

Reaching out

CES agents study ways to help under-served populations
Page 3

Responding to

Health Needs of New Mexicans
Page 4

Innovating in media

Experts develop unique educational materials
Page 7



SAM STEEL WAY

COLLEGE OF AGRICULTURAL, CONSUMER AND ENVIRONMENTAL SCIENCES » FALL 2017



Welcome, Aggies! New students were welcomed to the College of ACES for the Fall 2017 Semester at several events, including the ACES Night Out Aug. 15 and the Welcome Home, Aggies! Street Festival Sept. 5.



Aggies Go Global plans Costa Rica trip

» DARRELL J. PEHR

Since its inception in 2009, Aggies Go Global has supported the participation of over 600 students in international experiences in 60 countries. Participating students benefit from Aggies Go Global by gaining experience related to their field of study and career goals while increasing their cultural competency.

In addition to the general Aggies Go Global program, through the new Global Citizens Project Scholar program, Aggies Go Global will offer financial support to 10 undergraduate students who have never traveled abroad, to go to Costa Rica over the 2018 Spring Break.

Donor support is always welcome, as we continue our efforts to internationalize the campus and the community. To support Aggies Go Global visit <http://aggiesgoglobal.nmsu.edu/for-donors-.html> or contact Angelina Palumbo at apalumbo@nmsu.edu. Palumbo is the new director of the program.

Palumbo is a graduate of New Mexico State University completing her undergraduate in Foreign Languages and Latin American Studies, with minors in Linguistics and History.

She also completed her master's degree at NMSU in Education: Curriculum and Instruction. Palumbo has traveled to 38 countries and studied abroad in Guatemala, Brazil, Uruguay and Argentina and did research in Spain. Her passion for travel, learning languages and volunteering abroad has provided students with the inspiration, encouragement and support necessary to find their own opportunities abroad.

COURTESY PHOTO



FROM THE DEAN

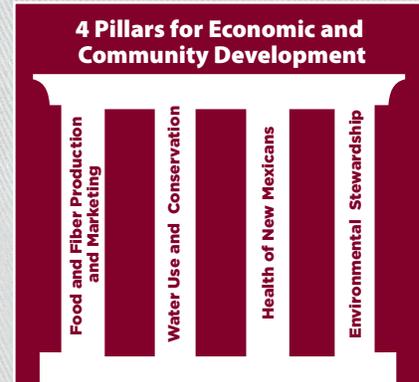
Making Progress: Our four pillars at work

» DEAN ROLANDO A. FLORES

Full Semester is underway in the College of Agricultural, Consumer & Environmental Sciences and we are delighted to report that our college admission is up by two percent. Our students are back and we welcome our freshman class.

Faculty and staff have been working at responding to the needs of New Mexicans via **academic** classes, relevant **research**, and our 33 county Extension offices. Our work in academics, research, and **Extension** is inspired by our College's mission of being an **economic engine for economic and community development in the state**, and guided by four pillars: **Food and Fiber Production and Marketing**, **Water Use and Conservation**, **Health of New Mexicans**, and **Environmental Stewardship**. In this newsletter, you will find articles that highlight the work of ACES in each one of these four areas.

The college would not be able to accomplish all it does without the help and contributions of generous volunteers and supporters, and that is another point for celebration. We are thankful for the many individuals that actively and generously support the college with their funds, and by sharing their time and expertise to serve in many capacities including 4-H



leaders, tutors, and advisers on boards for academic programs, research centers, and Extension offices. It has been very rewarding for me to meet with such supporting groups and know that we are not alone in leading the efforts related to modernizing the educational and agricultural facilities on the main campus under the 2018 and 2020 GO bond.

The panorama is positive. Yes, there are challenges, but the university is trying to get out of the intensive budget cut and adjust after a series of transformation plans. So, let's continue the hard work as we participate in the activities of the college and celebrate the numerous accomplishments.

Reaching out

CES agents study ways to help under-served populations

» JANE MOORMAN

SINCE THE BEGINNING OF the land-grant university Cooperative Extension Service in 1914, rural, urban and suburban citizens have received research-based information to improve their lives.

