

# Research Profiles

**Interdisciplinary Mixer**

October 9, 2019

*THE UNIVERSITY OF TEXAS AT EL PASO*

500 W. University Ave. El Paso, Texas 79968



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## Elizabeth Youngblood Anthony

Professor, Geological Sciences  
College of Science

### KEYWORDS

• Geothermal Energy • Quaternary Volcanoes • Tectonic Evolution Texas • Volcano Eruption Forecasting

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Energy & Environment • Global Enterprise & Border Studies • Cyberinfrastructure and Collaborative Environments • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology • U.S. –Mexico and Latin America: Social and Behavioral Issues • Other



Libby Anthony studies the geology of western North America, including the Trans-Pecos area of Texas. She also has active research programs in East Africa, where she collaborates with UTEP-trained Kenyan geologists on volcano eruption prediction and geothermal energy.

### CONTACT

Geological Sciences Building - 321 - (915) 747-5483 - eanthony@utep.edu

## Beverly Argus-Calvo

Associate Professor, Educational Psychology and Special Services  
College of Education

Associate Dean, College of Education - Graduate Programs and Research

### KEYWORDS

• Bilingual Special Education • Culturally Responsive Special Education • Effects Of Violence On Student Learning. • Individualized Psycho Educational Assessment • Working With Parents Of Culturally Diverse Students With Special Needs

### STRATEGIC AREAS

• Education for the 21st Century Demographic



Beverly Argus-Calvo, Ph.D. is associate dean for graduate studies and research for the UTEP College of Education (CoED). Argus-Calvo currently serves as an associate professor in the CoED's Educational Diagnostician program in the Department of Educational Psychology and Special Services. Argus-Calvo began her education career as a teacher for learning disabled students in 1983. Since then, she has worked with children with special needs in elementary and secondary schools in the United States and Mexico. She worked as an educational diagnostician in New Mexico from 1997-1999. Argus-Calvo's research and professional interests include binational education, extended learning, early college high school programs, music and arts based programs for elementary children in underserved communities, and working with families of children with special needs along the United States-Mexico border. Her work has been published in respected journals such as the College Student Journal, Multiple Voices for Ethnically Diverse Exceptional Learners, and the Rural Special Education Quarterly, books and international scholarly publications. Argus-Calvo is currently collaborating with colleagues from UTEP and the UACJ, the UACH, the CCHEP, and the CIESAS on research projects addressing education and children in vulnerable settings.

### CONTACT

Education Building - 713 - (915) 747-5266 - bcalvo@utep.edu

## Sudip Bajpeyi

Associate Professor, Kinesiology - Border Biomedical Research Center (BBRC) -  
Interdisciplinary Health Sciences  
College of Health Sciences

### KEYWORDS

• Exercise • Lipid Metabolism • Obesity • Skeletal Muscle Metabolism • Type 2 Diabetes

### STRATEGIC AREAS

• Health & Biomedical Sciences and Engineering



Dr. Bajpeyi currently serves as the head of the Skeletal Muscle Metabolism Laboratory and also holds joint appointments with Department of Biological Sciences at UTEP and the Pennington Biomedical Research Center (PBRC), in Baton Rouge, LA. The work in the Skeletal Muscle Metabolism Laboratory under the direction of Dr. Bajpeyi focuses on gaining a better understanding of the underlying molecular mechanisms relevant to metabolic diseases such as obesity and type 2 diabetes mellitus, and to improve our understanding of the effects of diet and exercise training on obesity and type 2 diabetes. Specifically, his lab studies the interactions between insulin signaling, intramyocellular lipid (IMCL), lipid droplet associated proteins, and mitochondrial bioenergetics using primary skeletal muscle cell culture models. His research interests are in the following areas: molecular mechanisms in metabolic diseases; and diet and exercise on obesity and Type 2 Diabetes.

### CONTACT

Health Sciences and School of Nursing Building - (915) 747-5461 - sbajpeyi@utep.edu

## Jose Leo Leobardo Bañuelos

Assistant Professor, Physics  
College of Science

### KEYWORDS

• Energy Storage • Hierarchical Mesoscale Materials • Ionic Liquids • Nano-confinement • Porous Media • Protein Solution Structure • Small-angle X-ray And Neutron Scattering

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Energy & Environment • Health & Biomedical Sciences and Engineering • National Defense & Border Security • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology



Dr. Bañuelos is interested in the physicochemical properties of nanoscale fluid-solid interfaces in areas of significant societal and economic importance, such as energy storage and conversion, natural resource management, environmental remediation, and nanomedicine. His expertise lies in using advanced x-ray and neutron scattering structural and spectroscopic techniques to elucidate the properties of novel electrolyte / electrode materials for supercapacitor applications. He has been successful in integrating experimental efforts with computational modeling (as a postdoc in a Department of Energy funded Energy Frontier Research Center) alongside collaborators at Oak Ridge National Laboratory (Oak Ridge, TN) and the NIST Center for Neutron Research (Gaithersburg, MD). He is a long-time user of national user facilities for neutron and x-ray scattering, and was a staff scientist at Rutherford Appleton Laboratory's ISIS Pulsed Neutron and Muon Source (Oxfordshire, UK) before joining UTEP in March 2016. He is developing simultaneous small angle scattering and electrochemical measurements capabilities to elucidate the nanoscale structural changes that occur in electrical energy storage systems during power cycling. Dr.

### CONTACT

Physical Sciences Building - 215C - (915) 747-7535 - jlbanuelos@utep.edu

## Anita Bialunska

Assistant Professor, Rehabilitation Sciences  
College of Health Sciences

### KEYWORDS

• EEG • Neuroplasticity • Perception-action Relationships • Sensorimotor Integration • TBI • Timing • Transcranial Magnetic Stimulation

### STRATEGIC AREAS

• Health & Biomedical Sciences and Engineering



Dr. Anita Bialunska's research interest involves the perception-action relationships, specifically multisensory processing, spatial and temporal attention, sensorimotor integration and synchronization, rhythm perception and production. She employs basic and clinical research and develops behavioral, electrophysiological, and non-invasive brain stimulation techniques to better understand mechanisms and neuronal underpinnings of these functions and related dysfunctions. The ultimate goal is to advance the treatment of brain disorders. She is currently looking at the recovery mechanisms of impaired sensorimotor functions after the Mild Traumatic Brain Injury population, as well as the relationship between the processing of rhythmical information and brain disorders. In addition, she is interested in the neuroplasticity mechanisms and the potential effect of the transcranial magnetic stimulation of timing circuits to improve other functions (e.g., motoric, affective, cognitive).

