

NMSU RESEARCH NEWS

Newsletter of the Office of the VP for Research, Graduate Studies, and International Programs

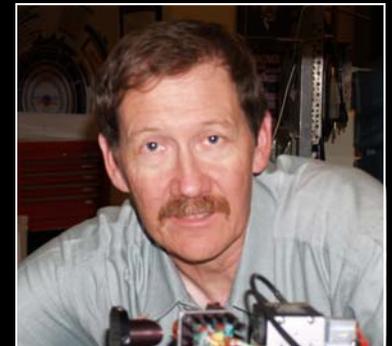
Winners of the 2010 University Research Council Awards



Dr. Dennis Hallford
Professor, College of Agricultural,
Consumer and Environmental Sciences



Dr. Collin Payne
Assistant Professor, College of Business



Dr. David Voelz, Associate
Professor, College of Engineering



Dr. Debra Peter's ARRA-Funded Research on
Grass-Shrub Responses to Climate Change
in the Chihuahuan Desert

Terrorizing Women: Femicide in the Americas

NMSU faculty's new
book sheds light on
gender violence issues
at the U.S.-Mexico
border and Latin America



To submit research-related news please visit <http://research.nmsu.edu/news> or send email to hamid@nmsu.edu.

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Live, Learn, and Thrive™

Winners of the 2010 University Research Council Awards

By Hamid M. Rad, OSI

Three NMSU faculty members have been presented with University Research Council awards in recognition of their exceptional research and scholarly efforts at NMSU. Applications for these awards were submitted in March and the awardees were selected based upon the following criteria:

- (1) Research achievements as evidenced by the significance of the research in advancing knowledge in the field of study; publications in peer reviewed, refereed journals; peer citations of published works; success in attracting outside funding as principal investigator; nature of outside funding (i.e. prestige and level of national competition for the awards); scholarly books; chapters in scholarly books; monographs;
- (2) Outstanding creative achievements such as performances, books, exhibits, textbooks, electronic media or other achievements that obtained significant recognition from colleagues in and outside NMSU;
- (3) Outstanding technical achievements evidenced by external awards for creative scholarly activities, patents, invited talks/performances, conference presentations, and consulting activity.

Distinguished Career Awards

Dr. Dennis Hallford

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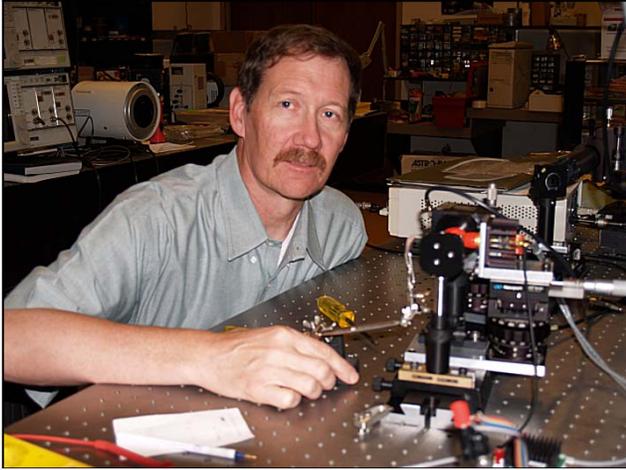
Dr. Dennis Hallford received his undergraduate and graduate training at Tarleton State University and Oklahoma State University, respectively. He has been a faculty member in the Department of Animal and Range Sciences at NMSU since 1975 with teaching and research responsibilities in the areas of animal physiology and reproductive endocrinology. In 2004, Dr. Hallford earned the rank of Regents Professor, the most prestigious faculty ranking at NMSU. He has received all major teaching awards given by NMSU, including the prestigious Robert L. Westhafer Award for Excellence in Teaching, and the College of Agricultural, Consumer and Environmental Sciences Distinguished Teaching Award. In 1991, he received the Western Section, Distinguished Teacher Award and Distinguished Service Award in 2002. Dr. Hallford served as President of the Western Section, two terms on the American Society of Animal Science (ASAS) Board of Directors, and as a Division Editor for the Journal of Animal Science. In 2005, New Mexico Wool Growers honored Dr. Hallford with their Amigo Award, which recognizes friends of the New Mexico sheep industry. Also in 2005, he was recognized by Oklahoma State University as the Animal Science Graduate of Distinction. Dr. Hallford's research centers around examining mechanisms controlling puberty and onset of anestrus in seasonal breeding farm animals. His research productivity includes being author or coauthor on 161 refereed journal articles, 165 proceedings papers, and 243 abstracts. Dr. Hallford has served as mentor to 57 masters and doctoral students at NMSU.



Photo by Hamid M. Rad, OSI

Back from left, Stacey Fields, graduate student, Chelsea Felker, graduate student, Dr. Dennis Hallford, Professor of Animal and Range Sciences. Front: Gwen Powers, graduate student, and recent graduate Andrea Stapp.