For example, Extension agents have helped farmers and ranchers achieve greater success, improved the health and wellness of families, and prepared youth to become future leaders.

New Mexico State University's College of Agricultural, Consumer and Environmental Sciences administers the state's Cooperative Extension Service in every county and continues to strive for excellence in serving its communities.

Society has changed since the early days of Extension to include a growing number of minorities and urban communities. Extension is adapting to reach these new and often underserved audiences. New Mexico, as a multicultural state, provides many opportunities for NMSU's CES to reach diverse audiences.

Three CES agents, Karim Martinez, Laura Bittner and Marcella Talamante, see the importance of providing Extension information to diverse audiences and have embarked on an educational path of self-improvement to better equip themselves to meet the needs of today's changing society. All three are now pursuing a Ph.D.

"My studies in the Educational Leadership and Administration Ph.D. program have definitely created greater awareness of the importance of reaching under-served populations, which is for whom Extension was originally established," said Bittner, program director of NMSU's Valencia County CES. "I am more mindful of challenges under-served populations may encounter accessing and participating in CES programming."

The College of Education Ph.D. students recognize the importance of social justice, equity and cultural competence in their profession.

"This program has given me a new perspective on things I'm already doing," said Talamante, program director for Rio



Arriba County CES. "Social justice means fairness to all members of your community. We have focused on equality when providing our programming, but now we need to think in terms of equity, to ensure that our programs are not only accessible, but that we communicate our offerings in ways necessary to reach everyone."

As the program director of Dona Ana County CES, Martinez works to deliver programs in culturally appropriate ways.

"Living in a border community and being bilingual has allowed me to bring Extension resources to audiences who may not have had access to this information in the past," Martinez said. "As Spanish-speaking populations increase nationally, some CES agents may find it challenging to reach this audience, especially if they have limited experience with Latino cultures, or are not bilingual."

Martinez is interviewing bilingual CES professionals nationally to learn from their experiences reaching Spanish-speaking audiences.

"I want to provide the Extension Service with strategies to improve outreach efforts to this audience, which can mean adapting programs in culturally appropriate ways," she said.

Bittner has learned that developing cultural competence is not just

understanding societal traditions, but also recognizing that each individual has personal and family traditions, or ways of knowing and doing things.

"People living in the same neighborhood, of same ethnicity, religion, age, or economic group have different ways of doing things," Bittner said. "When providing educational programs, we must be aware these differences exist so we remain inclusive and communicate clearly and effectively."

Bittner's dissertation will specifically look at how Extension agents perceive their own cultural competence, barriers for developing cultural competence, and methods Extension agents use to reach and serve culturally diverse audiences.

"Cultural competence within CES is a growing topic across the United States," Bittner said of the concept being addressed in the education, health and medical fields. "Nationally, CES is working to improve cultural competency of Extension agents. New Mexico CES is well positioned to serve as the model for reaching a growing, ethnically and culturally diverse population because New Mexico has such rich cultural diversity."

FROM LEFT: MARCELLA TALAMANTE, LAURA BITTNER AND KARIM MARTINEZ. PHOTO: JANE MOORMAN

Responding to Health Needs of New Mexicans

» SONJA KOUKEL, PH.D., EXTENSION HEALTH SPECIALIST

ACES DEAN ROLANDO A. Flores established Four Pillars for Economic and Community Development. One of the pillars designates “Health of New Mexicans” as a goal in enhancing the quality of life for the people of New Mexico. The Extension Family & Consumer Sciences faculty and program coordinators are providing community-based programs that might be considered “preventive medicine” – working from a position of wellness rather than sickness. In this article are two programs delivered statewide and a brief discussion on collaborations Extension is building with outside partners.

Health Extension is a national movement with the potential to change health practices in America and New Mexico as we now know it. What the Extension Service did for agriculture in the last century, it will do for health in the next (Extension Committee on Organization and Policy, 2012).