### CONTACT

Health Sciences and School of Nursing Building - 482 - (915) 747-8225 - abialunska@utep.edu

## Katie E. Bird

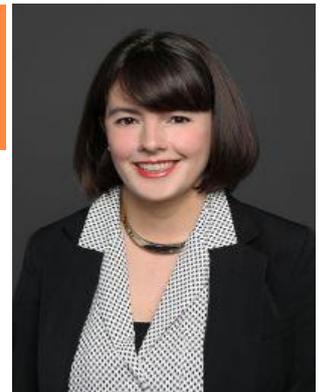
Assistant Professor, Communication  
College of Liberal Arts

### KEYWORDS

• American Film History • Film History • Film Production • Film Theory • Hollywood Studio System • Media Industries • Media Studies

### STRATEGIC AREAS

• Other



Dr. Katie Bird joins the department of Communications as an assistant professor in film studies and digital media production. Before moving to El Paso, she taught filmmaking and film and media studies at the University of Pittsburgh where she also received her PhD in 2018. Her research focuses on the discourse of below-the-line film technicians working in the Hollywood studio system. Her current book project, "Quiet on Set: Craft Discourse and Below-the-Line Labor in Hollywood, 1919-1985," explores how practitioners like cinematographers, grips, electricians, editors, and Steadicam operators have described their manual labor in promoting their craft and negotiating industry politics. Her next projects focus on women camera and Steadicam operators working in North America in the 1970s-1990s, and the history of automated technologies in film and video production. She has authored articles and video essays on the history of Steadicam technology, the American Cinema Editors organization, and German mountaineering cinematographers. Dr. Bird utilizes her background in filmmaking (B.A. Film Production, Loyola Marymount University, 2007) an M.A. in Literary and Cultural Studies (Carnegie Mellon University, 2010) and her experience teaching multi-modal digital composition courses to teach hybrid creative and research projects in her film studies and digital media courses.

### CONTACT

Cotton Memorial - 301 - kebird@utep.edu

## Thomas Boland

Professor, Metallurgical, Materials and Biomedical Engineering (MMBME) - Border Biomedical Research Center (BBRC)  
College of Engineering  
Director, Biomedical Engineering Program



### KEYWORDS

• Biomaterials • Inkjet Printing • Tissue Engineering

### STRATEGIC AREAS

• Health & Biomedical Sciences and Engineering

Dr. Boland's research interests are applying engineering principles to build three dimensional structures that show biological function. Recent research assessed whether printed adipose tissues integrate with the host better than conventionally grown. Specifically, he is constructing adipose grafts using a bioprinter and measure anastomoses in vitro. His research will collect preclinical data supporting bioprinting applications for medical products. He is the inventor of bioprinting, or live-cell tissue printing, and has been the founder of this field of research. He has received over \$5.5M in research funding for his work. He has received numerous awards and was featured on CNN and the Discovery Channel for his ground breaking innovations using inkjet printers to assemble cells and biomaterials into viable and functioning structures. He is the author of more than 70 publications, including 3 invited reviews and chapters, and he has delivered more than 25 invited presentations. He is a member of the AVS, MRS, the Society for Imaging Science and Technology (IS&T) and the Tissue Engineering and Regenerative Medicine International Society (TERMIS). Thomas is the co-founder and Chief Science Officer (CSO) for TeVido biodevices, LLC, a company that is commercializing a bioprinted nipple areola complex for breast cancer survivors. As CSO, he oversees product research and technical process development.

### CONTACT

Engineering Building - BE201 - (915) 747-7992 - [tboland@utep.edu](mailto:tboland@utep.edu)

## Malynda A. Cappelle

Staff, Center for Inland Desalination Systems (CIDS)  
Center/Other Units  
Associate Director, Center for Inland Desalination Systems (CIDS)



### KEYWORDS

• Concentrate Management • Desalination • Membrane • Water Conservation • Water Treatment • Water-energy Nexus

### STRATEGIC AREAS

• Energy & Environment • Other

Malynda Cappelle has twenty years of experience focused on water and energy, primarily focused on water treatment technology and how to make use of it to address water and energy security, environmental quality, and climate change issues. Her career has spanned several areas including water conservation, industrial water treatment, and research and development. Malynda has a BS and MS in Chemical Engineering, and a MBA and PhD in Civil Engineering from The University of Texas at El Paso (UTEP). At UTEP, Malynda's research has been focused on high recovery desalination processes and improving the economic and environmental performance of water treatment processes. Along with Dr. Tom Davis and Dr. Shane Walker, Malynda has led piloting activities with novel membrane technologies at the Kay Bailey Hutchison Desalination Plant here in El Paso, and the Bureau of Reclamation's Brackish Groundwater National Desalination Research Facility in Alamogordo, New Mexico.

### CONTACT

Kelly Hall - 205 - (915) 747-8953 - [macappelle@utep.edu](mailto:macappelle@utep.edu)

## Alejandra G. Castellanos

Assistant Professor, Mechanical Engineering  
College of Engineering

### KEYWORDS

• Additive Manufacturing • Composite Materials • Damage • Manufacturing • Metamaterials • Sandwich Composites

### STRATEGIC AREAS

• Other



My research area is on composite materials, additive manufacturing (AM) and materials under extreme conditions. I study their failure mechanisms, damage mitigation techniques, and nondestructive testing. I am interested in materials for Hypersonic Flight Vehicles, specifically coatings that prevent or minimize environmental degradation and on service damage. I am also interested in the development of a novel NDE (Nondestructive Evaluation) technique to identify the failure mechanisms during service on composite materials, specifically for composite overwrapped pressure vessel. Another research interest is the development of damage mitigation techniques for composite materials by using nanotechnology and additive manufacturing (AM). During my Ph.D., I studied the low-temperature effects on sandwich composites under low-velocity impact. I have interned at the Air Force Research Lab, where I studied novel interlaminar reinforcements to mitigate damage on composite materials during a low-velocity impact. I also interned at Purdue University, where I investigated different geometries to reinforce panels.

### CONTACT

Engineering Building - A116 - (915) 747-7894 - castellanosa@utep.edu

## Dahlia Castillo

Clinical Assistant Professor, Occupational Therapy  
College of Health Sciences

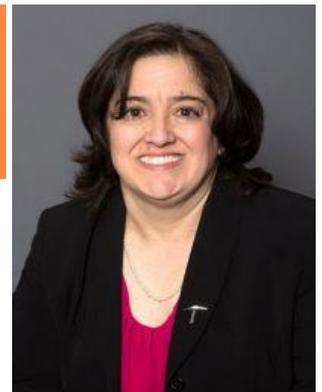
Director, Master of Occupational Therapy

### KEYWORDS

• Community Engagement • International Service-learning • Occupational Therapy Education • Productive Aging • Spinal Cord Injury • Teaching And Learning

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Health & Biomedical Sciences and Engineering



Dr. Castillo has been an occupational therapist since 1991. Her interests include community-based participatory research and outreach, productive aging, spinal cord injury, the scholarship of teaching and learning, simulated learning, international service learning, study abroad, and Spanish language proficiency of therapists.

### CONTACT

Campbell Building - 303 - (915) 747-8517 - dahlia@utep.edu

## Sreenath Chalil Madathil

Assistant Professor, Industrial, Manufacturing, and Systems Engineering (IMSE)  
College of Engineering

### KEYWORDS

• Mathematical Modeling • Operations Research • Simulation

### STRATEGIC AREAS

• Energy & Environment • Health & Biomedical Sciences and Engineering



Dr. Chalil Madathil comes to UTEP with a research background in operations research, data analysis, simulation, and process improvement in healthcare, energy, and supply chain management. He is interested in evidence-based research, improving healthcare patient experience, and the design of resilient power networks to sustain disruptions of healthcare systems. Dr. Chalil Madathil earned his doctoral degree in industrial engineering from Clemson University. He comes to UTEP from the Watson Institute of Systems Excellence (WISE), a SUNY Research Foundation at Binghamton University. While at WISE, Dr. Chalil Madathil was recognized as a Career Champion for mentorship in career development. He is a member of the Institute of Industrial & Systems Engineers (IISE), and serves as chair for the IISE Health Systems Track. He is a member of INFORMS, a professional association dedicated to operations research, and Alpha Pi Mu, an industrial engineering honor society.