Photo by Yesenia Luna, OSI



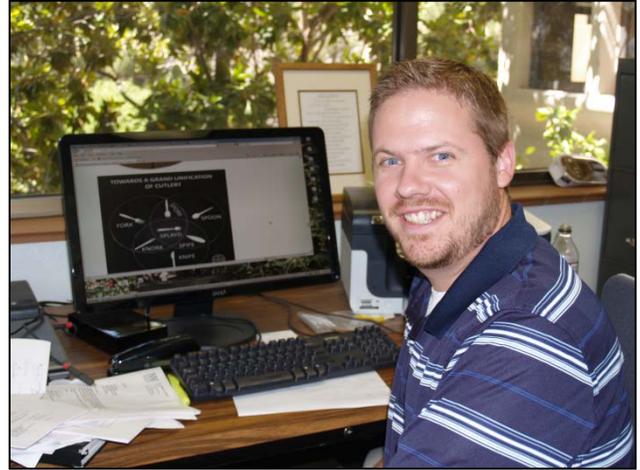
Dr. David Voelz, Associate Professor, Klipsch School of Electrical and Computer Engineering, College of Engineering

Dr. David Voelz

Associate Professor, Klipsch School of Electrical & Computer Engineering, College of Engineering
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David G. Voelz grew up in Idaho and northern New Mexico and attended NMSU, receiving his B.S. degree in electrical engineering in 1981. He received his M.S. and Ph.D. degrees in electrical engineering from the University of Illinois in 1983 and 1987, respectively. From 1986 to 2001, he was with the Air Force Research Laboratory (AFRL) in Albuquerque, NM where he worked in the areas of optical imaging, laser imaging, and laser beam projection. He joined the faculty of the Klipsch School of Electrical and Computer Engineering in August 2001. The specialized courses he teaches include optical sources and detectors, lasers, Fourier methods in electro-optics, and electro-optical system design. He is currently conducting research in the areas of free-space laser communications, spectral and polarization imaging, adaptive optics, and laser beam control. He is a fellow of the Society of Photo-optical Instrumentation Engineers (SPIE), and has received awards from the AFRL, the Air Force, the Optical Society of America (OSA), and the College of Engineering at NMSU for his technical contributions.

Photo by Yesenia Luna, OSI



Dr. Collin Payne, Assistant Professor of Marketing, College of Business

Early Career Award

Dr. Collin Payne

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Dr. Payne is an Assistant Professor in the Department of Marketing. He earned his Ph.D. in Applied Social Psychology, with a minor in Business Management from Brigham Young University, in 2005. As a Post-Doctoral Research Associate at Cornell University from 2005-2008, he conceptualized, conducted, and published consumer behavior research. Dr. Payne joined NMSU in 2008. He currently studies how consumers' interaction with marketing environments can both help and hurt their health. Dr. Payne currently serves on the University Research Council representing the College of Business. He is the Chair of Fundraising Committee of the American Public Health Association, Food and Nutrition Section, as well as a member of the American Association of Family and Consumer Sciences, and the American Marketing Association. He has published 17 articles in refereed journals and has contributed a chapter in the book "Consumer-driven Innovation in Food and Personal Care Products (2010)." "I feel blessed to be part of the NMSU environment," says Dr. Payne. "I enjoy working with supportive departmental, college, and university colleagues who all recognize the importance of research." Dr. Payne takes pleasure in living in Las Cruces with his wife Amber Elizabeth and their three children Sage, Aedan, and Eli.

NMSU Faculty's ARRA-Funded Research on Grass-Shrub Responses to Climate Change in the Chihuahuan Desert

by Hamid M. Rad, OSI

NMSU was recently awarded a \$297,000 'Stimulus' funding from the National Science Foundation to study the precipitation controls of carbon and nitrogen cycles in arid and semi-arid ecosystems. This project is a collaborative effort between NMSU and Brown University. The research at NMSU is led by Dr. Debra Peters, Adjunct Professor at the Department of Biology and Lead Research Scientist with the USDA Jornada Experimental Range. She is also the lead principal investigator for the Jornada Basin Long Term Ecological Research Project (LTER), also funded by the National Science Foundation.

Can you tell us about your background?

I am an ecologist. I joined NMSU in 1998 as an Adjunct Professor in the Department of Biology. My research interests are in understanding and predicting the dynamics of arid and semiarid landscapes.

Can you tell us about Jornada research?

The USDA's Jornada Experimental Range was established in 1912 to develop technologies for sustainable management of natural resources in arid rangelands. The Jornada Basin LTER has been funded since 1982 to conduct long-term ecological research in these same ecosystems. Scientists from all over the world take advantage of our facilities.

Can you please provide us with some background about this project?

Grasslands throughout the Southwest, and globally in arid regions, have converted from perennial grasslands to shrublands over the past several centuries. This "desertification" results in systems that are lower in forage production and biodiversity, with increased losses of soil and nutrients from wind and water erosion. Currently small, remnant areas of grasslands exist in many places. For example, < 10% of the Jornada LTER site is grass-dominated, yet >90% of the area was grassland in the 1850s. Climate change may result either in the continued loss of grasslands or possibly an increase in grasses through time depending on if rainfall is lower or higher in the future. In this experiment, we are asking what will happen to sites that are codominated by grasses and shrubs if rainfall increases or decreases in the future. These responses can be used to guide management decisions under alternative climate scenarios.