Manage Your Chronic Disease Self-Management Programs (MyCD) funded through the NM Department of Health now has a new name, “Paths to Health NM.” Cooperative Extension began offering the statewide programs in 2015 reaching over 700 New Mexicans. Now in year two of funding, the research-based and evidence-based programs include Diabetes Self-Management, Cancer: Thriving and Surviving, and Chronic Pain Self-Management. The programs are available in English and Spanish. All programs are designed to help adults gain the confidence and skills they need to better

manage or prevent chronic health conditions or injuries. Extension now has three certified Master Level leaders who are offering Extension county agents, public health workers, health-based organizations and the general public. The goal is to expand and ensure the long term success of the programs.

Kitchen Creations is an interactive cooking school for people with diabetes and their families. The program goal is to build self-efficacy through social support of others living with diabetes. Available in 23 New Mexico counties, more than 56 cooking schools have reached over 1,000 participants. The schools are tailored for different audiences including Native Americans and Spanish speakers.

NMSU Extension and University of New Mexico Institute for Community Health Sciences signed a Memorandum of Agreement (2013) to collaborate in leveraging resources to broaden capacity and expand reach to more New Mexicans as it relates to health and health issues. Some of the results of this partnership include:

- Extension professionals developed a monthly health talk series to support members of a senior citizens center. Beginning with a focus on nutrition, the topics have expanded to the importance of vaccinations, and the symptoms and causes of a stroke.



Karim Martinez, program director for the Doña Ana County Cooperative Extension Service, teaches a Kitchens Creations class.

- Bernalillo County Extension agents worked with the UNM Health Extension Regional Officer to deliver health education programs for a neighborhood primary care clinic. The clinic has a disproportionate percentage of patients who are indigent and are at-risk for chronic disease.
- County Extension agents held nearly 50 events disseminating NM Health Insurance Exchange health insurance marketplace information to more than 6,000 people (2014). For more information on Health Extension <http://www.annfammed.org/content/15/5/475.full.pdf+html> (Links to an external site.) Extension Specialists and faculty are collaborating with the Burrell College of Osteopathic Medicine to develop a series of modules. The first, A Guide to Over-the-Counter Medications, was recently presented in Curry County.

Message from Your Ambassador



My name is Paloma Arras, I am the youngest of three daughters raised in Chihuahua, Mexico, but born in Deming, New Mexico. Growing up I was a happy child, thanks to my parents who have done everything in their power to give us a good life. To my dad who taught me to work for what I want in life and my mom who scolded us, told us to respect ourselves and stay humble. When I was in high school I had no idea what I wanted to major in. I knew I wanted to go into the College of Agricultural, Consumer and Environmental Sciences at the end of my senior year when one day I was introduced to the school of Hotel, Restaurant and Tourism Management. I completely feel passionate about this major and the college because there are many great opportunities, and it opens many doors for students. I want to complete my bachelor's degree, head out in the work force and later in the years come back and earn my Ph.D. My career goals are to first start off working at a cruise and from there manage a resort. However, my biggest dream is to own my own winery in Mexico or wherever God makes it possible.

» PALOMA ARRAS

Staff Spotlight: Olga Perez and Pam Miller

» SAVANNAH MONTERO

When visiting the dean's office in the College of Agricultural, Consumer and Environmental Sciences, you will have a chance to be assisted by many people. Two longtime staff members are Olga Perez and Pamela Miller, both are administrative assistants in the Dean's Office. Here's a little more about these familiar faces.

Olga Perez

Q: When did you start to work for the college of ACES? What made you make that decision? I started here in September 1984. My intentions were to work part-time and go to school. I ended up applying for a full-time position in the College of ACES and have been here since.

Q: What are the main duties of your job? To welcome and direct people when they come to the Dean's Office. To serve as lead person for building-related issues; coordinate and help organize college-wide events; monitor and reconcile accounts; collect and track data of ACES trilogy locks; maintain conference room calendars; process various vouchers daily; reconcile and approve procurement cards; and other duties as assigned.

Q: What do you like the most about your job? My interactions with faculty, staff, students and the public.

Q: What hobbies or other activities do you enjoy when not at work? Spending time with family and close friends and taking long, relaxing rides on our motorcycle.

Q: What is an interesting fact about yourself? I'm a Harley Davidson enthusiast.

