ACES NM STATE MAGAZINE

COLLEGE OF AGRICULTURAL, CONSUMER AND ENVIRONMENTAL SCIENCES

VOLUME 4 | FALL 2020

AGRICULTURE IN ACTION

Head into the fields with chile harvesters + meet NMSU's new chile expert

Josh Bachman

DEAN'S LETTER

Dear ACES friends,

We are dealing with very different and difficult conditions we have not faced in previous editions. These conditions have created an environment that is challenging for all of us in the College of ACES. However, it is during challenging times that we can see the real fiber within ACES. The answer is clear: We are a strong organization in the College of ACES and NMSU, and we are tackling regular challenges as well as ones that have arisen during this pandemic.

With this edition of *ACES Magazine*, we highlight some of the ways the college has been participating in the fight against COVID-19. But, at the same time, we are not losing sight of our mission and our role as a land-grant university. Topics featured in this edition include our overall response to COVID-19; recognitions of teaching excellence; youth programs that adapted to challenges during this pandemic; GO Bond initiatives that will support our college; the food supply chain and food security in New Mexico; a photo essay showcasing New Mexico's signature crop; and much more.

It is with great pride that I can report that the College of ACES was the No. 1 college within NMSU in requesting and acquiring research and extension grant funds during the last fiscal year (2019-2020). The granted funds for the College of ACES were $31.5 million, with the submission amounts totaling $86.3 million.

The university is going through a great transformation not only as a result of COVID-19 but also due to budget restrictions the state of New Mexico is facing. We are evaluating all of our current functions with great detail, and more potential changes will happen in the future.

I hope you enjoy our fourth issue of *ACES Magazine*. Go Aggies!

Rolando A. Flores
Dean and Chief Administrative Officer

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Editor
Carlos Andres López

Graphic Designer
Tarran Johnson

Art Director
Gerald Rel

Contributors
Tiffany Acosta, Josh Bachman, Adriana M. Chávez, Carlos Andres López, Jane Moorman

Chancellor
Dan E. Arvizu

President
John Floros

Dean, College of Agricultural, Consumer and Environmental Sciences
Rolando A. Flores

Associate Vice President for Marketing and Communications
Justin Bannister

Executive Director of Marketing, Web and Brand Development
Melissa Chavira

Director of Communications and Media Relations
Amanda Bradford

POSTMASTER: Send address change notifications to *ACES Magazine*, MSC AG, New Mexico State University, P.O. Box 30003, Las Cruces, NM, 88003-8003

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On the Cover

Luis Ramos, an ACES undergraduate and student assistant, works in a chile research field at the Fabian Garcia Science Center.
Photo by Josh Bachman

Laura Bittner seeks to expand 4-H programs to underserved youth

BY JANE MOORMAN

Laura Bittner has a passion for providing youth development programming to all New Mexicans. As the interim department head of the state 4-H and Youth Development program, Bittner champions the importance of developing programs and outreach for underserved youth.

"The New Mexico 4-H program has a strong foundation of what is referred to as 'traditional programming'," she said. "These programs are the backbone of 4-H, and they make the organization strong. However, we must adapt and expand our program to underserved youth and develop future leaders with diverse backgrounds, histories, experiences and skills."

Access, diversity, equity and inclusion are essential elements of the 4-H goals related to positive youth development. The New Mexico 4-H program is committed to building an organization and culture of belonging for all New Mexico youth, Bittner said.

"We have tremendous opportunities in all of our communities, especially in urban areas, to share 4-H educational experiences with youth," she said.

These opportunities include the "4-H in the Schools" program in Albuquerque, the 4-H military partnership with Air Force bases in New Mexico and the Aggie Next Step program, which prepares students in the 8th through 12th grades with skills and knowledge as they transition from high school to college or career, Bittner said.

Since joining the NMSU Cooperative Extension Service in 2009, Bittner has provided educational programs to a diverse population in Valencia County, including people transitioning from incarceration into the workforce, high school students living with food insecurity, low-income families and English-language learners.

The College of ACES turned to Bittner to fill the position of interim department head of the state 4-H and Youth Development program earlier this year after the departure of former department head Steve Beck.

"She has the passion, experience and leadership qualities to continue advancing our 4-H youth program to meet the current and future needs of our New Mexico youth across the state," said Jon Boren, ACES associate dean and director of the Cooperative Extension Service.

NMSU Photo

Laura Bittner was named the interim department head of the state 4-H and Youth Development program earlier this year.

A HUB FOR INNOVATION

Center of Excellence uses interdisciplinary research to carry out its mission

BY JANE MOORMAN

Robots could be coming to a chile field near you. In a joint project funded by the Center of Excellence in Sustainable Food and Agricultural Systems, researchers from the College of ACES and College of Engineering are exploring whether mobile robotics would be beneficial in chile pepper production.

"This proposed research is a good example of the purpose of the seed grant to foster multi-departmental and intercollege collaborations and to enhance interdisciplinary research efforts in areas relevant to sustainable food and agricultural systems," said Natalie Goldberg, director of the Center of Excellence, housed in the College of ACES.

The researchers are trying to determine if a mobile robotic manipulator can replicate the hand harvesting of green chile peppers. They also will use robotics to evaluate drought stress on chile plants.

Stephanie Walker, associate professor and Extension vegetable specialist, and Manoj Shukla, professor of plant and environmental sciences, are working to see if artificial intelligence can help New Mexico's chile industry. They are collaborating with Mahdi Haghshenas-Jaryani, assistant professor of mechanical engineering.

During the inaugural year of the Center of Excellence, Goldberg began establishing the framework that the center will use to accomplish its mission of conducting innovative, transdisciplinary and collaborative research that facilitates and develops strong food and value-added agricultural business.

"Our focus is in the area of food, water and energy," Goldberg said. "We are looking at the components that go into producing food and providing food security for all communities in a manner that uses less water, less energy, and less land than conventional or traditional agriculture."

Goldberg is the connector who finds research faculty in various colleges to form working groups that look at complex problems and find collective avenues to address those problems.