### CONTACT

Engineering Building - A243 - (915) 747-6564 - schalil@utep.edu

## Russell R. Chianelli

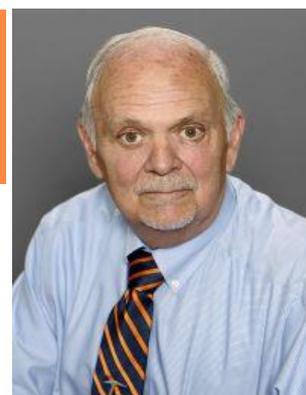
Professor, Chemistry and Biochemistry - Environmental Science and Engineering - Materials  
Research and Technology Institute (MR & TI) - Border Biomedical Research Center (BBRC)  
College of Science

### KEYWORDS

• Asphaltenes • Bio-remediation • Environmental Engineering • EXXON • Materials

### STRATEGIC AREAS

• Energy & Environment • Cyberinfrastructure and Collaborative Environments • Emerging  
Technologies: Information Technology • Biotechnology & Nanotechnology



Dr. Chianelli worked with Exxon Valdez for over 20 years before becoming a professor at The University of Texas at El Paso. He was the Chemistry department chair before starting the Materials Research and Technology Institute (MRTI). MRTI has been vital in helping students across various sciences conduct research in Environmental Science, Materials, Chemistry, and Engineering. He has also been able to make connections with various top businesses in industry which has led to relationships with the University. He is passionate about helping students develop as researchers and developing innovations in research.

### CONTACT

Physical Sciences Building - 201A - (915) 747-7555 - chianell@utep.edu

## Carla Contemori

Assistant Professor, Languages and Linguistics - Psychology - Sociology and Anthropology  
College of Liberal Arts

### KEYWORDS

• Bilingualism • Child Language Acquisition • Psycholinguistics • Syntactic Processing

### STRATEGIC AREAS

• Other



Dr. Contemori completed her PhD in Cognitive Science at the University of Siena (Italy) in 2011. She is currently an Assistant Professor in Linguistics at the University of Texas at El Paso (UTEP, USA). Before joining the department of Languages and Linguistics at UTEP in 2015, Dr. Contemori worked as a postdoctoral research associate at the Center for Language Science, Pennsylvania State University (PA, USA; 2012-2015), and at the School of Psychology and Clinical Language Sciences at the University of Reading (UK; 2011-2012), with a grant from the Fondazione De Vincenzi (Italy). Prior to joining UTEP, Dr. Contemori had the opportunity to supplement her background in linguistics with expertise on second language acquisition and experimental methods for psycholinguistics research at the Pennsylvania State University and at the University of Reading. In her present day research, Dr. Contemori uses a variety of experimental techniques (off-line comprehension and production, self-paced reading and listening, eye-tracking, syntactic priming,) with adults and children to investigate the underlying nature of second language development and processing.

### CONTACT

Liberal Arts Building - 218 - ccontemori@utep.edu

## Steve L. Crites

Professor, Psychology  
College of Liberal Arts  
Dean, Graduate School

### KEYWORDS

• Attitudes • Person Perception • Social Neuroscience • Stereotypes

### STRATEGIC AREAS

• National Defense & Border Security • U.S. –Mexico and Latin America: Social and Behavioral Issues



Dr. Crites' research focuses on the physiological and motivational processes that are associated with, and influence, cognitive processes and judgments. Research in his lab examines electrical brain activity (EEG) when people make like-dislike judgments (attitudes) or activate memories about categories of people (stereotypes). Attitudes are evaluative (like-dislike) judgments that help guide behavior – people use attitudes to decide with whom to associate, what foods to eat, what TV shows to watch, et cetera. Stereotypes are memory structures that help us understand and prepare for social interactions (especially with people we do not know well). Electrical brain activity that occurs when people see another person (or food, object, etc.) can be used to examine issues such as: how quickly we activate attitudes, do stereotypes activate automatically when we see a person, and how are attitudes influenced by emotions, moods and motivation states (e.g., how do food attitudes change when people are hungry). An objective of this research is to understand how the brain makes judgments and how it adjusts these judgments based on other relevant information when needed. Some research also explores whether brain activity can be used to assess a person's attitude even if they lie about it.

### CONTACT

Psychology - 222D - (915) 747-6571 - scrites@utep.edu

## Bruce Sanborn Cushing

Professor, Biological Sciences - Biology, Biomedicine - Biology, Ecology and Evolution - Border Biomedical Research Center (BBRC) - Cell & Molecular Biochemistry - Environmental Science (College of Science) - Environmental Science and Engineering  
College of Science  
Department Chair, Biological Sciences

### KEYWORDS

• Behavioral Ecology • Behavioral Neuroscience • Neuroendocrinology • Social Deficit Disorders • Steroids

### STRATEGIC AREAS

• Health & Biomedical Sciences and Engineering • Other



Dr. Cushing's research program examines mechanisms involved in the regulation of social and sociosexual behavior, emphasizing the role of the neuropeptides oxytocin (OT) and vasopressin and estrogen. The interaction of these systems in regulating social behavior, including social memory, pair bonds, sexual behavior, parental behavior, and aggression, makes them primary candidates for studying conditions associated with social deficit disorders. His primary animal model system is the prairie vole, which has a social system that is similar to humans, and is currently considered the main human-relevant rodent model system. They are socially monogamous; often living in family units, consisting of a male and a female, a new litter and older siblings. Dr. Cushing's current and future efforts will remain focused on developing the prairie vole as a translational model for biomedical research and for studying environmental effects on the expression of social behavior, emphasizing the organization of neuroanatomy and the mechanisms involved in the development of social behavior.

### CONTACT

Bioscience Research Building - 2.118 - (915) 747-5844 - bcushing@utep.edu

## Dan F. DeBlasio

Assistant Professor, Computer Science  
College of Engineering

### KEYWORDS

• Behavioral Ecology • Behavioral Neuroscience • Neuroendocrinology • Social Deficit Disorders • Steroids

### STRATEGIC AREAS

• Other



Dr. DeBlasio comes to UTEP with a background in computational biology and machine learning, specifically in the areas of algorithm configuration, high-throughput genomics, and string hashing schemes. Prior to UTEP, he was at Carnegie Mellon University, where he was a Lane Fellow in the School of Computer Science for the last three years. The fellows program is known for supporting scientists who are dedicated to a career at the interface of computational and biological sciences. Dr. DeBlasio earned a doctoral degree in computer science from the University of Arizona. His research focuses on reducing false predictions made by analysis software, by optimizing algorithm parameters. He recently published, *Parameter Advising for Multiple Sequence Alignment*, a book in the Springer Computational Biology series. He is member of the International Society for Computational Biology (ISCB), and recently completed serving on the ISCB Board of Directors. His term on the board brought upon numerous speaking engagements, empowering tomorrow's leaders in computational science. He was most recently invited to the Toyota Technical Institute in Chicago to discuss automated algorithm design. Dr. DeBlasio's work, and the work of his students, can be found on his website, <http://deblasiolab.org>.

