIALA program. AIALA, or 'Artificial Intelligence for Arid Land Agriculture,' is a fellowship program to expand the skillset of graduate students within AI or ALA, allowing them to work together to implement and develop new technologies utilizing Artificial Intelligence within their area of study to solve issues in arid land agriculture.

Published Abstracts/Presentations

The International Plant and Animal Genome Conference 2025 (PAG 32) January 10-15, 2025. Anna Harmon, Jennifer J. Randall. Elucidating the Role of Allergen Genes in *Carya illinoensis* Pollen and the Human Immune Response (poster).

NMSU Research & Creativity Week Spring 2025. "Behind the Sneeze: Decoding Pecan Pollen Allergies." Anna placed first for this three-minute presentation.



Paul Gabriel, Ph.D. Graduate

Advisor – Dr. Jennifer Randall

Published Abstracts/Presentations

Plant and Animal Genome Conference (PAG 32), January 10th – 15th, 2025. Nurturing the Unseen: Molecular Evaluation of Soil Bacterial Diversity through Pecan Orchard Management in Semi-Arid Soils.

ASHS 2025. Investigating the effects of Environmental origin on pecan rhizosphere and roots microbial assembly.



Student Publications & Presentations

Fatima Muhammad, Ph.D. Student

Advisor – Dr. Erik Yükl

Fatima's hard work and passion for science have earned her both the *Outstanding Teaching Award* in 2024 and the *Outstanding Research Award* in 2025. Fatima attended the Annual ASBMB Conference in April 2025, where she presented her poster titled "**Interacting Partners of H-NOX and Their Role in the Regulation of Biofilm Formation in *Paracoccus denitrificans*.**" Her research focuses on understanding how H-NOX interactions influence bacterial biofilm formation, a key step towards unraveling microbial signaling pathways.



Sara Ruiz Flores, M.S. Candidate

Advisor – Dr. Sara Fuentes-Soriano

Publication

Ruiz-Flores, S. and Castro-Castro, A. Distribución, riqueza, endemismo y conservación del género *Dasyliirion* (Asparagaceae, Convallarioideae). *Acta Botánica Mexicana*. 131: e2367. (2024)

Published Abstract

Ruiz-Flores, S. I. & Fuentes & Soriano, S. PhylogeneWcs, Biogeography and ConservaWon of the genus *Dasyliirion* (Asparagaceae). *Botany Conference 2025*.