"My job is to bring people together that might not otherwise make those connections," she said. "Once they assess the needs and develop research and demonstration ideas, they are prepared to seek federal grants to support the work."

Working groups are currently looking at food security, food supply chain, indoor food production, hemp industrialization, use of produced water from the oil and gas industry in agricultural production, artificial intelligence in agriculture and agricultural cybersecurity.

"We really want to expand CESFAS beyond the College of ACES by finding researchers in other colleges, such as the colleges of Engineering, Arts and Sciences, and Business, whose expertise can contribute to the solution," she said. "Three of the groups are also collaborating with researchers from other institutions, such as the University of Texas at Austin, Arizona State University and New Mexico Tech," she added.

Andrés Leighton

Natalie Goldberg is the director of the Center of Excellence in Sustainable Food and Agricultural Systems, an interdisciplinary program that conducts transdisciplinary and collaborative research to facilitate and develop strong food and value-added agricultural business.

Dean Rolando A. Flores inducted as 2020 Institute of Food Technologists fellow


Josh Bachman

ACES Dean Rolando A. Flores has been recognized for his contribution to the advancement of the field of food science and technology regionally, nationally and globally.

Flores is among 12 inductees into the Institute of Food Technologists 2020 Class of Fellows. The IFT Fellow designation honors professionals and scientists with extraordinary achievements within the science of food and technology community.

"It is an honor to be nominated and recognized with this prestigious award," he said.

The designation recognizes Flores for his research accomplishments and efforts to advance food science and technology and cultivate the next generation of food scientists and engineers during his 45 years in the industry. He has conducted pioneering research in waste and byproduct utilization.

Manoj Shukla selected as 2020 Soil Science Society of America fellow


Darren Phillips

Manoj Shukla, professor of environment soil physics and director of the ACES Global Program, was selected as a 2020 fellow for the Soil Science Society of America.

"The fellow designation is the highest recognition bestowed by the SSSA and only a select few are bestowed with the designation," said Shukla, who also serves as the associate editor of the *Soil Science Society of America Journal* and chairman of the Agronomy Crop and Soil Presentation Contest Committee.

Shukla has authored three books and 131 peer-reviewed publications and served on several international expert panels, including the China Agricultural University-Engineering program review, United States-Mexico Border Health Commission and International Arid Lands Consortium. Shukla also serves as a visiting professor at the Northwest Agricultural and Forestry University in China.

Kelley Coffeen named among 2020 Women of Influence for New Mexico


Nicolette Young

Kelley Coffeen, assistant professor in the Clothing, Textiles and Fashion Merchandising program, was named one of the 2020 Women of Influence for New Mexico by Albuquerque Business First.

Coffeen, who has a Ph.D. in educational leadership and administration with a focus on Latino studies, has published seven cookbooks and hosted a weekly regional cooking segment, "Kelley's Kitchen," on El Paso's KTSM-TV, which aired for more than 10 years.

Coffeen has partnered with the Joslin Diabetes Center in the Harvard Medical School and NMSU to develop diabetes-friendly recipes and host virtual cooking classes.

Coffeen also formed a partnership with Wells Fargo to launch Wardrobe Building for Economic Mobility, a project that guides low-income residents on building professional work wardrobes through educational workshops.

State climatologist Dave DuBois continues research efforts to make I-10 safer


Darren Phillips

New Mexico state climatologist and ACES associate professor Dave DuBois has worked to address safety concerns along a stretch of Interstate 10 near Lordsburg since 2010, overseeing research projects aimed at improving decision-support systems impacted by extreme environmental hazards.

In his current project with the New Mexico Department of Transportation, DuBois uses cameras to collect time-lapse images of dust storms on I-10 in an effort to quantify hazards of wind erosion events. In 2019, one of his graduate students used the footage to develop an artificial intelligence algorithm to classify certain types of dust storms on the Lordsburg playa.

"This work will lead to providing an early warning to Department of Public Safety officers and NMDOT staff on impending dust storms," DuBois said.

John Campbell honored by American Society of Animal Science


Darren Phillips

John Campbell, a college associate professor and judging team coordinator, was awarded the 2020 Distinguished Teacher Award from the American Society of Animal Science's Western Section in recognition for his teaching efforts. The award recognizes recipients' teaching accomplishments in animal science courses.

"I am humbled by the recognition," said Campbell, who joined the Department of Animal and Range Sciences in 2009, teaching courses in animal science. "I enjoy challenging students to reach their maximum potential and to see the 'light shine' when students understand a concept. Teachers need to guide, encourage and empathize with students."

Campbell has been active in NMSU Faculty Senate and serves on several university, college and departmental committees. He also is Faculty Fellow for student housing.

Center of Excellence adds faculty to lead food safety, security initiatives



Courtesy Photos

ACES has established two new faculty positions in the Department of Family and Consumer Sciences that will spearhead food safety and security research projects for the Center of Excellence in Sustainable Food and Agricultural Systems.

Sergio Martinez-Monteagudo (left), food bioprocessing assistant professor, has been hired for a joint appointment with the College of Engineering in food bioprocessing. Luis Sabillon Galeas (right), microbial food safety assistant professor, will work to expand the food science and technology program.

"Until now, we only had a single faculty member in food science," said Natalie Goldberg, director of the Center of Excellence, which conducts transdisciplinary and collaborative research that facilitates and develops strong food and value-added agricultural business. "These positions are in preparation for the new food safety and security facility being built using 2018 GO Bond D for Higher Education funds."

Megan Donart, an undergraduate student, participates in an in-person Western Equitation class in August.

Josh Bachman

RISING *to the challenge*

Amid the pandemic, ACES pulls together to carry out its mission

BY JANE MOORMAN

The College of ACES faculty and staff responded to the challenges of COVID-19 with flying colors. In March, when NMSU closed campuses and halted in-person learning, faculty and staff shifted to working from home but continued to provide academic classes and Extension programs.