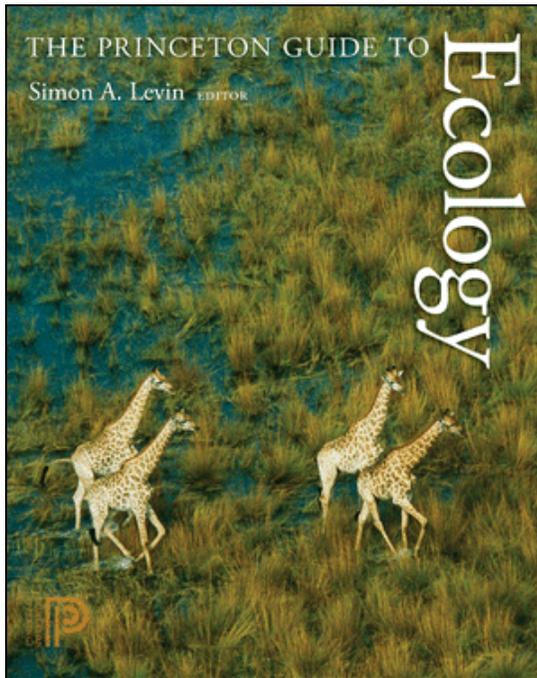


Photo courtesy of Debra Peters

Dr. Debra Peters, Adjunct Professor of Biology (NMSU) and Lead Research Scientist with the USDA Jornada Experimental Range

What is the impact of this project on New Mexico?

Results from this project will contribute to understanding the effect of climate variability on carbon sequestration, primary production, and the process of shrub encroachment, which are very important for stakeholders of the American Southwest. We will establish a demonstration project in partnership with the Asombro Institute for Science Education, a nonprofit organization that provides award-winning science education to more than 12,000 children and 4,500 adults annually in southern New Mexico and western Texas. Researchers at the Jornada LTER site also have a strong relationship with public and private land managers throughout the southwest as part of the USDA Agricultural Research Service mission.



Courtesy photo

*The Princeton Guide to Ecology contains contemporary ecological research studies and issues related to the different disciplines of the ecological sciences, including Dr. Debra Peters' contribution to the book entitled **Boundary Dynamics in Landscapes**.*

What is your role in this project?

I'll be conducting simulation model analyses of the relative importance of different precipitation regimes on grass-shrub interactions in the Chihuahuan Desert. The model, Ecotone, simulates the effects of precipitation on the dynamics of grasses and shrubs. The model is being used to examine a broader range of precipitation scenarios than is possible in the field experiments.

Who else is involved in this project?

Haitao Huang of NMSU is helping me on this project. He is a computer programmer who assists in simulation modeling. Dr. Osvaldo Sala is the project lead at Brown University.

How can NMSU faculty take advantage of the Jornada Experimental Range facilities?

I would encourage NMSU faculty and students interested in the dynamics of arid systems to contact me about conducting research at the site. Research opportunities are available for multiple levels of organization, from individuals to ecosystems, and for a diversity of grasslands and shrublands. Dr. Peters earned her Ph.D. in Range Science in 1988 from Colorado State University. She also has a Master's degree in Biology from San Diego State University and a Bachelorate degree in Biology from Iowa State University. She is the director of the EcoTrends Project (www.ecotrends.info)

which is making long-term data from about 50 sites accessible to a broad audience from a user-friendly web interface. In 2006, Dr. Peters was recognized as the USDA Southern Plains Senior Research Scientist of the Year. In 2009, she contributed to The Princeton Guide to Ecology with an article entitled, "Boundary Dynamics in Landscapes."

For additional information please contact Dr. Peters at deb-peter@nmsu.edu.

Jornada research websites are available at: <http://jornada-www.nmsu.edu> and <http://usda-ars.nmsu.edu>.



Photo courtesy of Debra Peters

A view of the Jornada Basin USDA-LTER site

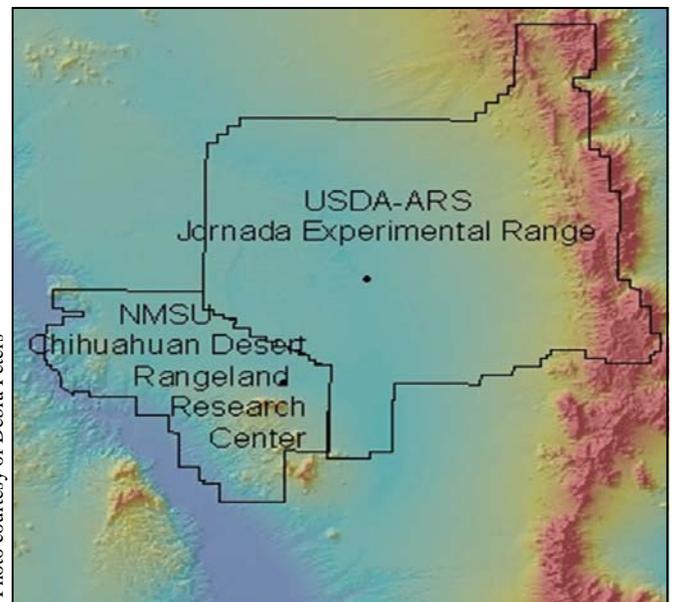


Photo courtesy of Debra Peters

Map of the Jornada Experimental Range and NMSU's Chihuahuan Desert Rangeland Research Center