### CONTACT

Chemistry and Computer Science Building - 3.1008 - (915) 747-8405 - dfdeblasio@utep.edu

## Rigoberto I. Delgado

Associate Professor, Economics and Finance  
College of Business Administration

### KEYWORDS

• Global Health • Health Services Research

### STRATEGIC AREAS

• Health & Biomedical Sciences and Engineering • U.S. –Mexico and Latin America: Social and Behavioral Issues



Rigoberto Delgado, PhD, MBA, is a health economist and an Associate Professor at the College of Business, University of Texas at El Paso. Dr. Delgado's areas of research include comparative-effectiveness studies, health services research, healthcare finance and management economics. Dr. Delgado's research has also included estimation of economic optimization and ROI of community health services. In particular, Dr. Delgado has received funding from the National Science Foundation to propose evidence-based policies for optimal routing of mobile health clinics in Houston, Texas. Dr. Delgado has over 25 years of experience working in the public and private sectors and has authored a number of peer-reviewed articles in the areas of health economics, process improvement in healthcare and public health. Dr. Delgado is also a consultant to hospitals and healthcare organizations.

### CONTACT

Business Administration Building - 257 - (915) 747-7097 - rdelgado16@utep.edu

## Erik Devos

Professor, Economics and Finance  
College of Business Administration

Associate Dean, Faculty Development - College of Business Administration

### KEYWORDS

• Capital Structure • Executive Compensation • Finance • M&A • Real Estate • REITs

### STRATEGIC AREAS

• Global Enterprise & Border Studies



Dr. Devos's research interest are mainly in empirical corporate finance and real estate. Specifically, he has authored and presented papers on topics like M&A, executive compensation, capital structure, and REITs.

### CONTACT

Business Administration Building - Rm. 102 - (915) 747-7770 - hdevos@utep.edu

## Shafik Dharamsi

Professor, Public Health Sciences - Health Sciences (College of)  
College of Health Sciences  
Dean, College of Health Sciences

### KEYWORDS

• Community Engagement • Global Health • Health Advocacy • Leadership • Population & Public Health • Professionalism & Ethics • Social Accountability • Social Determinants Of Health • Social Pedagogy • Social Responsibility

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Global Enterprise & Border Studies • U.S. –Mexico and Latin America: Social and Behavioral Issues • Other



Questions around how to better prepare future health professionals to address health inequities and their causes are among the most pressing and challenging issues facing the health professions today. Dr. Dharamsi's research interests focus on these questions from the perspectives of the social determinants of health, professional ethics, social accountability, global health, and population & public health. Competencies in the areas of health advocacy, professionalism, inter-professional collaboration, communication and ethics are integral to the practice of healthcare and the social accountability of health professionals. Dr. Dharamsi's work focuses on improving the theoretical and practical understanding of these essential competencies, their integration into curricula and teaching practice, and their relevance in the practice of healthcare.

### CONTACT

Health Sciences and Nursing Building - 368Q - (915) 747-7201 - shafikdharamsi@utep.edu

## Maria Ofelia Duarte-Gardea

Professor, Public Health Sciences - Interdisciplinary Health Sciences  
College of Health Sciences  
Department Chair, Public Health Sciences

### KEYWORDS

• Community Based Participatory Research

### STRATEGIC AREAS

• Health & Biomedical Sciences and Engineering • U.S. –Mexico and Latin America: Social and Behavioral Issues



Dr. Duarte's research focuses on nutrition interventions and chronic disease prevention in Mexican-Americans. Additionally, her research combines physical activity with nutrition intervention to result in a healthier community. She conducts community-based participatory research and has participated in multi-institutional transborder chronic disease prevention projects. Dr. Duarte has served as a reviewer in multiple study sections from the National Institutes of Health and Center for Disease Control, and in the Robert Wood Foundation's Salud America initiative. She has been a member of the expert panel in gestational diabetes of the American Dietetic Association.

### CONTACT

Health Sciences and Nursing Building - 403 - (915) 747-7252 - moduarte@utep.edu

## Ahmed A. El-Gendy

Assistant Professor, Physics  
College of Science

### KEYWORDS

• Magnetic Data Storage • Magnetic Hyperthermia • Magnetic Resonance Imaging • Material Science • Nanomagnetism • Nanotechnology • Permanent Magnets

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Energy & Environment • Health & Biomedical Sciences and Engineering • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology



Dr. El-Gendy is a material scientist with 15 years of experience in the field of applied physics. His major focus is on synthesis and optimization of monodispersed magnetic nanoparticles to be feasible for many industrial and medical applications such as data storage, permanent magnets, magnetic sensors, contrast agents for MRI, drug delivery, and hyperthermia treatment for cancer treatment. His expertise of working at different departments in science such as chemistry, physics, mechanical engineering and his extensive collaboration with biologists and biomedical scientists is revealing his ability for establishing interdisciplinary research group. Based on his research abilities in all the mentioned scientific areas, he can teach different types of courses for undergrad and graduate levels such as electricity and magnetism, molecular nanostructures, material science for physicists and engineers, mathematical physics, modern physics, nanotechnology, thermodynamics, advanced magnetism, and magnetochemistry. Dr. El-Gendy has one published patent on the use of tiny nanomagnets for data storage applications. In addition, he just filed a new provisional patent regarding Brain Phantom using Casting and 3D Printing. His contribution to the research communities makes him one of the important researchers in his field.

### CONTACT

Physical Sciences Building - 221D - (915) 747-6382 - aelgendy@utep.edu

## Sai Mounika Errapotu

Assistant Professor, Electrical and Computer Engineering  
College of Engineering

### KEYWORDS

• Big Data Analytics • Cyber-infrastructure • Cybersecurity And Privacy • Differentially Private Data Analysis • Network Economics • Security And Privacy Metrics • Smart Grid Security And Optimization • Trust Modeling

### STRATEGIC AREAS

• National Defense & Border Security • Cyberinfrastructure and Collaborative Environments



Dr. Errapotu is an assistant professor in Electrical and Computer Engineering at the University of Texas at El Paso. Her research background is in computer security and applied cryptography, trust modeling and metrics, differentially private data analysis, and security & privacy preserving protocol design for cognitive radio networks and cyber-physical systems. In spite of having rapid advances in technologies, many of the traditional ways of securing IT and networks just don't easily apply to the newer generation distributed networks. It is critical to carefully handle sensitive information-both confidential and untrusted; confidential information must not be inappropriately released, and the use of untrusted information must not corrupt trusted computation and the utility. Dr Errapotu has aligned her research focus to design tools for systems that handle sensitive information, by considering application-specific requirements and efficiently enforcing those requirements. She has been working on information security and privacy issues in wireless networks, cloud and fog computing, smart grids, distributed optimization, big data analytics, and Internet of Things (IOT) that provide scalability and practical implementation guarantees.

### CONTACT

Engineering Building - A-309 - (915) 747-6964 - serrapotu@utep.edu

## Louis J. Everett

Professor, Mechanical Engineering - University Studies/Entering Student Program  
College of Engineering

### KEYWORDS

• Automation • Control • Embedded Controllers • Machine Design • PLC • Programming • Robotics • Sensor Applications

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Energy & Environment • Other



Dr. Louis J. Everett, the MacGuire Distinguished Professor of Mechanical Engineering, has funded research experience in automation, machine design, robotics, and sensor/actuator design. Having worked in residence at NASA JSC, NASA JPL and with his technical support of a shuttle flight, Dr. Everett is familiar with the design, construction and flight of space hardware and the strict safety requirements for manned spaceflight. Working in residence at IBM, Bell Laboratories and Texas Instruments Dr. Everett also has expertise in industry needs. Most recently, Dr. Everett has served the National Science Foundation as a Program Officer gaining a key inside look at the Foundation and the inner workings of funding decisions. Currently Dr. Everett works with small local entrepreneurial companies and consults regularly on technical problems involving machine control. Dr. Everett's education interests involve helping underprepared STEM students merge into an Engineering Degree program and matriculate in minimal time and cost.