"Our dedicated college faculty, staff and students did not stop for a second under the COVID-19 pandemic," ACES Dean Rolando A. Flores said. "Our response was immediate, decisive and safe, and we have been moving forward with our teaching, research and Extension under the current circumstances."

Flores added, "New programs were developed, courses converted, research plans adjusted, and assistance to New Mexicans provided. Research in ACES and its science centers, labs and fields was adjusted and, in some cases, reduced – but not stopped."

Immediately, staff and faculty worked to launch the "ACES Response to COVID-19" website to provide information regarding the pandemic to the public. By Sept. 1, the webpage received 11,231 visits.

BY THE NUMBERS

226,210 Facebook users reached through CES education programing

290 Facebook posts related to CES programming

108 Zoom program events

12,200 Zoom program participants

9,597 views of the CES COVID-19 website

91 CES blog posts

1,017 education tool kits provided

CES also delivered webinars to help people through the pandemic. Here are some of the highlights:

- **Financially Navigating the COVID-19 Outbreak** had a reach of **163** during the live sessions, **441** views on the website and a reach of **17,771** on Facebook
- **Stress Management – Thriving in Today's Demanding World** had a reach of **241**
- **Coping with Stress during COVID-19 Pandemic** had nearly **900** views by September
- **Navigating COVID for New Mexico Beef Producers** averages **70** people each session

All figures reflect outreach as of Aug. 1

Academic faculty retooled more than 200 courses during the extended spring break in March, allowing students to finish the spring semester in an online format.

"I am very impressed with the commitment of our faculty to our students," said Donald Conner, ACES associate dean and director of academic programs.

That commitment continued during the summer as faculty prepared face-to-face, online and hybrid classes for the fall semester. ACES delivered 53 percent of its fall classes entirely online, while 26 percent were face-to-face and 22 percent were hybrid.

NMSU's Cooperative Extension Service also adapted programming to meet the needs of New Mexico residents.

"Despite the state and federal social distancing restrictions, our Extension faculty and staff pivoted their programming beginning in March to continue to provide services to their clientele through innovative technology and social media," said Jon Boren, ACES associate dean and director of the Cooperative Extension Service.

County agents used Facebook posts to share a wide variety of information, including personal health practices and activities to engage youth. These posts reached about 300,000 users during the first three months of the pandemic.

Extension professionals also held more than 100 events and meetings via Zoom, a video-conferencing platform, reaching more than 12,200 people.

One program – New Mexico EDGE, Education Designed to Generate Excellence in the Public Sector – maintained scheduled classes by conducting 400 hours of online training with public officials from counties and state agencies during the first five months of the pandemic.


Josh Bachman

Hannah Swarthout, a college assistant professor of equine science, wears a face shield while teaching an in-person Western Equitation class in August. Of the courses offered by ACES for the fall 2020 semester, 53 percent were fully online, 26 percent were face-to-face and 22 percent were hybrid.

Using virtual classes, nutrition educators continued Kitchen Creations and Ideas for Cooking and Nutrition classes for New Mexico residents. ICAN programs reached 29,688 through social media, compared to reaching about 600 before the pandemic.

Several 4-H and Youth Development activities, including livestock school, district competition and the State 4-H Conference, were held virtually this year. The livestock school became "Ask An Expert," with sessions on goat, sheep, steer and swine. Youth and their parents participated in the session, with a total attendance of 150.

Extension professionals also stayed busy with their normal office activities, reaching more than 180,000 New Mexico residents through phone calls, newsletters and emails.

Horticultural agents said they are getting more calls than usual because people are staying at home and gardening more. The Master Gardeners in Sandoval County, for example, fielded 40,000 calls.

As COVID-19 continues to impact the lives of Americans, NMSU's Cooperative Extension Service remains involved in several projects to help industries and communities.

NMSU's Extension dairy specialist is working with the University of Texas Health School of Public Health to develop, deliver and evaluate a training program addressing COVID-19 in the dairy industry.

Through the Create Bridges Project, Extension economists are taking on the challenge of economic recovery for distressed New Mexico counties with vulnerable industries as a result of the COVID-19 pandemic.

STRAIN ON THE SYSTEM

Milk pours out of a bulk tank into a drain at a dairy farm in Buhl, Idaho, in April. As the pandemic prompted school and restaurant closures this spring, many dairy producers were forced to discarded an overabundance of milk.

Pat Sudbin/Times-News via AP

COVID-19 reveals weaknesses in the food supply chain

BY CARLOS ANDRES LÓPEZ

What does a more resilient food supply chain look like in a world still grappling with COVID-19? That's the question agricultural producers and researchers are now trying to answer as they work to adapt an industry hit hard by the coronavirus pandemic.

Disruptions to the food supply chain became visible this spring after states across the country issued stay-at-home orders, halted in-person learning and implemented other measures to slow the spread of COVID-19: Empty shelves at grocery stores. Long lines at food banks. An overabundance of fresh food intended for shuttered schools and businesses with nowhere to go. Dairy farmers and chicken processors dumping milk or smashing unhatched eggs.

All of which left observers wondering why this was happening.

"We consume approximately 50 percent of our food away from home," said Jay Lillywhite, professor and head of the Department of Agricultural Economics and Agricultural Business in the College of ACES. "Within a matter of weeks, you had multiple states limiting restaurant sales, schools shutting down, and a system built to supply food to those away-from-home outlets had to adjust to more food being purchased for consumption at home."

At issue were laws governing food labeling, packaging and sizing, which vary from market to market, Lillywhite said. Manufacturers and distributors that did not have the resources to repackage and relabel fresh foods for another market were left paralyzed from a logistical standpoint at the outset of the crisis, resulting in spoiled food and lost money.

In response, the Food and Drug Administration in May made temporary adjustments to certain labeling requirements as part of an effort to help alleviate the problem.

"As we start to see the light at the end of the tunnel, maybe that won't be quite as significant going forward. I don't

know for sure. A lot of this is uncertain," Lillywhite said.

ACES Dean Rolando A. Flores, a food scientist, said the pandemic revealed weaknesses in the food supply chain. One of the weakest links, he said, was the food manufacturing sector, in particular food processing plants, many of which are highly dependent on labor.