Energy Technologies – From Atoms to Applications



Dr. Boris Kiefer, Associate Professor, Department of Physics
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Dr. Igor Sevostianov, Associate Professor, Department of Mechanical and Aerospace Engineering
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It is expected that one of the most significant challenges of the 21st century will be the production of energy due to decreasing availability of natural resources: oil and gas supplies may be exhausted by mid century. Furthermore, the future fuel mix (fossil fuels plus alternative energy sources) is constrained by the pledge of many countries to reduce their carbon emissions. The economical analysis of this constraint suggests that hydrogen fuel will become a significant share of the future fuel mix. While the depletion of gas and oil may be 40-60 years in the future, the historical record of fuel evolution shows that technological readiness is achieved on the same time scale. Thus, it is important and pertinent to develop new energy technologies now so as to be ready for their deployment at a future time when they are needed.

Scientists from universities across New Mexico (UNM, NMSU, NMT, and ENMU) joined in a DOE-EPSCoR funded “Center for Emerging Energy Technologies (CEET)” whose mission is to investigate and develop solutions to the energy problems of tomorrow. The team identifies new catalysts needed for the conversion of chemical energy into electrical energy within fuel cells. NMT and UNM focus

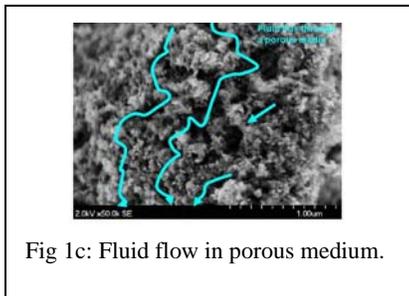
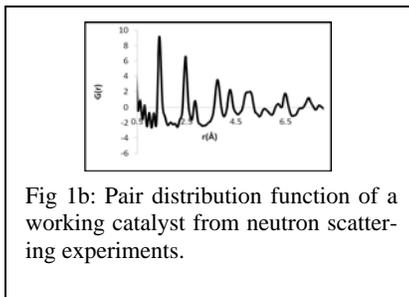
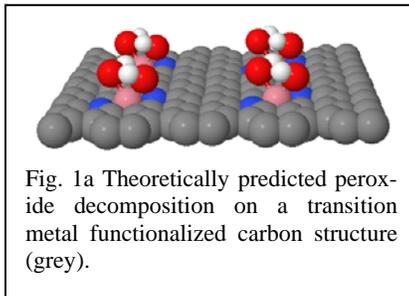
largely on performance evaluation of candidate materials and material combinations. While performance is crucial

for industrial acceptance, it is equally important to derive the fundamental knowledge that allows rational and systematic development of more cost-efficient high-performance fuel cell technologies. NMSU faculty from Physics (Dr. Nakotte; Dr. Kiefer) and Mechanical Engineering (Dr. Sevostianov) contribute crucial information to this effort by addressing the question: How is materials design at the atomic and nanoscale related to performance in macroscopic applications? Using *state-of-the-art* theory (Dr. B. Kiefer) and neutron diffraction (Dr. Nakotte), Drs.

Kiefer and Nakotte address the geometry and chemical make-up of the catalytically active site(s) (Fig. 1a, b). A crucial remaining question is the accessibility of these active sites. Microstructural aspects that relate to this problem such as porosity and permeability (Fig. 1c) are addressed by Dr. Sevostianov. These contributions by NMSU faculty to CEET are likely to affect the future design and the selection of chemical components for catalysts and catalyst support materials in fuel cell applications.

The synergy of expertise in Chemical and Mechanical Engineering and Physics provide a new and more comprehensive effort for developing fuel cell solutions for the future. Simultaneously, this effort will enable our students to compete more successfully in a workforce that will see an increased demand for interdisciplinary research and development capabilities.

We gratefully acknowledge the support for the computations by the New Mexico Computing Applications Center (BK) and for the neutron experiments by Los Alamos National Lab/Los Alamos Neutron Science Center (HN).



Multidisciplinary Project Aims to Develop Low-cost Malaria Diagnostic Tool using Extraordinary Optical Transmission through Nanoholes



*Dr. Sang-Yeon Cho,
Assistant Professor,
Electrical and Computer
Engineering*

Dr. Sang-Yeon Cho (Electrical and Computer Engineering) and Dr. Immo Hansen (Biology) have been awarded a \$100,000 funding by the Gates Foundation to develop a new tool to detect specific malaria pathogens. Mosquito-transmitted diseases have a significant impact on human health worldwide.

“Malaria, Dengue fever, Yellow fever, West Nile virus, and Japanese encephalitis affect large parts of the world’s population; malaria alone infects 300–500

million and kills about one million people (mostly young children) worldwide each year,” says Dr. Cho. “In addition, the direct and indirect economical costs caused by malaria in countries with heavy disease burden are enormous and severely reduce economic productivity and growth in tropical Africa.”