### CONTACT

Engineering Building - A115 - (915) 747-7987 - leverett@utep.edu

## Joao Batista Ferreira-Pinto

Associate Professor, Center for Interdisciplinary Health Research and Evaluation (CIHRE)  
College of Health Sciences

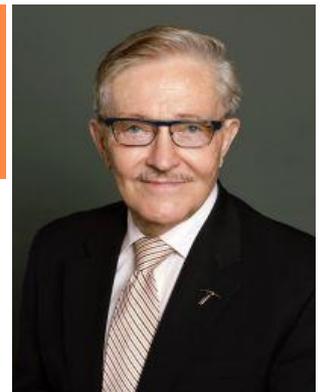
Assistant Dean, Research and Faculty Affairs, College of Health Sciences

### KEYWORDS

• Evaluation Research • HIV/AIDS Prevention • Opioids And Prescription Pills Abuse Prevention And Treatment- • Program Evaluation • Qualitative Research

### STRATEGIC AREAS

• Health & Biomedical Sciences and Engineering • U.S. –Mexico and Latin America: Social and Behavioral Issues



João Batista Ferreira-Pinto, PhD, is the Director for Research and Special Projects at the College of Health Sciences and Director for the Center for Interdisciplinary Health Research and Evaluation (CIHRE). Dr. Ferreira-Pinto's research interests center on HIV/AIDS/STD prevention and treatment, community and organizational development, and qualitative evaluation methodologies. Most of his work is based in fostering the collaboration between academics and community based organizations to improve community based participatory research. Paulo Freire's and other critical thinkers' methodologies and pedagogies have influenced his research and teaching approaches.

### CONTACT

Health Sciences and School of Nursing Building - 368-N - (915) 747-7295 - joao@utep.edu

## Maria Fernanda F. Fiscal C.

Staff, Mike Loya Center for Innovation and Commerce  
College of Business Administration

Manager, Mike Loya Center for Innovation and Commerce

### KEYWORDS

• Business Planing • Entrepreneurship • Finance • I-Corps. • Innovation • International Relations • IT

### STRATEGIC AREAS

• Emerging Technologies: Information Technology • Biotechnology & Nanotechnology • U.S. –Mexico and Latin America: Social and Behavioral Issues



Maria Fernanda is the newest member of the Mike Loya Center. She holds a bachelor's degree in Business Administration with a concentration in Finance and currently she's pursuing a Master of Science in Information Technology from The College of Engineering. Fernanda, is founder of an entertainment company in Mexico and a student organization in UTEP Campus. She provides consulting services for local community initiatives. Previous to join the UTEP family workforce, she worked for the Mexican Secretariat of Foreign Affairs at the Consulate General of Mexico in El Paso, Texas where she developed and executed proposals in the areas of education, finance and health. As an alumnus, graduate student and participant in several entrepreneurship competitions she fully understands and supports research in innovation, commerce and entrepreneurship education. Her education from the College of Business and College of Engineering along with her professional career makes her an adequate appointee to direct the Mike Loya Center operations.

### CONTACT

Business Administration Building - 303 - (915) 747-5971 - mffiscalcenteno@utep.edu

## Eric A. Freudenthal

Associate Professor, Computer Science - Computational Science  
College of Engineering

### KEYWORDS

• Autonomic Systems • Computer Security • CSE • Memory Management • Operating Systems • STEM-ed

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Energy & Environment • National Defense & Border Security • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology



Dr. Freudenthal has developed techniques for implementing secure and self-organizing systems, coordinating parallel and distributed computations, and recognizing objects in radar imagery. His current research examines robust and autonomic approaches for resource management in delay-intolerant devices such as smartphones, and the balancing of energy consumption with performance in high performance parallel systems. Dr. Freudenthal also leads iMPaCT-STEM, an effort that develops programming activities integrated within mathematics and physics courses. iMPaCT-STEM activities are intended to both introduce students to programming and to strengthen students' conceptual understandings of these courses' primary learning outcomes.

### CONTACT

Chemistry and Computer Science Building - 3.0424 - (915) 747-6954 - efreudenthal@utep.edu

## Michael Steve Garcia

Lecturer, Marketing and Management  
College of Business Administration  
Director, Mike Loya Center for Innovation and Commerce

### KEYWORDS

• Government/Military • IT • Operations Management • Quality

### STRATEGIC AREAS

• Health & Biomedical Sciences and Engineering • National Defense & Border Security •  
Cyberinfrastructure and Collaborative Environments • Emerging Technologies: Information  
Technology • Biotechnology & Nanotechnology



I have three primary research interests: 1. The impact and effect of disparities in access to electronic information and information systems (internet and other digital/social media) on social outcomes and economies. 2. Commercial use of autonomous vehicles and drones. 3. Commercialization space launch from the southern interior of the US.

### CONTACT

Business Administration Building - 204 - (915) 747-8631 - msgarcia4@utep.edu

## Ann C. Gates

Professor, Computer Science - Cyber-Share  
College of Engineering  
Department Chair, Department of Computer Science  
Director, Cyber-ShARE Center of Excellence

### KEYWORDS

• Computing Education • Cyberinfrastructure • Requirements Engineering • Software Engineering •  
Undergraduate Research • Verification And Validation • Workflows

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Cyberinfrastructure and Collaborative Environments



Dr. Gates directs the NSF-funded Cyber-ShARE Center of Excellence. Cyber-ShARE's mission is to advance education and research through cyberinfrastructures that support information exchange and integration, as well as collaborative interdisciplinary research. As national leaders in the study of collaborative science and engineering, the Center has developed and applied models of team-based, cooperative learning, interdisciplinary teamwork, and knowledge integration and management. Dr. Gates also conducts research in software engineering. Her research focuses on development of technologies for monitoring software correctness and data quality. Specifically, the focus is on extending and defining software engineering methods and developing usable technology to support development of complex systems that are of high consequence, i.e., failure of the system will result in loss of life, equipment, security, or financial losses. Using properties to monitor systems can assist in detecting conflicts and errors during software execution or data acquisition. Dr. Gates also leads the Computing Alliance of Hispanic-Serving Institutions (CAHSI) that focuses on the recruitment, retention, and advancement of Hispanics in computing.

### CONTACT

Chemistry and Computer Science Building - 3.1002 - (915) 747-7689 - agates@utep.edu

## Gaspare M. Genna

Professor, Political Science  
College of Liberal Arts  
Director, North American Studies Program

### KEYWORDS

• Globalization • International Cooperation • Political Economy • Political Psychology • Political Trust • Regional Integration • Social Trust

### STRATEGIC AREAS

• Global Enterprise & Border Studies • National Defense & Border Security • U.S. –Mexico and Latin America: Social and Behavioral Issues • Other



Gaspare M. Genna is Professor of Political Science and Director of the North American Studies Program. He teaches courses on European Union politics, North American relations, international relations, international organizations, and international political economy. He is an advocate for the Global Reach community, which aspires to advance UTEP's commitment to scholarly and creative activities by institutionalizing best practices in extending our global reach and co-advocate for the Interdisciplinary Research and Education community, which aspire to expand our knowledge base and skills for effectively leading IDRE, and providing access to best practices, methods and tools that facilitate successful IDRE. His research explores the development and impact of regional integration in both economically and politically. His work to date involves analyzing state incentives and capabilities for integration as well as domestic public support. He is also Associate Research Fellow at the United Nations University Institute on Comparative Regional Integration Studies, Senior Research Fellow at the TransResearch Institute, and an associate editor of the journal Politics & Policy.