Early in the pandemic, many large-scale food processing plants struggled to implement social distancing guidelines and experienced high COVID-19 infection rates among workers, resulting in plant closures and product shortages. Infrastructure designed for efficiency likely exacerbated challenges at these facilities, Lillywhite explained.

"Trying to social distance in those environments is very difficult. It's not impossible, but it takes time," he said, adding, "In the production cycle, animals won't stop growing because a facility shuts down, and they can't sit at the farm waiting for the facility to reopen. They're stacking up, and now what do you do? That's the challenge."

Flores said a stronger food supply chain would require operational changes, but he also noted that working conditions would play a critical role in improving the system.

"We need to realize that the food chain is sensitive and recognize that manufacturers will need to provide better conditions to protect employees," he said, adding that ACES is collaborating with other universities to improve the food system. "Right now, this research is a priority," he said.

In a more resilient system, Flores said, the producing sector – farmers, ranchers and growers – would have more opportunities to organize the delivery of their goods in alternative markets during emergencies, allowing them to maximize their profitability and reduce waste in uncertain times. Producers, especially those in New Mexico, should also focus on value-added crops and processing, he said.

"We need to be open-minded to create new, more creative alternatives," he said.

Still, Lillywhite said the current agricultural system largely remains efficient and effective. He also noted that the long-term effects of the pandemic on the industry remain unknown, describing the crisis as a once-in-a-lifetime situation comparable to the Great Depression.

"We're in challenging times, and I don't know that we'll know all the answers for some time," he said. "After the Great Depression, we looked back and said the government could have done somethings differently to mitigate the problem. We may look back on this pandemic in a few years and say we wish we would've done some things differently."

Regardless, Flores said, ACES will be at the forefront of developing 21st-century solutions.

"The food chain, value-added processing and food markets are critical and important to the College of ACES," he said. "Through research, teaching and Extension, our goal is to increase knowledge and understanding in these areas and contribute critical improvements."

Andres Leighton

Dairy cows eat forage at a farm in Clovis, N.M. Dairy producers grappled with severe market disruptions during the pandemic.

Josh Bachman

Stephanie Rogus, an assistant professor of human nutrition and dietetic science, served as the principal investigator of a study that examined how the COVID-19 pandemic affected food access and security in communities across New Mexico.

UNDERSTANDING THE TOLL

Joint study seeks to understand food security in New Mexico during pandemic

BY ADRIANA M. CHÁVEZ

While the COVID-19 pandemic disrupted lives of New Mexico residents, a group of researchers from the College of ACES and the University of New Mexico set out to better understand how the pandemic affected food access and security in communities across the state.

In May, the group launched a statewide survey to collect data. The survey, originally developed by a research team at the University of Vermont and Johns Hopkins University, was adapted to understand the impact of the pandemic on food security and access among New Mexicans.

A total of 1,487 New Mexicans took the survey. According to preliminary data, 30 percent reported food insecurity, and 25 percent experienced a job loss or disruption.

Based on a standardized set of questions from the United States Department of Agriculture, food insecurity has not increased since the pandemic began. However, 16 percent of the survey respondents reported experiencing food insecurity since the outbreak began. The first case of the novel coronavirus in New Mexico was identified on March 11.

"Food insecurity in the state was almost double the rate reported by the USDA for 2016-2018, which is concerning. Frequent reassessments are needed as the economic impacts of the pandemic persist," said Stephanie Rogus, the study's principal investigator and an assistant professor of human nutrition and dietetic science.

"The state got approval to issue an increase in Supplemental Nutrition Assistance Program benefits in March, and 11 percent of our respondents reported receiving an increase in their benefits," Rogus added. "Participants reported that the increase helped their household. One noted, 'Getting extra money has meant that we don't have to choose between paying our light bill or getting groceries.'"

The study found that the top sources for food were grocery stores (82 percent), restaurant delivery (73 percent) and convenience stores, including dollar stores (39 percent).

Additionally, 79 percent of survey respondents said they reduced their trips to grocery stores to avoid exposure, and 70 percent stated they spent more time cooking. Many respondents also stated they were buying more food during food shopping trips, and that their buying behaviors had changed by purchasing more canned and pantry foods.

"Respondents worried most about food becoming more expensive and unsafe, and running out of food if they were unable to go out," Rogus said. "To adapt, many respondents reported that they would likely buy foods that do not go bad quickly; buy different, cheaper foods; and eat less to stretch the food they have."

Chip Speir moves crates containing green chile peppers harvested from his family's 500-acre farm, Speir Farms, in Deming, N.M., in August.

HEAT HANDLERS

Head into the fields with a southern New Mexico farmer for a look at the chile-harvesting process

Photos by Josh Bachman

Speir, a fourth-generation farmer who attended NMSU for two years, grows between 80 to 100 acres of green chile peppers, including Arizona 1904, Charger and other varieties.

Top: Surrounded by leafy fields, a farmworker picks chile peppers during the height of the 2020 harvest season. Speir Farms starts harvesting chile in mid-July and continues until the first frost of the season, usually around mid- to late October.

Right: A farmworker removes the stem of a chile pepper before placing it into a container. Speir sells all the chile peppers from his farm to a Deming-based processing company.

A farmworker wears a face mask while harvesting chile peppers.

Top: A farmworker carries a bucket filled with chile peppers to the tractor. Each year, Spier Farms starts planting chile in early March.

Right: Farmworkers pour harvested chile peppers into a large crate. In addition to chile, Speir Farms also grows onions, milo – or grain sorghum – and wheat hay.

Speir holds chile peppers grown on his farm after a day of harvesting.

Josh Bachman

Dennis Nicuh Lozada is now leading research initiatives at the NMSU Chile Pepper Breeding and Genetics Program.

ACES welcomes new chile pepper researcher

Dennis Nicuh Lozada, an assistant professor in the Department of Plant and Environmental Sciences who joined the College of ACES on July 1, is now leading research initiatives at the NMSU Chile Pepper Breeding and Genetics Program, housed in the Fabian Garcia Science Center.

