

Summer 2023 Newsletter



Department of Plant and Environmental Sciences | <https://aces.nmsu.edu/academics/pes/>

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Introduction

One of the most enjoyable parts of being the assistant department head is holding exit interviews with the graduating students and learning about their time at NMSU and how our department could serve them better. It was exciting to hear about their upcoming adventures, whether it be graduate school, post-doctoral research, or industry jobs. One theme that I heard repeatedly was the desire to use their education to give back to their families, communities, tribes, and even the environment. This group of graduating students seems very altruistic and service-oriented and are looking forward to helping the world more than just finding a comfortable career position.

The graduating class all expressed appreciation for our dedicated faculty who devote so much time and energy to teach, advise, and mentor them. Classes where they did “hands-on” learning were the undergraduate’s favorites, and some students even thanked the graduate teaching assistants for making the labs so useful and fun. Getting timely feedback in classes and responses to their emails ranked high on their list of positive attributes. Some of the graduate students mentioned frustration with having too few classes to choose from but were grateful to their advisors and committees for helping them conduct meaningful and rewarding research. Most of the students I interviewed had received several departmental scholarships and they were very thankful for each and every one of them. I appreciated the students’ graciousness, candor, and wonderful attitudes - congratulations to them all!

Assistant Department Head



Dr. April Ulery



Interim Department Head

Dr. Niall Hanan

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Department of Energy: Environmental Management Program Manager Visits NMSU

On Monday, May 1st, PES had a visit from Vivian Holloway (from SRNL) who is the program manager for the DOE-EM MSIPP <https://srnl.doe.gov/msipp/index.htm>. The Minority Serving Institutions Partnership Program (MSIPP-EM) promotes the education and development of the next generation workforce in critical science, engineering, technology, and math (STEM) related disciplines that compliment current and future missions of The U.S. Department of Energy Office of Environmental Management (DOE-EM). MSIPP visitors toured PES labs, NMSU CORES Labs <https://research.nmsu.edu/ResearchCores/CAIL.html>, met with faculty and students, and discussed ways PES can work more with MSIPP to advance how we train students at MSIs and increase our research to support the environmental cleanup missions of DOE-EM. Dr. April Ulery and Dr. Kenneth "KC" Carroll have been working with MSIPP for over six years on environmental contamination characterization and cleanup research.



PES Ph. D. Student's Publication Features in ASHS

Ph. D. Student, Govinda Sapkota, was featured in The American Society for Horticulture Science's news release. His article, "Dynamics of Nutrients in Jujube at Different Maturity stages, Cultivars, and Locations," posted March 16th, goes through the compounds within the jujube fruit to its potential health benefits when

eaten at certain stages of its maturity. For more information on this article, go to: <https://ashs.org/news/news.asp?id=634881>



NMSU Forestry Research Center to Honor Trambley Family

NMSU and PES' research center, John T. Harrington Forestry Research Center, is set to honor Frank and Delicia Trambley, and their daughter Josephine Meadows on June 14, 2023. This is a chance to honor the family as NMSU has leased their land in Mora, New Mexico, since 1972. The field day taking place on June 14 will give NMSU a chance to present all of their current reforestation efforts and talk with collaborative forestry partners from around New Mexico. For more information, go to <https://morasc.nmsu.edu/>

Source:

Carlos Andres Lopez: carlopez@nmsu.edu

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Left: Frank and Delicia Trambley. Right: Owen Burney speaking at the John T. Harrington Forestry Research Center.

Horticulture Forum Spends Spring Break in Arizona!



Relaxing at the Desert Botanical Garden: L-R: Miguel Salazar, Elizabeth Gamez, Mireya Ferran, Elora Roberts, Maximo Smith.



At the Arizona Sonora Desert Museum. L-R: back row: Katie Overman, Elora Roberts, Maximo Smith, advisor Rachel Gioannini, Miguel Salazar, Tyra Trumble. Front row: Elizabeth Gamez, Mireya Ferran.



At the Desert Botanic Garden. L-R: back row: Tyra Trumble, Maximo Smith, Elora Roberts, Mireya Ferran, Katie Overman, advisor Rachel Gioannini. Front row: Miguel Salazar, Elizabeth Gamez.

Seven students from the Horticulture Forum Club spent four days taking in the botanical sites. Students explored Boyce Thompson Arboretum in Superior, the Desert Botanical Garden in Phoenix, and Arizona Sonora Desert Museum in Tucson. Students also investigated three local nurseries and hiked around Gates Pass, west of Tucson. The trip was paid for by plant sales the club has held over the past year. Transportation was graciously provided by the Plant and Environmental Sciences Department.