### CONTACT

Benedict Hall - 301 - (915) 747-6066 - ggenna@utep.edu

## Thomas E. Gill

Professor, Geological Sciences - Center for Environmental Resource Management (CERM) -  
Environmental Science and Engineering - Border Biomedical Research Center (BBRC)  
College of Science

### KEYWORDS

• Aeolian Processes • Aerosols • Air Pollution • Air Quality • Arid Lands • Biogeography • Climate • Climatology • Deserts • Dust Storms • Earth System Science • Environmental Geochemistry • Environmental Health • Geomorphology • Meteorology • Playas/dry Lakes • Saline Lakes/playas And Evaporites • Sandstorms • Science Education • Sedimentology • Trace Elements • Weather • X-ray Spectrometry

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Energy & Environment • Health & Biomedical Sciences and Engineering • National Defense & Border Security • Cyberinfrastructure and Collaborative Environments



Dr. Gill's primary scientific interests are in atmosphere-lithosphere interaction, particularly aeolian (wind-related) processes (wind erosion, dust storms, sandstorms, fugitive dust, blowing sand, sand dunes) and atmospheric aerosols (particulate matter, PM10) of geological origin, and their roles in biogeochemical cycling and environmental change. Gill's research uses aspects of geomorphology, sedimentology, geochemistry, remote sensing, wind engineering, and meteorology to study the generation, transport, deposition, and management of aeolian sediments and aerosols, as well as to investigate the interactions and cycling of materials between the atmosphere, lithosphere and biosphere, at all spatial scales. Tom Gill is the co-author of the "Bibliography of Aeolian Research" on the Internet at <http://www.lbk.ars.usda.gov/wewc/biblio/bar.htm>. Dr. Gill's research interests also include the environmental geochemistry, source appointment and biogeochemistry of trace elements; the geomorphology, sedimentology, and geochemistry of saline lakes and playas; salt / evaporite mineralogy; earth system science, especially the relationship between landforms, climate/weather, and ecosystems; mesoscale meteorology and air pollution meteorology; the application of X-ray spectrometric techniques and trace element analyses in earth science; natural resource management in arid and semiarid lands; and applications of meteorology to homeland security.

### CONTACT

Geological Sciences Building - 401A - (915) 747-5168 - tegill@utep.edu

## Amelia D. Greig

Assistant Professor, Mechanical Engineering  
College of Engineering

### STRATEGIC AREAS

- Other



Dr. Greig joins UTEP from the California Polytechnic State University (Cal Poly) in San Luis Obispo, where she served as assistant professor in the Aerospace Engineering Department. She has a research background in micro-propulsion and micro-satellites, and a teaching background in spacecraft propulsion and the space environment. She received her doctoral degree in physics from The Australian National University. During her time at Cal Poly, Dr. Greig sat on the College of Engineering Scholarships Committee, the Aerospace Engineering Curriculum Committee, and participated in faculty search committees. Dr. Greig is a member of the American Institute of Aeronautics and Astronautics, American Physical Society, Golden International Honor Society, and American Society for Engineering Education. In 2018, Dr. Greig was recognized by Cal Poly with the Don and Paula Heye Safety Award for enhancing the safety and research conditions for students of two Cal Poly laboratories. Dr. Greig shares that she is passionate about public outreach and encouraging students, especially females, to pursue careers in the sciences.

### CONTACT

Engineering Building - A-109 - (915) 747-8378 - [adgreig@utep.edu](mailto:adgreig@utep.edu)

## Kyung-An Han

Professor, Biological Sciences - Border Biomedical Research Center (BBRC)

College of Science

Director, Master of Arts in Teaching Science

Director, Director for Neuromodulation Disorders (Neuroscience), BBRC

### KEYWORDS

• ADHD • Alcohol Abuse • Alzheimer's Disease • Attention • Autism • Behavior • Behavioral Plasticity • Conditioning • Dementia • Disinhibition • Dopamine • Drosophila • Fruit Fly • Genetics • Impulsivity • Inhibitory Control • Learning • Memory • Monoamines • Motivation • Neural Circuit • Octopamine • Ovulation • Parkinson's Disease • Plasticity • Reproduction • TBI

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Health & Biomedical Sciences and Engineering • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology • U.S. –Mexico and Latin America: Social and Behavioral Issues



Dr. Han's research interest is the molecular, cellular and neural basis of behavioral plasticity. Monoamines such as dopamine and norepinephrine are major neuromodulators regulating numerous brain functions such as attention, motivation, reward, learning, memory and motor control. Their anomalous functions underlie various brain disorders including Parkinson's disease, schizophrenia, ADHD, autism, PTSD and drug abuse and addiction. Dr. Han's research is directed at elucidating the mechanisms by which dopamine and octopamine (an invertebrate counterpart of mammalian norepinephrine) mediate behavioral plasticity induced by natural stimuli and addictive drugs (e.g. alcohol), and reproduction in *Drosophila melanogaster*. *Drosophila* is a powerful model organism due to advanced genetics and vast resources. Her study indicates the critical role of dopamine in inhibitory control. Dysfunctional inhibitory control (e.g. impulsivity) is strongly associated with substance abuse and obesity, which are of significant concerns in the El Paso community. A major goal of her current research is to elucidate the mechanism that dopamine regulates inhibitory control, fulfilling the UTEP's mission. The molecules important for neural functions and plasticity are conserved from *Drosophila* to humans. Knowledge obtained from her study in *Drosophila* will provide insights into the neurobiological basis of behavioral plasticity and related disorders in humans.

### CONTACT

Bioscience Research Building - 3.152 - (915) 747-8950 - [khan@utep.edu](mailto:khan@utep.edu)

## Josiah McConnell Heyman

Professor, Sociology and Anthropology - Center for Inter-American and Border Studies (CIBS)  
College of Liberal Arts

Director, Center for Interamerican and Border Studies

### KEYWORDS

• Anthropology • Applied Anthropology • Border Policy • Borders • Community Engaged Scholarship, • Community Engagement • Community Organizations • Consumption • Culture • Health • Human Rights • Immigration • Inequality • Migration • Power • Society • U.S.-Mexico Border • Values And Social Science • Water • Work • Working Classes

### STRATEGIC AREAS

• Global Enterprise & Border Studies • National Defense & Border Security • U.S. –Mexico and Latin America: Social and Behavioral Issues



Heyman is a 2016 Interdisciplinary Research (IDR) Fellow funded by the UTEP Office of Research and Sponsored Projects and the Office of the Provost. As an IDR Fellow, he will form a community of practice made of UTEP faculty, community advocates, non-governmental organizations, and members of the community in order to identify areas of research that have the most need, impact and visibility on border and immigration issues from the perspective of human rights, human security, and human well-being. The community activities will identify high need priorities for research and match such priorities with key UTEP researchers and external partners. This will raise the profile and impact of border studies at UTEP since it will link UTEP practitioners to border region organizations and national organizations, funders, and think-tanks. Dr. Heyman's research interests include all things that concern borders, and the processes that shape them and pass through them. His three most recent inquiries are regulation of spatial movement generally (building on, but going beyond borders per se), participant observation of engaged/activist anthropology (and lessons thereof), and unequal territorialization and political ecology of the U.S.-Mexico borderlands. Much of Dr. Heyman's work centers on the presence of and limits to state power at borders. This has connected to a specific focus on migration and mobility (especially the putative state control thereof).