This new diagnostic tool utilizes highly localized electromagnetic waves to measure the presence of malaria parasites in human blood without a microscopic examination. It uses microscopic holes (“nanoholes”) on gold film to focus light on antibody-antigen reactions. Unlike conventional malaria diagnostic tools such as Enzyme-Linked Immunosorbent Assay (ELISA), this innovative device offers a number of unique advantages, including label-free, reliable, and sensitive detection, high specificity, ease of use, low-cost, and rapid analysis. “This device will provide low-cost malaria diagnosis for the people in developing countries,” says Dr. Cho.

As the principal investigator (PI) of this project Dr. Cho is responsible for designing, making, and testing the sensor (nanoholes in a gold film). He will utilize the nanofabrication facilities at the Sandia National Laboratory to fabricate the sensor. Dr. Hansen, the co-PI of this project, is responsible for preparing biomaterials (antibodies and antigens) to test the sensor.

To secure this funding, Dr. Cho and Dr. Hansen submitted a proposal in response to Gate Foundation’s Grand Challenges Explorations (Round 4). Their proposal was one of 78 selected out of 2,700 proposals submitted. This project began in May and will end in April, 2011.

To obtain more information about this project contact, Dr. Cho at sangycho@nmsu.edu or Dr. Hansen at immoh@nmsu.edu.

Research at NMSU Helps Understand Disease-Transmitting Mosquito Biology

Dr. Immo Hansen has recently been awarded a \$460,000 funding over three years by the National Institutes of Health to research a family of amino acid transporter proteins in the yellow fever mosquito, *Aedes aegypti*. The idea is to identify rational targets for the development of insecticides that can be used to control disease-transmitting mosquitoes in developing countries. “All insecticides used for mosquito vector control today are based on only a handful of different modes of action,” says Dr. Hansen. “Our study will lay the foundation for the development of insecticides that use a novel target: cationic amino acid transporters.” Collaborators on this project include Drs. Brook Milligan and Peter Houde from the NMSU Biology Department’s Roadrunner Genomics Facility, Dr. Dmitri Boudko from the Department of Physiology and Biophysics of Rosalind Franklin University in Chicago, and Dr. George Dimopoulos from Johns Hopkins, Bloomberg School of Public Health, who will participate in this effort as academic advisor.



*Dr. Immo Hansen,
Assistant Professor,
Department of Biology*

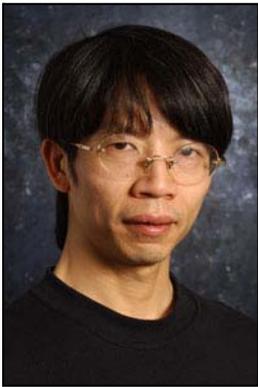
Mosquitoes take human blood to gain nutrients in order to make eggs. A large part of these nutrients comes in the form of human blood proteins that are digested to amino acids in the mosquito midgut, similar to the process that happens in our stomach and small intestine. The free amino acids then have to cross the cells of the midgut into the blood of the mosquito and are then taken up by an organ called the fat body. This organ has the same function as our liver and fat tissue combined; it is a key player in the insect’s metabolism and is also the mosquito’s primary nutrient and energy storage space. In order to move from the interior of the midgut into the fat body cells, the amino acids have to cross several cell membranes. Since they are too big and lipophobic for simple diffusion they use transporter proteins that are present in the cell membranes. In this project, Dr. Hansen’s team is going to research the fat body transportome (the sum of all transporter proteins in the fat body), and characterize the SLC-7 family of cationic amino acid transporters of the yellow fever mosquito, in detail.

Dr. Hansen can be reached at immoh@nmsu.edu.



Aedes aegypti, common ankle-biting pest in Las Cruces during the monsoon season. A vector for Dengue and Yellow fever, it tends to bite at dusk and dawn.