Lozada's appointment fills a position left vacated by the retirement of Paul Bosland, who co-founded the NMSU Chile Pepper Institute.

"My main goal is to integrate genomics and high-throughput phenotyping approaches to accelerate chile pepper breeding and genetics to develop varieties of chile peppers with improved yield, yield potential and quality," he said.

Although new to chile pepper research, Lozada recognizes that his work will play a critical role in the production of a crop that shapes New Mexico's identity and economy. He said his research would build on Bosland's work and focus on disease resistance and climate adaptability.

"A lot of people in New Mexico depend on chile peppers for their livelihood," he said. "That's a major thing that we need to consider and why we need to develop better pepper varieties."

– Carlos Andres López

CONNECTING FROM A DISTANCE

ACES adapts and develops educational programs to serve New Mexico youth in virtual formats

A Dream Keepers Online participant, right, builds a solar flashlight following the instructions given at an education session by Dana Oliveri from the Central New Mexico Community College FUSE Makerspace, one of Indian Resources Development's partner organizations.

Dream Keepers Online

NMSU's Indian Resources Development hosts a free summer camp for Native American high school students in New Mexico entering 10th through 12th grades. And despite the challenges of COVID-19, Dream Keepers Online continued its mission to promote higher education opportunities at accredited tribal schools, community colleges and universities throughout the state.

The virtual camp, held June 15 to July 24, offered students an opportunity to explore college and career opportunities in agriculture, natural resources, engineering and business through virtual field trips and campus visits, small group discussions and interactive online activities.

IRD Director Claudia Trueblood said she was impressed with the participants who were engaged each day in the six-week camp.

"It was inspiring to see that despite technology or internet-related struggles participants had, they persisted when they could have given up," she said. "The other great thing was to have an overwhelmingly positive response from many of our partners who, without hesitation, offered to facilitate and help with the education, personal development and social sessions."

Trueblood also credits Native American college students from New Mexico tribal colleges, community colleges and research universities in helping successfully mentor participants at the camp this year. She hopes to have counselors from at least six schools for future camps. For more information about IRD, visit **ird.nmsu.edu** or email ird@nmsu.edu.

–Tiffany Acosta

Innovators in Agriculture

The Innovators in Agriculture camp, an interactive program introducing youths ages 15 to 18 to the technology and innovations in food production and environmental sustainability, was a new Cooperative Extension Service program that had been in the works for months when the COVID-19-pandemic hit.

The original idea was to host a three-day camp on the NMSU campus, but by early April, organizers decided to make the program 100 percent online.

"This interactive program introduced students to the technology through virtual demonstrations, interactive exercises and video tours," said Marcy Ward, NMSU Extension livestock specialist and chair of the camp's committee.

Students also interacted with industry leaders such as New Mexico Secretary of Agriculture Jeff Witte and Jonas Moya, director of the New Mexico Cattle Growers' Association. After the expanded 30-day program, participants made videos demonstrating what they learned and new ideas they developed on how technology could solve real-world issues in agriculture.

–Adriana M. Chávez

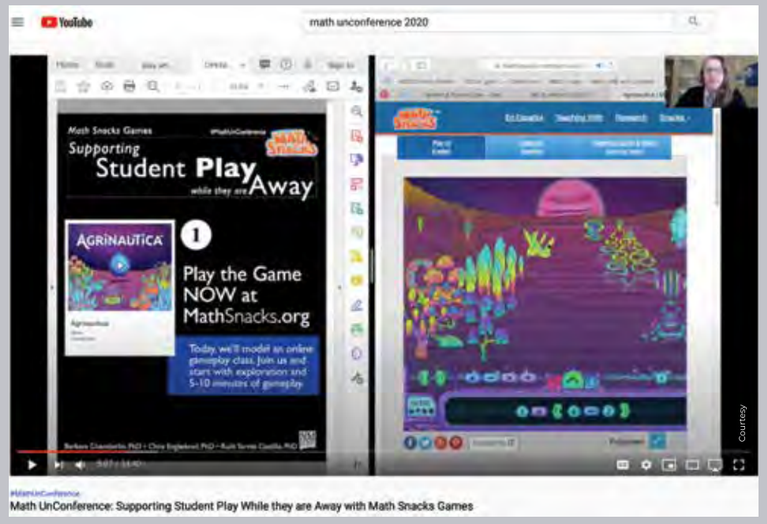
Learning Games Lab

When area schools shut down in-person learning in March due to the pandemic, the NMSU Learning Games Lab team quickly sprang into action, tapping into the lab's trove of resources and connecting with experts nationally and internationally to help teachers address issues that arose from at-home learning.

In April, Barbara Chamberlin, director of the Learning Games Lab, and members of the Math Snacks teams participated in the Math UnConference. The virtual conference, organized in collaboration with the U.S. Department of Education, aimed to help teachers learn how to navigate online tools, give students a full learning experience and examine the ripple effects of online education.

"We looked at how we can be supportive of what online learning environments, both informal and formal, will look like in the future," Chamberlin said, "and how games, interactive labs and other tools can complement the traditional classroom experience in the future, whether schooling in person or at home."

–Adriana M. Chávez



Barbara Chamberlin, director of the NMSU Learning Games Lab, and members of the Math Snacks teams participated in the Math UnConference in April.

Agricultural Public Speaking, Agri-Science Fair contests

The College of ACES hosted the first New Mexico State Fair Agricultural Public Speaking and Agri-Science Fair contests on Sept. 12. Youth participants from around the state "Zoomed-in" to present science projects or to speak about agriculture, natural resources and New Mexico heritage.

"We hope these contests help us meet these kids and begin recruiting them to NMSU, the quality of the entries was phenomenal," said ACES assistant professor Frannie Miller, who coordinated the contest. The winners included:

Agricultural Public Speaking Champions

- Senior Division: Grand Champion — Monet Hunt; Reserve Champion — Ridley Timberlake, with both scholarships sponsored by New Mexico Beef Council.
- Junior Division: Grand Champion — Remington Hunt, scholarship sponsored by New Mexico Stockman Magazine; Reserve Champion — Elizabeth Elam, scholarship sponsored by Ag New Mexico Farm Credit. All of the public speaking winners were from Texico FFA.