Middle School Students Brought to Skeen Hall

On March 3rd, the Department of Plant and Environmental Sciences hosted approximately sixty sixth grade students from Sierra Middle School in Skeen Hall. They were introduced to concepts in climate, weather, and weather measurements. The students measured ambient temperatures, ground temperatures, and listened to an explanation of what sensors are used in weather stations. Those participating in the outreach included Stan Engle, Natalie Franco, Brittany Hymer, Melissa Rivero, Matias Coronado, and Colton Burns.



Brittany Hymer and Stan Engle presenting to middle schoolers from Sierra Middle School at Skeen Hall.

NMSU Participates in National Soil Judging Competition

NMSU's soil judging team traveled to the National Soil Judging competition held in Woodward, OK, from Saturday March 25th– Saturday April 1st. Four NMSU students including Ashley Riggs, Tiana Peterson, Beatriz Salazar Archuleta, and Stella Gomez competed against twenty-three other soil judging teams from around the nation.

Soil judging requires individual competitors and school teams to describe, classify, and interpret soils in < 1 hour. In this year's competition, students described soils formed in a complex mix of alluvial (stream deposited), eolian (wind deposited), and residual (formed from bedrock) parent materials in both freezing and gusty conditions. For example, during the last day of the competition the students described a sandy soil while battling blowing sand as the wind gusted to 60 mph.

The contest consists of four days of practice and two days of competition. In total, the students observed and described twenty soils (more than double what it is possible to do in class). The opportunity for students to apply classroom learning in new landscapes is a fundamental part of soil judging. Although NMSU's team did not place in the top 10, the team gained extensive practice and experience as we prepare for next year.



Figure 1. NMSU's 2022-2023 Soil Judging Team. From left to right: Beatriz Salazar, Ashley Riggs, Stella Gomez, Tianna Peterson, Dr. Colby Brungard (coach)

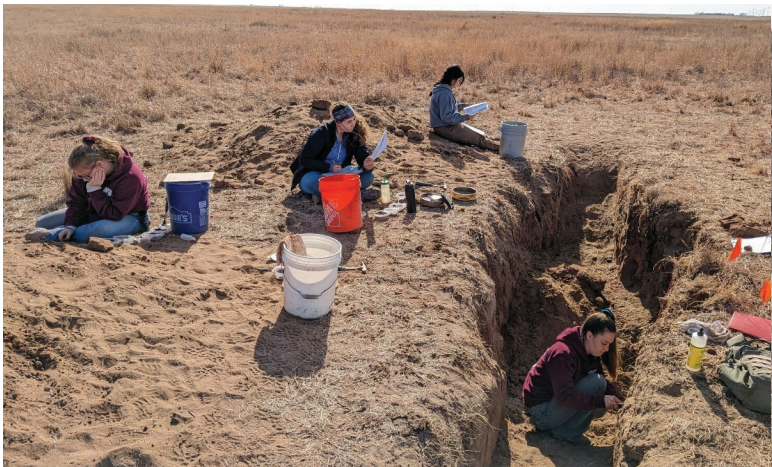


Figure 2. Students practicing timed soil profile description.



Figure 3. NMSU's soil judging team contemplates alluvial soils on a flood plain beneath gypsum cap rock on a frosty morning.

PES Ice Cream Social!

On May 5th the Department of Plant and Environmental Sciences hosted an ice cream social for all students, faculty, and staff. We had many of our faculty members out on that Friday slinging ice cream to all who arrived for this event. This was done in an effort to show appreciation for all of the hard work those in our department have put in this year. Thank you to all involved!



NMSU PES Ice Cream Social photos provided courtesy of Harmanpreet Kaur.

PES Emeritus Professor Releases 'Official Cookbook.'

Plant and Environmental Sciences Emeritus Professor, Paul Bosland, releases the 'Official Cookbook of the Chile Pepper Institute' alongside ACES Extension Specialist, Wendy Hamilton. The team published their book through the University of New Mexico (UNM) press, and includes many of the chile peppers grown here at the NMSU Chile Pepper Institute. Find these books on sale at the

Chile Pepper Institute on campus in Gerald Thomas (Room 265). For more information, go to <https://cpi.nmsu.edu/>

Source:

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Student Awards:

Outstanding Undergraduate Horticulture Student Award

Plant and Environmental Sciences Horticulture student, Christopher Gomez, has been awarded as one of the American Society for Horticulture Sciences' (ASHS) 2023 Outstanding Undergraduate Horticulture Students. This award recognizes outstanding undergraduate horticulture students from around the U.S. and is based on excellence in academic performance, leadership, service to their department, and service to their organizations.