Q: What has been your biggest achievement at the College of ACES? That I have worked in the College of ACES for 33 years.

Pamila Miller

Q: When did you start working at the College of ACES? What made you decide to work there? I started working for ACES in August 2006. After I raised my son and helped care for my mother until she passed away, I decided it was time to go back to work. I got hired at NMSU as a temporary employee in the College of ACES and in January 2007, Elizabeth Crabb hired me to work in the Dean's Office. It has been a rewarding, and at times challenging, experience. I have worked with the current dean for over a year, two past deans, Elizabeth who recently retired this September, Olga, and now with Claudia.



Q: What are the main duties of your job? The main duties are to support the Operations Officer and provide administrative support to the Dean.

Q: What do you like best about your job? To me, ACES is family-oriented. Whether it's dealing with students, staff or faculty, the college always strives to have a personal approach. This makes my job easier.

Q: What hobbies or other activities do you enjoy when not at work? I love to read on my Kindle. I enjoy spending time with my family and waiting to become a grandmother for the first time.

Q: What is an interesting fact about yourself? That I'm of Japanese descent.

FROM LEFT: OLGA PEREZ AND PAMILA MILLER. PHOTO: SAVANNAH MONTERO.

Dean Flores establishes satellite office at Alcalde

» JANE MOORMAN

THE SUSTAINABLE AGRICULTURE SCIENCE Center at Alcalde has an additional role – satellite office for College of ACES Dean Rolando A. Flores.

In August, Flores established an office in the 94-year-old hacienda-style office building that highlights the 60-acre research farm.

“The culture of northern New Mexico is very interesting,” Flores said. “The legacy of farming extends 400 years for the descendants of the Spanish settlers and many more centuries for the Native Americans.”

During a week and a half long tour of Northern New Mexico, Flores met with farmers, ranchers and Native American tribal leaders to learn about the agricultural challenges, and to hear

what they think the college can do to help them.

“It was extremely valuable to see that we need to have a strong presence in the region,” Flores said. “We need to make sure the New Mexicans in that part of the state know that we are listening, and we want to work with them to assist them to solve their agricultural problems.”

Flores plans to maintain the satellite office at the Alcalde research farm.

“The office will be available for associate deans when they are in the area as well as myself during the legislative session,” he said. “It is important that the College of ACES leadership reaffirms our commitment to serving all New Mexicans.” There are plans to establish a satellite office in the eastern part of the state. The location will be defined in 2018.

A great opportunity

Recent graduate appreciates personal development while at NMSU

» XIMENA TAPIA

FOLLOWING IN HIS father's footsteps, Francisco X. Perez decided to come to New Mexico State University to get his degree in Animal Science. His father graduated from NMSU in 1982, so Perez decided to do the same, and graduated in December 2015.

But following in his father's footsteps was not the only thing that brought Perez to NMSU. He said he also chose this school because it is a top-ranked agricultural university, and it is close to his home in Chihuahua, Mexico.

During his time at NMSU, Perez had the opportunity to study abroad in South Africa, where he attended Stellenbosch University.

"Studying abroad is something that I recommend everyone should do while in college. It is a great opportunity for personal development because there is nothing like

being in a foreign nation all by yourself," Perez said.

"All in all, getting to know the professors and staff, making good friends and connecting with new people is what I value the most from my time at NMSU," he said. "I learned to be a problem solver, and the hands-on experience I got from day one gave me the opportunity to apply everything I learned in the classroom."

Perez is now back in Chihuahua, Mexico, working in his family's meat processing plant and starting a business selling and distributing agricultural products, such as fertilizers and organic soil enhancers. Additionally, he is working toward a music career at the Conservatory of Music in Chihuahua. Perez also has told Dean Rolando Flores he would be willing to help alumni in Mexico get together and reconnect with the college.



Saving water

Researchers help address water scarcity issues

» MARKETING AND COMMUNICATIONS

WATER IS SCARCE in Southeastern New Mexico, and as demand increases for freshwater, there is a need for alternative water sources.

Faculty and staff from New Mexico State University and the New Mexico Water Resources Research Institute joined researchers from around the state last year for a feasibility study on the reuse of produced water.