Agri-Science Fair Champions

- Senior Division: Grand Champion — Elida Miller of Las Cruces FFA, scholarship sponsored by Rio Grande Hybrid Seeds; Reserve Champion — Jesi Watson of Cloudcroft FFA, scholarship sponsored by New Mexico Cattle Growers' Association.
- Junior Division: Grand Champion — Jackson Fudge, scholarship sponsored by Tom and Frannie Miller; and Reserve Champion — Natalie Smith, scholarship sponsored by Ag New Mexico Farm Credit. Both junior winners hailed from Roy FFA.

–Frannie Miller

Eleanor Warden, who participated in the 4-H Tech and Design project, shows a poster she designed to thank an essential worker, using layout software. She delivered the poster to a hospital earlier in the year.

Mason and Paxton Rogers show off the stop-motion animations they created in one of the 4-H Tech and Design project meetings.

4-H and Youth Development/CES

NMSU's 4-H and Youth Development and Innovative Media Research and Extension teamed up to develop the online 4-H Tech and Design project.

A total of 45 youth participated in daily video-conferencing sessions designed to teach them the basics of creating digital presentations, graphic design, digital illustration, sound design, animation and game design.

"The intent of the project was to provide meaningful ways for the kids to engage with technology," said Barbara Chamberlin, who also is a professor in the Innovative Media Research and Extension department. "The kids explored several different technologies and design ideas, and chose one or two or three, that they investigated further."

Elsewhere in New Mexico, Cooperative Extension Service agents turned to social media to stay connected to youth.

For example, Torrance County program assistant Deborah Maberry kept youth involved with 163 Facebook posts, including daily photos of recently hatched chicks in the Eggs to Chick program. Grant County 4-H agricultural agent Jessica Swapp developed a podcast series on a wide range of topics, featuring NMSU Extension specialists. And Otero County agricultural agent Sid Gordon and 4-H agent Heidi Crnkovic created a five-part video series about training a colt.

–Jane Moorman

BUILDING A BETTER FUTURE

Courtesy of fbt architects

An early architectural rendering of how buildings in the agricultural district might look at NMSU's Las Cruces campus. The buildings' designs are underway using general obligation bond funding approved by voters in 2018 – Phase 1 of the Agricultural Modernization and Educational Facilities project. Another $18 million for the project's second phase is part of the 2020 GO Bond on the ballot Nov. 3.

November ballot includes funding for NMSU agricultural modernization

BY AMANDA BRADFORD

New Mexico voters will be asked on Nov. 3 to approve several general obligation bond questions, including two that will provide critical funding for the NMSU system. There is no tax increase associated with approval of these bonds.

If approved by voters, GO Bond C will provide $30.46 million for construction, renovation and modernization projects across the NMSU system, including $18 million for biomedical and agricultural facilities at its Las Cruces campus. GO Bond B will provide $3 million statewide for university library resources, of which the NMSU system will receive a portion.

The first phase of NMSU's Agricultural Modernization and Educational Facilities project, which is currently in the design and planning process, is supported by $25 million in general obligation funding approved by voters in 2018. The New Mexico Legislature approved $18 million of the $25 million requested by NMSU in the 2020 bond issue for the project's second phase, which will focus on improved laboratory, research and classroom spaces for the College of ACES.

NMSU Architect Heather Watenpaugh said plans for the agriculture district at NMSU's Las Cruces campus include new facilities, renovations and demolition designed to provide premier agriculture education facilities for teaching and outreach, increase hands-on experiential learning, increase opportunities to partner with industry leaders, and support safety with facility design.

The ACES Student Learning and Livestock Outreach Center will provide a central location for both experiential and distance-learning models, as instructors create innovative hybrid lessons in response to the COVID-19 pandemic. It will also offer a space for community youth events and therapeutic riding sessions, and will be a future home for statewide 4-H and FFA conferences, when they can safely be held in person.

"These new and modernized facilities will provide a central location to teach and conduct cross-disciplinary biomedical research," said Rolando A. Flores, dean of the College of ACES. "With the right tools and

Courtesy of fbt architects

Plans for the agriculture district include new facilities, renovations and demolition designed to provide premier agriculture education facilities for teaching and outreach, increase hands-on experimental learning, increase opportunities to partner with industry leaders, and support safety with facility design.

facilities, NMSU research teams can continue their work to help the world understand, prevent and manage disease outbreaks. Building and updating these facilities supports NMSU's mission to serve the people of New Mexico through teaching, research and Extension."

The College of ACES advances NMSU's mission by being an engine for the economic and community development of New Mexico. Agriculture and food processing industries generated nearly $11 billion and 51,000 jobs for the New Mexico economy, according to a recent study. Modernization and expansion of learning environments helps to create an agricultural workforce prepared to advance the industry and grow New Mexico's economy.

The last major facility added to the agriculture district at NMSU's Las Cruces campus was Skeen Hall, constructed in 1999 as the Center for Sustainable Development of Arid Lands. Much of the agriculture district – the campus livestock, education and research center – consists of dilapidated and disused facilities whose conditions and use do not align with the needs of the College of ACES or the academic advancement trajectory of NMSU in general, Flores said.

GO Bond C includes $3 million for NMSU's statewide Agricultural Science Centers, which support fundamental and applied research under New Mexico's varied environmental conditions to meet the agricultural and natural resource management needs of communities in every part of the state. Without major repairs, significant building system improvements and site remediation, Watenpaugh said those facilities will struggle to continue serving the needs of New Mexico's diverse population.

The bond also includes $3 million for data center infrastructure upgrades in Milton Hall and improvements to the information technology system campus-wide to replace outdated or deficient systems and create technology for today's learning environment. The project will include upgrades and replacement of data centers, computer systems and equipment, campus infrastructure and classroom technology.