Enhancing Defense Applications using Sensor Networks



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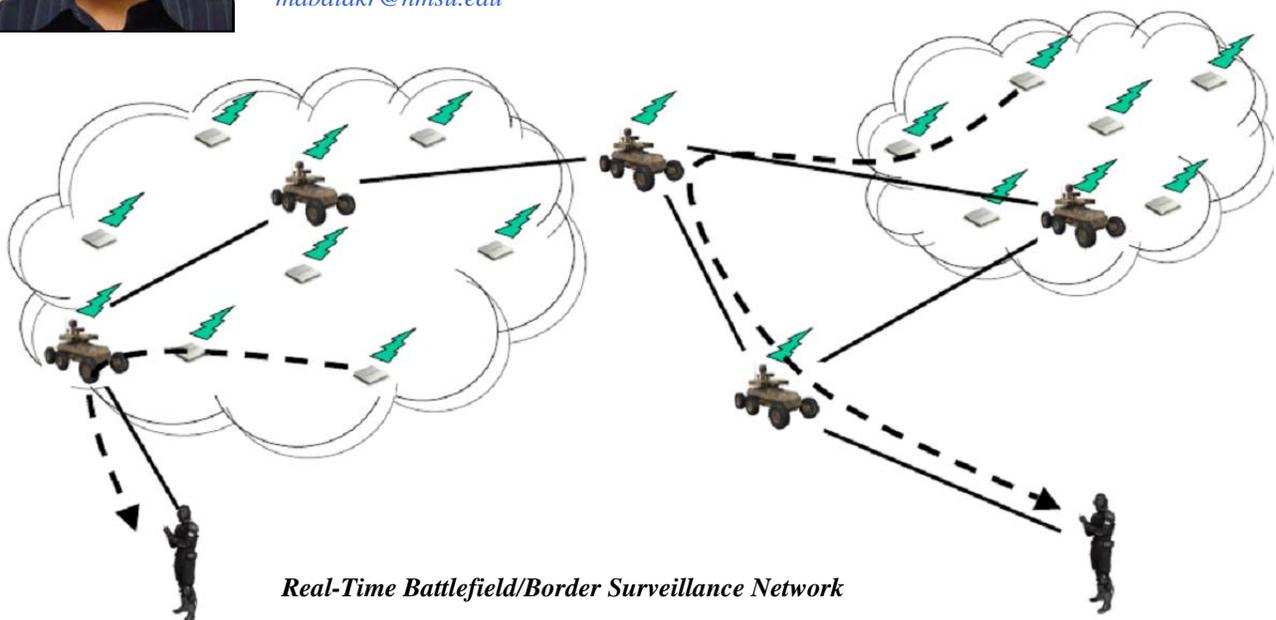


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Wireless sensor networks, comprising tiny embedded sensors with computing and wireless capabilities, are enhancing our understanding and control of the physical environment. The rapid developments in sensor network technology enable tremendous usage in homeland security and defense applications. Autonomous, self-configuring sensors are used extensively in unmanned battlefield and perimeter (protected borders) surveillance.

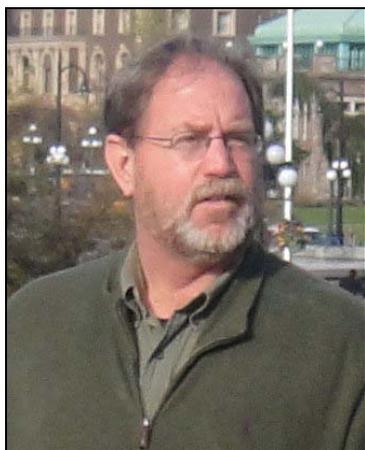
Three NMSU researchers, Drs. Hong Huang (PI) and Manikanden Balakrishnan (Klipsch School of Electrical and Computer Engineering), and Dr. Satyajayant Misra (Computer Science) are addressing several operational constraints in wireless sensor networks, including energy and reliability. Through the border-surveillance project funded by the Department of Homeland Security, the team is investigating sensor networks with renewable (solar) energy resources and is exploring hardware/protocol optimizations for making them operate perpetually. “Removing the energy constraint in unmanned sensor networks will open up whole new features in terms of continual monitoring, computing, and reporting,” says Dr. Balakrishnan. This project ends in 2014.

Within a separate project funded by the Army High Performance Computing Research Center (AHPCRC), the team is investigating communication reliability in military sensor networks, specifically data security, quality-of-service and impact of intentional smart radio jamming, for delivering time bound information in harsh environments.



Real-Time Battlefield/Border Surveillance Network

Doña Ana Community College Assistant Professor's Study Aims to Help Increase the Number of Biology Majors



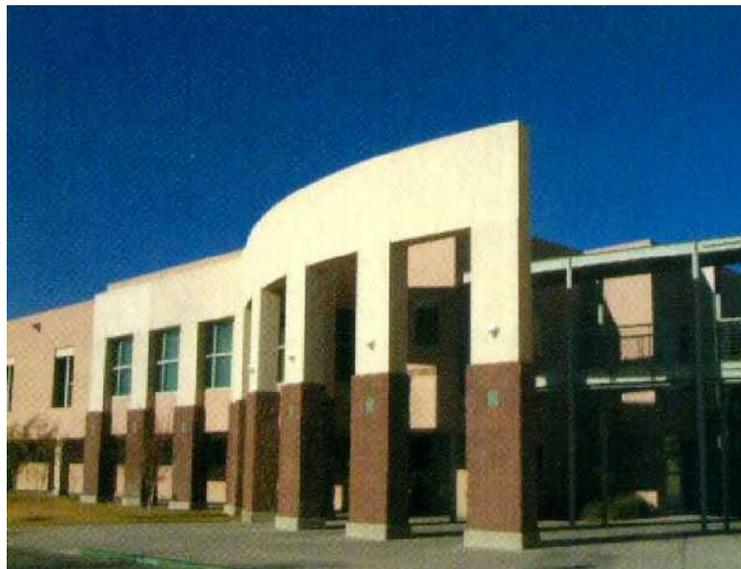
*Dr. Jonathan E. Davis,
Assistant Professor of Biology,
NMSU*