### CONTACT

Old Main - 210 - (915) 747-8745 - jmheyman@utep.edu

## Deidra R. Hodges

Assistant Professor, Electrical and Computer Engineering  
College of Engineering

### KEYWORDS

• Gamma And X-ray Radiation Detectors • Perovskites • Semiconductor Materials And Devices • Solar And Renewable Energy • Sustainability • Thin Film Photovoltaics

### STRATEGIC AREAS

• Energy & Environment • National Defense & Border Security • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology



Dr. Hodges studies photovoltaics, solar and renewable energy, sustainability and radiation detectors. Hodges is also interested in the research, education and development of a Sustainability NEXUS through water treatment and sources, food security and solar energy for improved socioeconomic status in desert climates. She is particularly interested in semiconductor materials, processing, characterization, and devices for perovskite solar cells and cadmium zinc telluride radiation detectors, focusing on the design and realization of new electronic materials for flexible and portable electronics. An additional interest is the investigation of new materials for quantum applications and shielding electronics from high energy radiation.

### CONTACT

Engineering Building - A-304 - (915) 747-7950 - drhodges@utep.edu

## Iva M. Ivanova

Assistant Professor, Psychology  
College of Liberal Arts

### KEYWORDS

• Bilingualism • Dialogue • Lexical Access • Sentence Processing • Working Memory

### STRATEGIC AREAS

• Education for the 21st Century Demographic • U.S. –Mexico and Latin America: Social and Behavioral Issues



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Dr. Ivanova has expertise in research on the mental processes and representations that make possible the production and comprehension of language. One of Dr. Ivanova's main research areas is bilingualism. Dr. Ivanova has used a range of behavioral methodologies to address questions related to the linguistic and cognitive processes in bilinguals, the processing of ungrammatical language, and language decline in Alzheimer's Disease.

### CONTACT

Psychology - 110 - imivanova@utep.edu

## Sanga Kim

Postdoctoral Fellow, Computer Science  
College of Engineering

### KEYWORDS

• Educational Equity • First-generation College Students, • Racial Diversity In Higher Education • Underrepresented Minority Students In STEM Fields

### STRATEGIC AREAS

• Education for the 21st Century Demographic



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Dr. Kim is a Postdoctoral Research Fellow with Computing Alliance of Hispanic-Serving Institutions-A National INCLUDES Alliance. She earned her doctorate in Education from the University of Iowa. During her time as a graduate student, Dr. Kim was awarded both the William Duffy Schools, Culture, and Society Doctoral Fellowship and the 2017-2018 Ballard and Seashore Dissertation Fellowship. Her research uses sociological perspectives to study educational equity and racial diversity in higher education, focusing on the experiences and persistence of women and underrepresented minority students. More specifically, she studies the impact of educational practices and co-curricular learning experiences on college student outcomes in STEM fields using quantitative methods. Her current research focuses on the higher education experiences and trajectories of Latinx and first-generation college students in STEM fields. She has published and co-authored several articles published in the following journals: Educational Evaluation and Policy Analysis, Educational Policy, and Teachers College Record.

### CONTACT

Classroom Building - 401 - (915) 747-7958 - skim12@utep.edu

## Robert A. Kirken

Professor, Biological Sciences - Border Biomedical Research Center (BBRC) - Science  
(College of) - Hispanic Health Disparities Research Center  
College of Science  
Dean, College of Science  
Director, Border Biomedical Research Center



### KEYWORDS

• Drug Development • Immune Diseases • Jak/STAT Signaling • T Cells

### STRATEGIC AREAS

• Health & Biomedical Sciences and Engineering • Cyberinfrastructure and Collaborative Environments • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology • U.S. –Mexico and Latin America: Social and Behavioral Issues

Dr. Kirken's research interests are T-cell biology, cell signaling, cytokine pathways, hematopoietic cancers, immune disorders, tyrosine kinases, small molecule inhibitors, and transcription factors.

### CONTACT

Chemistry and Computer Science Building - 3.0218 - (915) 747-5536 - rkirken@utep.edu

## Olga M. Kosheleva

Associate Professor, Teacher Education  
College of Education  
Interim Department Chair, Teacher Education



### KEYWORDS

• Applied Mathematics • Curriculum Development With Focus On STEM Integration • Mathematics Education In Teacher Preparation

### STRATEGIC AREAS

• Education for the 21st Century Demographic

Dr. Kosheleva's areas of expertise are in mathematics education in teacher preparation, curriculum development with focus on Science, Technology, Engineering and Mathematics (STEM) integration and applied mathematics. Her primary education goal is to motivate student teachers to teach mathematics and science effectively so that they will create the same love for those topics that she herself developed as a young child. Dr. Kosheleva completed her Ph.D. in Computer Engineering at The University of Texas at El Paso in 2003. The focus of her research was on solving mathematical optimization problem in the context of using state-of-the art JPEG2000 compression on three-dimensional meteorological data. In her research, she worked with a variety of scientific data (meteorological, radar, medical), applied statistical data analysis and analyzed different approaches to constructing meaningful quality metrics for evaluating and comparing different data compression algorithms. These studies have since proven to be transferrable to educational data analysis in her current work. Dr. Kosheleva has two Master's degrees. The first is in Mathematics and Applied Mathematics from Novosibirsk University, Novosibirsk, Russia, 1978 (Diploma Summa Cum Laude). During five years of her study she worked with the prominent academician, A.D. Alexandrov, a leader in the area of Geometry and Geometry education.

### CONTACT

Education Building - 607 - (915) 747-7588 - olgak@utep.edu

## James David Kubicki

Professor, Geological Sciences  
College of Science  
Department Chair, Geological Sciences

### KEYWORDS

• Aerosols • Computational Chemistry • Environmental Chemistry • Reaction Kinetics

### STRATEGIC AREAS

• Energy & Environment • Cyberinfrastructure and Collaborative Environments • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology



Kubicki is a 2016 Interdisciplinary Research (IDR) Fellow responsive to the Office of Research and Sponsored Projects as well as the Office of the Provost. As an IDR Fellow, he will form a research team and broader community of practice that will explore the impacts of atmospheric aerosols on climate and/or health from both a chemical and physical perspective. These aerosols are one of the largest sources of uncertainty in current climate models. Kubicki intends to widen the group of experts who typically study this to include geographers, biologists, and medical professionals from UTEP, internal and external research centers, as well as other academic institutions.

### CONTACT

Geological Sciences Building - 101 - (915) 747-6552 - jdkubicki@utep.edu

## Philip Lavretsky

Assistant Professor, Biological Sciences - Border Biomedical Research Center (BBRC)  
College of Science

### KEYWORDS

• Conservation • Ecology • Evolution • Genomics • Phylogenetics • Population Genetics • Wildlife Genetics

### STRATEGIC AREAS

• Other



Dr. Lavretsky's research program is interdisciplinary and transcends landscape, evolutionary, and conservation genomics to study speciation, evolution, adaptation, and the role of gene flow. Overall objectives of his research are to determine the distribution of genetic diversity across species' ranges to understand (1) the extent to which adaptive and non-adaptive genetic diversity shapes population structure, including (2) what genes are responsible for geographic adaption versus alternative selective pressures (e.g., sexual selection), (3) how contemporary pressures influence a species' adaptive landscape, and (4) how best to use this information to establish better management and conservation practices. To answer these questions, Dr. Lavretsky employs next-generation techniques to generate genome-wide markers for various taxa and to link genetic variation to species or population traits of interest.