Another $6.46 million will provide campus-wide infrastructure improvements, renovations and equipment at NMSU's community college campuses in Grants, Doña Ana County, Carlsbad and Alamogordo.

In total, the 2020 Capital Projects General Obligation Bond Act will issue just over $156 million in general obligation bonds for institutions of higher education, special schools and tribal schools in New Mexico. For more information, visit **gobond.nmsu.edu**.

IMPORTANT DATES

Election Day: **Nov. 3**

Last day to register to vote: **Oct. 6**

Absentee voting: **Oct. 6 to Nov. 3**

Early in-person voting:

- **Oct. 6-31**, Doña Ana County Government Center
- **Oct. 17-31**, alternate voting locations

Courtesy of fbt architects

GO Bond C includes $3 million for NMSU's statewide Agricultural Science Centers.

A NEW VISION

Leslie Edgar, new associate dean and AES director, outlines research priorities

BY CARLOS ANDRES LÓPEZ

Future research in the College of ACES, according to Leslie Edgar, will focus on transformative and strategic opportunities. Edgar, the newest member of the ACES leadership team, oversees ACES research initiatives in her new role as associate dean for research and director of the Agricultural Experiment Station.

In outlining her vision for ACES research, Edgar, who joined the college on May 1, said her top three priorities include identifying and overcoming research roadblocks; creating a culture shift to ensure a commitment to research success; and aligning and integrating on-campus departments and research units with off-campus agricultural science centers.

Edgar also wants to leverage partnerships, knowledge transfers and spillovers to expand economic and community development, she said, and use data, relationships, and increased strategic communication channels to enhance the college's prominence and prestige.

"We will leverage resources, opportunities and people across the state, nation and globe. We will continue to develop new forms of collaboration and partnership that will enhance our unique opportunities and areas for growth," she said. "We will engage in increased promotional strategies to tell our story and further highlight our unique resources and engagement in expanding and enhancing economic and community development across New Mexico."

Edgar also is committed to supporting and extending NMSU's strategic plan, LEADS 2025, specifically helping the university achieve Carnegie Research 1 status, she said.

"To become R1 status, our primary focus will be on research productivity," she said, "but the plan will also incorporate strategies to strengthen and enhance the outreach components of our land-grant mission." She added: "To achieve a world-renowned recognition in research, we must focus on four areas: a compelling industry need or problem to solve, skilled researchers, state-of-the art equipment and world-class facilities."

Edgar earned a Ph.D. in agricultural leadership, education and communications from Texas A&M University. Before joining NMSU, she served as a professor and department head at the University of Georgia, where she managed a $2.4 million budget and 15 faculty members. Over her career, Edgar has led numerous externally funded research projects and authored more than 70 articles in refereed journals.

"In my research program, I have a unique way of approaching the social dimensions that impact decision-making associated with agriculture and natural resource issues," she said. "My research agenda is focused on agricultural and science communication models for effective communication management strategies, specifically on understanding how educational practice impacts the decision-making process and the ultimate adoption of new scientific technologies."

Josh Bachman

Leslie Edgar, associate dean for research and director of the Agricultural Experiment Station, said future research in the College of ACES will focus on transformative and strategic opportunities.

HRTM gave El Paso restaurateur 'a love for the industry'

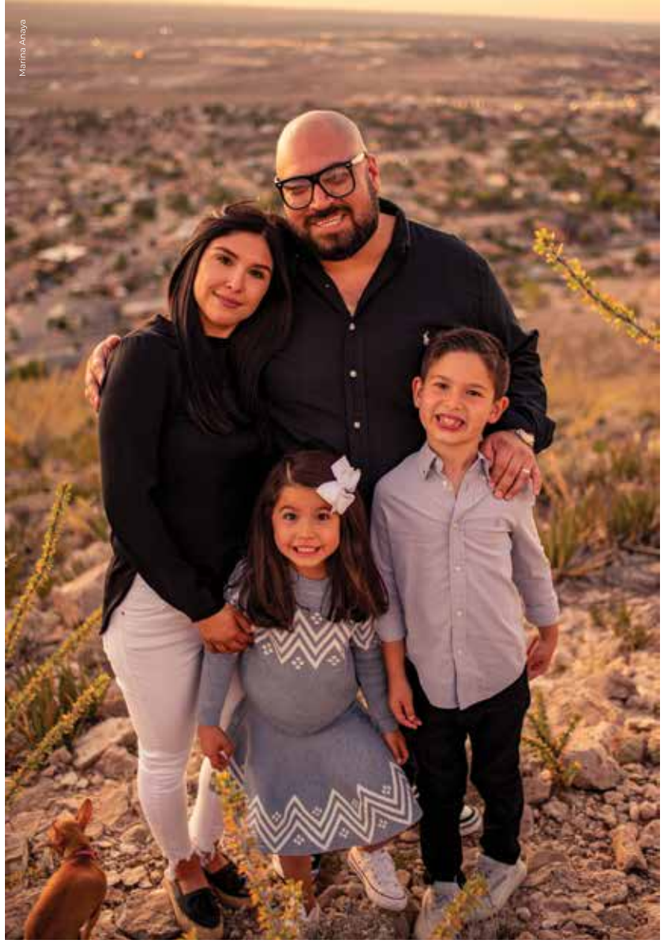
BY CARLOS ANDRES LÓPEZ

The year 2008 was pivotal for Nick Salgado. That year, he started his growing food empire in El Paso with the opening of Crave Kitchen & Bar, his first restaurant with business partners Octavio Gomez and Rudy Valdes under their joint venture, the Pan y Agua Group. Four years earlier, Salgado graduated from NMSU with a degree from the School of Hotel, Restaurant, and Tourism, housed in the College of ACES.

Salgado has since significantly expanded his restaurant portfolio, which now includes three additional Crave locations, as well as Malolam Cantina, Hillside Coffee & Donut Co., Electric Cactus, Independent Burger, El Cuartito and Fools Gold Bar. Collectively, Salgado employs more than 500 people.