Dr. Jonathan E. Davis, Assistant Professor of Biology in the Health Occupations program within Doña Ana Community College (DACC)'s Health & Public Services Division is conducting a study aimed at increasing student interest in majoring in Biology. Dr. Davis believes a course design that emphasizes the “process of science” increases positive attitudes about and interest in biology in both science majors and

non-majors, which might also lead some students with undeclared majors to major in biology. Dr. Davis has been collecting data on student attitudes toward science and course design from two courses, BIOL 111G, which is NMSU's General Biology I course, and BIOL 101G, which is a biology course for non-majors. DACC offers one section of BIOL 111G at its Gadsden Campus as part of a PRIMOS grant to NMSU and DACC to increase the number of students from underrepresented groups who major in sciences. However, he is also hopeful that some students from the non-majors course will decide to major in biology after taking BIOL 101G (DACC offered one section at Central Campus and one section at Gadsden).

“The results so far support the conclusion that students in non-majors courses at a community colleges should be considered a potential source for new biology majors,” says Dr. Davis. “In addition, the course design worked equally well for both English-dominant students as well as for students with more limited knowledge of English. This is important since it means that ‘one size fits all,’ which allows the instructor to concentrate on creating one course design; that the course design works for both groups is also corroborated by unpublished data from a previous investigation.”

The outcome of the study did reveal low self-efficacy on the part of the students; they did not show increased knowledge of scientific process at the end of the semester although they said that they had increased their knowledge. “Changing the course design to improve learning will be addressed in future semesters,” says Dr. Davis. “Still, it is important to recognize that education is not just about content knowledge; interest in and positive attitudes about a subject along with developing skills (e.g., like how to create hypotheses) and developing new attitudes (e.g., feeling comfortable with being wrong) are very important and can lead to the develop-



View of Doña Ana Community College

ment of the formal cognitive abilities that all students, not just science majors, will need.”

Dr. Davis presented his study at the American Society for Microbiology Conference on Undergraduate Education (ASM_CUE). His poster was entitled, “What Freshman Biology Students Know about Science and What They Say They Know about Science: Does It Really Matter?” He also attended a one-day Scholarship of Teaching and Learning (SOT_L) institute as the capstone experience with 20 other science instructors who participated in ASM's Biology Scholars Program (BSP) during the 2009-2010 academic year. The BSP began with a four-day training session in Washington, D.C. in July 2009 during which participants learned about “scientific teaching”, the practice of collecting data on student learning to document the effects of the instructor's teaching style and course design. At the training, BSP participants also learned about the latest research into science pedagogy with a view toward improving learning in their courses, and during the year he participated in an online community of scholars. Although Davis's poster is a preliminary study, many Biology scholars are publishing their findings in peer-reviewed science and education journals. Since ASM's Biology scholars program was started in 2005, approximately 80 instructors from institutions large and small from across the United States and Canada have participated in the program, including professor Mary Teresa Brandon of DACC's Health Occupations program and Dr. Michele Shuster of the NMSU Biology Department, demonstrating NMSU's commitment to improving learning in science courses.

Dr. Davis can be reached at: jonatdav@nmsu.edu.

TERRORIZING WOMEN FEMINICIDE IN THE AMERICAS

By Hamid M. Rad, OSI



Dr. Cynthia Bejarano, Assistant Professor of Criminal Justice, and the co-author of the book, Terrorizing Women: Femicide in the Americas

Since 1993 murders of hundreds of women in Juárez, Mexico, have drawn the world's attention to this city and earned it the haunting status of the "murder city," and the world's most dangerous city outside a war zone. These tragic crimes are what Dr. Cynthia Bejarano, Associate Professor of Criminal Justice at NSMU and co-author Rosa-Linda Fregoso, professor of Latin American and Latino studies at UC, Santa Cruz focus on in new their

book *Terrorizing Women: Femicide in the Americas*. The book, which was published by Duke University Press, has garnered several positive reviews. It is highly recommended by Karen Musalo, Founding Director of the Center for Gender and Refugee Studies at Hastings College of Law, suggesting that it brings together "the diverse voices of scholars, human rights lawyers, and activists, whose analyses help us better understand the structural and legal norms which rise to the escalating violence against, and murders of, women." George Lipsitz, the author of *American Studies in a Moment of Danger* says, "Anyone who is interested in gaining a deeper understanding of gendered violence and the phenomenon of femicide in Latin America must read Rosa-Linda Fregoso's and Cynthia Bejarano's *Terrorizing Women*. He calls it "a book about history that will itself make history."

Congratulations on writing such a masterpiece. Right now, there are two left in stock at Amazon.com. Please tell us about this book.

We believe that it is a unique contribution to the fields of human rights, gender and Latin American studies and Women's Studies because it bridges the scholarship of academicians, attorneys, and human rights activists. It also foregrounds the testimonies of some of the families of murdered

and missing women and girls across Latin America. The book attempts to be comprehensive in its scope by speaking to multiple audiences including students, scholars, community activists, legal and human rights experts, and anyone interested in gender violence issues at the U.S.-Mexico border and Latin America.

What was most challenging for you during the writing of this book?