For more information, go to:

<https://ashs.org/page/OutstandingUndergradAwardWinners>



PES Graduate Student Wins First Place in Research and Creativity Week's Student Poster Competition

Sundar Sapkota, a Ph.D. student in the Plant and Environmental Sciences, won first place in the Agriculture sessions for the Research and Creativity Week student poster competition on February 21-25, 2023. His presentation was entitled "Response of soil carbon and nitrogen components to circular grass buffer integration in center-pivot irrigated cropping systems." Sundar's Ph.D. research focuses on enhancing soil health and ecosystem benefits in water-limited areas by introducing strips of perennial grasses alternated with strips of annual crops in a circular fashion in a center-pivot system. The sustainability of agriculture in the semi-arid US Southern High Plains is threatened by the declining water table in the Ogallala aquifer and depleting soil health. Because of decreasing water availability in the region, growers often irrigate a part of center pivots and leave the remaining land portion into

dryland, which limits primary productivity and soil carbon inputs. Farming strategies that increase soil carbon sequestration while enhancing precipitation conservation, soil water storage, and water use efficiency can benefit growers in semi-arid regions. The circular buffer strips system shows promises to improve soil health by positively affecting carbon accumulation and soil nitrogen cycling in a semi-arid environment. The research has been published in the Soil Science Society of America Journal. For more information, please visit the full article: <https://doi.org/10.1002/saj2.20495> or contact: Dr. Rajan Ghimire (rghimire@nmsu.edu) / Sundar Sapkota (ssapkota@nmsu.edu) for more information about this study. Sundar works with Drs. Rajan Ghimire and Sangu Angadi on the grass buffer project.



PES Graduate Student Awarded the Dr. and Mrs. Donald J. Cotter Endowment Fund, and Accepted into the Sustainable Agriculture Solutions Program in Israel

PES Graduate student, Mariela Estrada, was accepted into the Sustainable Agricultural Solutions Summer course in Israel from June 25th to July 20th, 2023. This month-long course combines in class, research and field experiences connected to drylands, agriculture and environmental

topics. This is a great opportunity to learn about what researchers and growers in similar weather are doing to mitigate the challenges of changing climates. Mariela was also awarded the Dr. and Mrs. Donald J. Cotter Endowment Fund that aides students in attaining experience in Horticulture.

The experience should increase students professional development. Their contribution has allowed Mariela the ability to travel to the Sustainable Agricultural Solutions Summer course. Once the course is completed, she will write a report and meet with Dr. Cotter to share about her experience.



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Student Awards (Continued):



Dean's Award of Excellence for Undergraduates

Tyra Trumble received the Dean's Award of Excellence for Undergraduates. This award is the highest award for undergraduate students whose accomplishments over the course of their years at NMSU are truly exceptional. The Dean's Undergraduate Award for Excellence winner will receive \$500 and an engraved medal at the College of Arts and Sciences Student Awards Ceremony.



Outstanding Departmental Student

Kathryn Overman received the Outstanding Departmental Student award from the Department of Plant and Environmental Sciences. This award highlights academic prowess and ability in the student's respective department.

ASHS Collegiate Scholars:

Christopher Gomez, Michael A. Grace, Stacy A. Oporto, Kathryn D. Overman, Maximo Smith, Tyra L. Trumble. This award honors the academic achievements of junior and senior undergraduates from departments of horticulture, or plant and crop science, who are majoring in horticulture. Students must be in the top 15% of their class, based on academic standing.

PES Spring 2023 Graduation Ceremony

The Department of Plant and Environmental Sciences hosted a graduation on Friday, May 12th, in the Skeen Hall Rotunda for our 2023 spring graduates. Graduating students invited friends and family to attend the event, witness their achievements, and enjoy each other's company. Dr. April Ulery led the room in congratulating our graduates. Faculty members and student advisors were present for this event as well.



The NMSU Graduating Class of Spring 2023 from the Department of Plant and Environmental Sciences included: (Back left to right) Dr. Govinda Sapkota, Dr. Pramod Acharya, Karina Tovar, Kaitlin Marry, Alia Kee, Zerong Dai, Alba Lucker, Tyra Trumble, Kathryn Overman, Skyler Roe, Trevor Roberts, Dr. Joseph Wood, Michael Grace, Jonathon Brown, Colton Burns, Christopher Gomez, and Sangita Subedi. (Not Pictured) Valeria Duran, Christopher Gomez, Mikayla Earnest, McKenzie Nunez, and Sergei Shalygin.

The College of Agricultural, Consumer and Environmental Sciences is an engine for economic and community development in New Mexico, improving the lives of New Mexicans through academic, research, and Extension programs. New Mexico State University is an equal opportunity/affirmative action employer and educator. NMSU and the U.S. Department of Agriculture cooperating.