Salgado credits HRTM with giving him a foundation on which to stand in a highly competitive industry, one now facing hardships caused by the pandemic.

"It gave me the fundamental tools and knowledge that allowed me to choose the right path," he said. "It also gave me the most important tool, which was a love for the industry."


Marina Arroya

Nick Salgado with his wife, Laurencia, and their children, Laurel and Nicolas. Salgado, an HRTM alumnus, owns and operates multiple restaurants in El Paso.

Salgado said the restaurant industry has been hit hard by the economic ramifications of COVID-19. But he encouraged fellow HRTM alumni working in the industry to remain optimistic.

"You just need to adjust and adapt. Do everything you can to run a tighter ship," he said. "For all my fellow HRTM alumni, we are in an extraordinary industry – even in a pandemic. People will always want to eat and drink. That will never change. Our industry is not going anywhere."

ACES helped shape career of longtime researcher, educator

BY CARLOS ANDRES LÓPEZ

The time Paula Gentry spent at NMSU in the late 1980s and early 1990s, working on undergraduate and graduate degrees in animal science in the College of ACES, played a pivotal role in shaping her career.

"It was a great time in my life," Gentry said of her time at NMSU. "It was the time where I really figured things out, and the time I spent at New Mexico State really prepared me for the rest of my career."

After she left NMSU, Gentry went on to earn a Ph.D. in animal science at the University of Missouri-Columbia, specializing in molecular endocrinology and reproduction. She completed her post-doctoral work at the University of Arizona, where she also spent several years working as a research assistant professor. She moved back to New Mexico in 2005 and managed clinical labs for two private firms before becoming an adjunct professor at Western New Mexico University. In 2015, she became a full-time faculty member.

"My first love is research, but I always loved teaching," said Gentry, now an associate professor who teaches biology in the Natural Sciences Department at WNMU.

"I was really happy to get the chance to teach at WNMU. I absolutely love teaching and interacting with students."

Outside the classroom, Gentry operates Tres Osos Performance Horses with her husband, Dave Mize, and Linda Mars, a fellow NMSU alumna, breeding, raising and training performance horses. Gentry said she met Mize and Mars while at NMSU.


Linda Meisen

From left to right, Paula Gentry, Linda Mars and Dave Mize. Gentry earned undergraduate and graduate degrees in animal sciences from NMSU and is now associate professor at Western New Mexico University.

William Gorman, 1936-2020

Beloved professor remembered as a 'good friend and mentor'

BY ADRIANA M. CHÁVEZ

William Gorman, professor emeritus in the Department of Agricultural Economics and Agricultural Business, passed away in late June. He was 84.

Gorman was a founding member of the International Food and Agribusiness Management Association and was also heavily involved in the NMSU National Agri-Marketing Association, which prepares students for careers in agribusiness marketing, sales, public relations and advertising. In 2011, helped start a popular winemaking class in the College of ACES and also led research into markets for new pecan products.

Gorman was known for working to make sure students had the financial support they needed within the College of ACES and the Department of Agricultural Economics and Agricultural Business. He worked with the Navajo Tribe on the Navajo Agricultural Products Industry farm and the Navajo Indian Irrigation Project. For several years, Gorman developed and hosted a Southwest Agribusiness Fieldtrip as part of the Foreign Agricultural Services' Faculty Exchange Program.

"Dr. Gorman was a very good friend and mentor to me," said Jay Lillywhite, professor and head of the Department of Agricultural Economics and Agricultural Business. "His support and mentoring have helped me get to where I am at in terms of a researcher, teacher and administrator."

Gorman's family asks that in lieu of flowers, donations be made the William "Bill" Gorman Endowed Scholarship Fund at NMSU Foundation, Inc. P.O. Box 3590, Las Cruces, N.M. 88003-3590.

William Gorman, left, professor emeritus in the Department of Agricultural Economics and Agricultural Business, works with research assistant Skyla Cockerham in 2012. Gorman died in June of 2020.

Matthew (Matt) David Reitzel, 1991-2020

An accomplished cattle rancher who lived 'his life to the fullest'

BY CARLOS ANDRES LÓPEZ

Matthew David Reitzel was a hard-working cattle rancher and accomplished horseman who was passionate about cattle ranching, nature, his family, friends and life.

At a young age, Reitzel learned to ride horseback and work cattle, two family traditions that turned into lifelong passions and a career. Reitzel played an integral role at his family's northern New Mexico ranch, Esperanza Land and Cattle L.L.C., where he worked as a foreman and partner, supporting every aspect of the century-old cattle operation.

Reitzel's mother, Dina Chacón-Reitzel, chairwoman of the NMSU Board of Regents, said her son had a particular gift for training young and problem horses, a skill few possess. He loved horses and was a true "horse whisperer." Her son, she added, also was a skilled wood-craftsman, a certified sawyer and an avid outdoor enthusiast who enjoyed fly fishing, hunting, backpacking, backcountry snowboarding and rock-climbing.

"Very few people in this world have the courage to follow their passions; Matthew followed his," Chacón-Reitzel said. "He decided not to settle for any less. He was happy, content and living each day of his life to the fullest. He was living his dream. That's worth a dozen lifetimes."

Chacón-Reitzel, her husband, Jim Reitzel, their daughter, Elizabeth Reitzel, and her wife, Britney Choy, wish to honor the memory of Reitzel with a scholarship in his name to support agriculture students at NMSU. A proud Aggie and College of ACES alumnus, Reitzel attended NMSU from 2009 to 2014 and earned a Bachelor of Science in Agriculture with a major in Agricultural Economics and Agricultural Business and a minor in Marketing.

The new scholarship will benefit graduates of St. Pius X High School, where Reitzel earned his high school diploma in 2009. Contributions to the Matthew Reitzel scholarship fund can be made to the NMSU Foundation, Inc. P.O. Box 3590, Las Cruces, N.M. 88003-3590.

Matthew Reitzel helps gather his uncles' cattle in a large pasture on the Carson National Forest north of Ojo Caliente in May.

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