This was a four year process that required tremendous collaboration across the Americas with several contributors that came from different disciplines and training. We were always conscious of including the voices of the families of the murdered and missing women and girls, which is a cornerstone of this work.

We had several contributors from six different countries throughout the Americas, so the coordination and logistical issues were very complicated. The regional differences in Spanish used by different contributors took some time to translate, as well as the legal vernacular used in different countries.

As to reasons behind these murders, I have heard theories such as human organ trafficking, satanic sacrifices, and drug dealings. What did you find about the reasons behind these murders?

The book takes a broad approach to discussing the various ways in which scholars and practitioners across the Americas have defined and used the concept of femicide. The book provides a robust analysis of how the term is politically, legally, and socio-culturally useful within a broader human rights framework. Different contributors to this collection discuss the numerous theories about the feminicides in Ciudad Juárez and Chihuahua City with detailed explanations of theories and speculation on the causes of the murders.

There are allegations that some corrupt Mexican officials, such as members of the police are involved. Does your book shed light on these allegations, in support or otherwise?

Yes, some of our contributors discuss state violence and police corruption at varying levels of government across Latin America. The book examines gender violence and feminicides in the public and private realms in several Latin American countries. The discussions of corruption are structural in nature with several examples given throughout the book.

Have there been any improvements since you started writing this book?

No, the book has been out since the beginning of this month, however, in the years it took to complete this project, the advancement came from the Inter-American Court ruling against the Mexican government for their failure to investigate the feminicides in Chihuahua. Their 167 page verdict included evidence of government negligence on several levels including arguments of corruption, cover-ups, allegations of torture and the obstruction of justice. The IAC ruling laid out remedies that the Mexican government must follow, of which several must have been met within six months of the ruling. These remedies have not been met. Mexican officials must publicly hold a ceremony to apologize for the crimes and build a public monument to the three murdered girls who were victims of the cotton field murders, where eight young women/girls' bodies were discovered in 2001. The Mexican government has not worked diligently toward these remedies.

What is your message to the NMSU faculty?

I appreciate and respect my colleagues at NMSU and the work they do across international borders with our counterparts in other countries. I also really value working with people in other disciplines at NMSU, as well as in criminal justice, my home department. I believe that we can use our positions as teachers and researchers to promote ongoing dialogue with parishioners and community members outside the University, something that speaks to our responsibility as a land-grant institution. Like other faculty members, I have been privileged to conduct research and participate in collaborations that try to address social problems impacting southern New Mexico and the border region. For that I am very grateful to be a member of the NMSU community.

What is your message to NMSU students?

My message to students is to recognize our proximity to a city that is quickly becoming one of the most violent places in the world, and that violence against all communities is part of a larger global phenomenon. Borders should not keep students from caring about what happens to neighbors across the fence. Indeed, many of our students and community members are linked to family, culture and economies across the Border.

I want to encourage students to engage the world around them and not become overwhelmed or daunted by the degree of violence within communities, or specifically violence against women. All too often I have heard students say they did not get involved in social justice issues because they felt that it did not pertain to them until they became a victim of violence like rape, a victim of domestic violence, a victim of a violent crime, or even witnessing someone lose their job, a

parent to immigration policies, or random violence. Violence in all of its manifestations impacts all of us. Any step toward addressing violence is the right thing to do. Tackling and accomplishing justice for women and communities overall is work that can never be done alone.

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Linguistics Professor Publishes Findings on Spanish-Portuguese Language Contact



*Dr. Mark Waltermire,
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guages and Linguistics*

Dr. Mark Waltermire, Assistant Professor of the Department of Languages and Linguistics, will publish original research findings related to the role of sociolinguistic identity in the conditioning of language-specific variants of intervocalic /d/ in the Spanish spoken along the Uruguayan-Brazilian border. The findings will be published in Volume 7.2 of the peer-reviewed journal "Spanish in Context". Unlike in monolingual varieties of Spanish, in which intervocalic /d/ is pronounced as either a fricative (similar to English "th") or deleted, this sound is also variably articulated as an occlusive (like English "d") in the bilingual Spanish of the border, in accordance with Portuguese phonologi-

cal norms. Results from multivariate analysis reveal that Portuguese-dominant speakers tend to incorporate occlusive variants of intervocalic /d/ into their Spanish to a much greater extent than Spanish-dominant speakers. Conversely, the deletion of this consonant, which has attained prestige within the community due to its association with non-border varieties of Spanish, is statistically favored among speakers who prefer this language. These results provide evidence in support of the hypothesis that the ease of access of phonological exemplars from stored memory is greater for those encoding frequent, recent experiences. With regards to sociolinguistic attitudes, statistical analysis shows that speakers who have positive attitudes toward local Portuguese favor the use of occlusive variants, which serve as markers of Brazilian identity. Somewhat counter intuitively, speakers who have positive attitudes toward language mixing favor deletion. When these attitudes are cross-tabulated with speakers' occupation, however, it is clear that only students have overwhelmingly positive attitudes toward language mixing. Not surprisingly, they are also the least conservative group in the community and lead the way for phonological change.

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