One of the most relevant findings from the study is that the most feasible use of "produced" water generated from the oil and gas industry is for that industry to reuse its own produced water, instead of using freshwater, which reduces costs.

Robert Sabie Jr., geographic information systems analyst for NM WRRI, said this cost-effective solution would allow

freshwater to be reserved for drinking water.

Kenneth "KC" Carroll, associate professor of water resource management in the NMSU Department of Plant and Environmental Sciences, said the oil and gas industry in West Texas and Southeastern New Mexico produces large amounts of water. With water shortages in that area, it's important that researchers identify alternatives to purchasing fresh water from farmers and to reinjecting produced water into the subsurface as a wastewater.

WRRI Director Sam Fernald was principal investigator. NMSU collaborators included Carroll, as well as Pei Xu, associate professor of environmental engineering in the NMSU Department of Civil Engineering.

Carroll studied how hydrogeologic or geologic formation variability – how deep and which rocks the water comes from – will affect the produced water

quality. He also researched the spatial variability of the produced water quality and the chemical composition of water in the Permian Basin formations that is being pumped to the surface.

"In addition to salinity variations, we found quite a bit of variability in the type of salts dissolved in the waters," he said. "We also discovered that a significant amount of water migrated deep into the Basin from the land surface, which enhances our understanding of the water flow behavior in deep subsurface basins like the Permian."

The study included researchers from Los Alamos National Laboratory, New Mexico Institute of Mining and Technology and New Mexico Energy, Minerals, and Natural Resources Department. Funding was provided by the Environmental Protection Agency through the New Mexico Environment Department.

Innovating in media

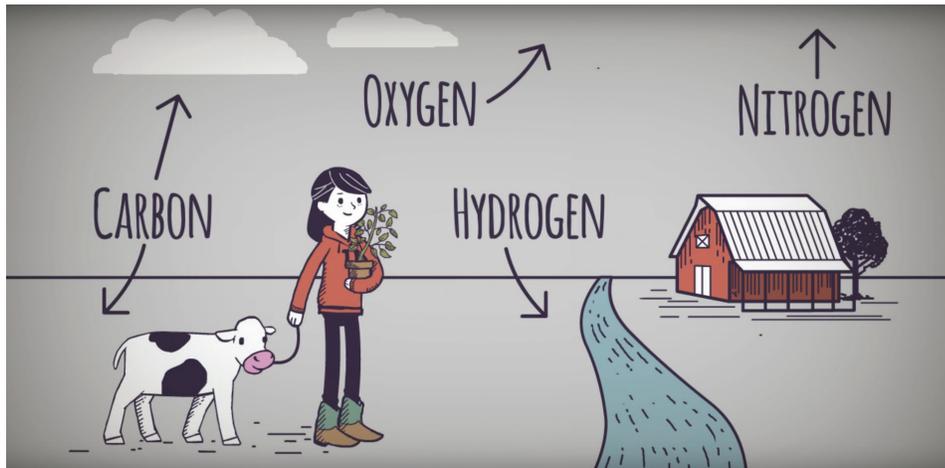
Experts develop unique educational materials

» AMY SMITH MUISE

WHEN IT COMES TO educational video games, apps and online resources, two ACES alumni have paved the way for families, communities and students to access trustworthy, research-based learning tools. As of 2017, their games, videos, apps and web modules collectively have been used more than 7 million times.

Jeanne Gleason and Barbara Chamberlin are faculty in ACES's Media Productions and Learning Games Lab, involved primarily in multimedia research and Extension. Both have roots in New Mexico agriculture and were New Mexico 4-Hers. Before earning their doctorates (Gleason, Virginia Tech, 1991; Chamberlin, University of Virginia, 2003) they each earned degrees from ACES: Gleason in Family and Consumer Science (BS, 1974; MS, 1977), Chamberlin in Agricultural and Extension Education (MS, 1996).

For 25 years, their Media Productions team has developed educational interactive modules, animations and games to teach a variety of agricultural and science content, primarily focused around Extension outreach programs. The learning tools reflect cutting edge science and instructional approaches for formal and informal learning and are rooted in university-based research.



Scene from "Everything Is Chemical," an educational video exploring the importance of chemicals and chemical bonds to plant and animal growth. It was produced by NMSU-ACES Media Productions in collaboration with April Ulery, Professor of Plant and Environmental Sciences, and Laura White, Assistant Professor of Animal and Range Sciences.

After graduating from NMSU, Gleason worked for Extension in journalism and video. As technologies changed, so did her tools: in 1991, she created the "Walk in Beauty" touch-screen kiosks for use on the Navajo Nation. Chamberlin joined the team in 1993, and they established collaborations to create computer games, websites and interactive tools.

In 2009, this ACES team was the nation's first within the land-grant university system to release an educational

mobile app for the iPhone. They quickly harnessed mobile technologies to transfer vital information to consumers, farmers and ranchers, and students.

Their online portal ScienceofAgriculture.org makes important math and science concepts in animal, plant, soil and environmental sciences understandable to college students. Their 4-H Livestock Record, Eat&Move-O-Matic, Night of the Living Debt and Math Snacks apps are popular with teens.

Added Progress

Agricultural Modernization and Educational Facilities

» STEVE LORING AND CLAUDIA TRUEBLOOD

The College of ACES is a leader among agricultural colleges for its expertise and success in research, teaching, and Extension. We are relevant to the state's economic and community development because agriculture and agricultural products represent a significant portion of the state income as well as an area with tremendous growth potential.

We train students to be leaders in food production, environmental stewardship, family health, economic development and related fields. Our scientists discover solutions for agricultural and natural resource management needs throughout the state. Our Extension educators deliver knowledge and skills to improve the lives of all New Mexicans.

Among the tools we use to train students, hold Extension activities and conduct research are our campus livestock and animal facilities. In addition to production agriculture, they are helpful in the area of biomedical research, for which NMSU is well-known nationally and internationally.

All the excellent work being done is limited, and at times hindered, by our facilities because they are outdated, lacking and sometimes not as safe as they should be.

To enhance capability for existing programs and enable innovative efforts, the college has outlined several projects related to the modernization of agricultural and educational facilities. The addition of new, updated facilities will allow for expansion of the college's research and teaching enterprises, as well as more service to the community.

The college, with the support of NMSU and the NM Commission on Higher Education, is proposing a 2018 General Obligation Bond, Phase I, that will include a biomedical research building, a food science learning and safety facility and a feed milling and processing facility. Phase II will be proposed for 2020. If you are interested in being involved in this effort, we encourage you to contact Shanna Ivey at sivey@nmsu.edu or 575-646-2515, or Cindy Nicholson at cindynic@nmsu.edu or 575-646-4665.

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Faculty Spotlight: Amy Ganguli

» DARRELL J. PEHR

Amy Ganguli is an associate professor in the college's Department of Animal and Range Sciences.

Q: How did you become interested in Range Science? As someone who grew up in New England, range was not in my vocabulary until I moved to Texas at the age of 22. My interest in wildlife habitat management quickly shifted to range science after falling in love with rangelands and the numerous ecosystem services they provide. The ultimate "hook" for me was an introduction to prescribed fire and the role fire has in maintaining many rangeland ecosystems.

Q: What has been your proudest professional achievement? In 2016, I was honored by the Range Science Education Council with an Early Career Teaching Award. The award itself is not my proudest achievement, rather it was the fact that I was nominated for this award by my former students and current colleagues.

Q: What is the most rewarding aspect of your profession? Working with land managers to solve problems and develop strategies that promote sustainable use.

Q: Please tell us a little about your interest in restoration of native ecosystems. Many rangeland ecosystems have experienced degradation due to unsustainable use, invasive species, extreme wildfires, or drought and no longer provide the ecosystem services they once did. On private and public lands, there is great interest in maintaining and improving these ecosystem services, so my work centers on helping land managers meet their objectives. In New Mexico, I am working on restoration projects that are aimed at improving wildlife habitat, improving plant species diversity and productivity, reducing erosion, and reducing the negative impacts caused by invasive plant species.