### CONTACT

Bioscience Research Building - B318 - (915) 747-6424 - plavretsky@utep.edu

## Oralia Loza

Associate Professor, Public Health Sciences - Border Biomedical Research Center (BBRC) - Interdisciplinary Health Sciences - Hispanic Health Disparities Research Center  
College of Health Sciences

### KEYWORDS

• Hepatitis C Virus (HCV) • Hispanic Populations • HIV • LGBT Health • Sexual And Gender Minorities • Sexually Transmitted Infections (STIs) • Substance Use • Transgender Women • U.S.-Mexico Border

### STRATEGIC AREAS

• Global Enterprise & Border Studies • Health & Biomedical Sciences and Engineering • U.S. –Mexico and Latin America: Social and Behavioral Issues



Dr. Loza's research is in the area of substance abuse and risk factors for HIV/STI and Hepatitis C Virus among high-risk populations including sexual and gender minorities, transgender women, migrants, and other marginalized individuals living on the U.S.-Mexico border. She is part of the UTEP Vulnerability Issues in Drug Abuse (VIDA) Project, an interdisciplinary research team in substance abuse funded by the NIH National Institute on Drug Abuse (NIDA). She conducts research in collaboration with Mexican colleagues in Cd. Juarez, Chihuahua. With colleagues and students in Master of Public Health Program (MPH), she has had the pleasure of producing important and novel results in these areas and has presented research findings at local, national, and international forums. As adviser of the Students for Public Health, she guides students in campus and community health promotion service activities. Alongside with MPH alumni, she is leading, The Purple Pages of El Paso, a referral list and website for LGBTQ friendly healthcare and social services providers.

### CONTACT

Health Sciences and School of Nursing Building - 405 - (915) 747-7232 - oloza@utep.edu

## Mark W. Lusk

Professor, Social Work - Interdisciplinary Health Sciences  
College of Health Sciences

### KEYWORDS

• Border Health • Community Engaged Scholarship • International Development • Migration • Social Work

### STRATEGIC AREAS

• U.S. –Mexico and Latin America: Social and Behavioral Issues • Other



Professor of Social Work, Dr. Mark Lusk, is an experienced field worker and researcher in Latin America. Fluent in Spanish and Portuguese, he has lived in South America for over 20 years. He currently studies resilience and trauma among refugees. Mark is licensed in Texas as a Licensed Master Social Worker (LMSW) and as a Licensed Chemical Dependency Counselor (LCDC). Professor Lusk is an active member of the UTEP Community of Engaged Scholars and was appointed Provost's Faculty Fellow-in-Residence for Civic Engagement 2016-2019.

### CONTACT

Health Sciences and Nursing Building - 426 - (915) 747-8588 - mwlusk@utep.edu

## Felicia S. Manciu

Professor, Physics - Materials Science and Engineering - Border Biomedical Research Center (BBRC)

College of Science

### KEYWORDS

• Confocal Microscopy (Raman And Fluorescent) • Infrared Absorption Spectroscopy • Photoluminescence • Raman Scattering Spectroscopy

### STRATEGIC AREAS

• Energy & Environment • Health & Biomedical Sciences and Engineering • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology



Dr. Manciu's research interests focus on optically and microscopically tailoring the properties of soft and hard condensed matter materials. Such studies, of both fundamental and applied interest, provide important insights for procedure optimization in fabricating new materials and in developing reliable nano- and micro-structures important to emerging technological applications, from nanoelectronics and nanophotonics, to medical diagnostics. Supporting this affirmation is the broad range of collaborative projects that she has conducted, which include simultaneous, label-free detection of neurotransmitters using confocal Raman mapping; bioimaging analysis of cancer cells and tissue; exploring ways of improving the characteristics of doped diamond materials, metal oxides, and transition metal chalcogenide alloys for biosensors and infrared device development; gaining new insights into the formation and prevention of kidney stones; characterizing highly energetic solid materials for use as rocket fuels; and studying changes that occur in the submicroscopic structure of Maya pigments. These collaborations not only enabled her to secure, as Principal Investigator, sustainable external funding from DOD-MDA, DOE, NSF, and the Mayo Clinic in Rochester, Minnesota, but also led to the successful completion of many degree programs by her students (5 Ph.D. and 11 M.S. graduates from 2007 to present).

### CONTACT

Physical Sciences Building - 221B - (915) 747-8472 - fsmanciu@utep.edu

## Paras Mandal

Associate Professor, Electrical and Computer Engineering - Computational Science

College of Engineering

### KEYWORDS

• Cyber Physical Systems • Distributed And Renewable Power Generation • Electric Energy Resources Forecasting And Machine Learning/Data Analytics • Operations & Optimization • Power System Market • Resilient And Sustainable Energy Systems • Smart Grid And Micro Grid

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Energy & Environment • Global Enterprise & Border Studies • National Defense & Border Security • Cyberinfrastructure and Collaborative Environments • Other



Dr. Paras Mandal is currently an Associate Professor of Electrical and Computer Engineering (ECE) and the Director of Power & Renewable Energy Systems (PRES) Laboratory within the ECE Department at UTEP. His research interests include power systems operations and markets, renewable energy integration and forecasting, machine learning applications, and smart grid. He has authored more than 100 scientific articles and proven technical, academic and leadership skill with various awards and honors. He is a recipient of best papers award by IEEE and Young Engineer award from IEEJ. He participates and assumes leadership roles in multiple professional groups within the IEEE Power and Energy Society (PES). He is a Senior Member of IEEE, Vice-Chair of IEEE PEEC award subcommittee, Secretary of IEEE New Product Development (NPD) Committee – Selection & Quality Control Subcommittee, and Member of various IEEE working groups and subcommittees. Dr. Mandal is a regular reviewer of journals and conferences and, serves as an Editorial Board of the journals and a session chair and panelist in IEEE PES conferences.

### CONTACT

Engineering Building - A-339 - (915) 747-8653 - pmandal@utep.edu

## Erika L. Mein

Associate Professor, Teacher Education - University Studies/Entering Student Program  
College of Education  
Associate Dean, Undergraduate Studies and Educator Preparation, College of Education

### KEYWORDS

• Academic Reading And Writing In Secondary/post-secondary Settings • Asset-based Approaches To Teaching And Learning • Literacy And Community-based Education In International Contexts • Second Language Writing • Teacher Development

### STRATEGIC AREAS

• Education for the 21st Century Demographic



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Dr. Erika L. Mein research focuses on the literacy/biliteracy practices of immigrant and transfronterizo/a youth and adults in and across multiple contexts. These contexts are both institutional, including communities and schools, and geographical, with a focus on Mexico and the US-Mexico border. Specifically, my research draws on sociocultural and critical perspectives on literacy to explore the everyday ways in which participants understand and use literacy in schools, communities, and civil society.

### CONTACT

Education Building - 601D - (915) 747-7673 - elmein2@utep.edu

## Eva Margarita Moya

Associate Professor, Social Work  
College of Health Sciences  
Interim Department Chair, Department of Social Work

### KEYWORDS

• Community-Engaged Scholarship • Homelessness • HPV • Intimate Partner Violence • Photovoice • Sexual And Reproductive Health • Tuberculosis

### STRATEGIC AREAS

• Education for the 21st Century Demographic • U.S. –Mexico and Latin America: Social and Behavioral Issues



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Dr. Moya's scholarly work spans the public health and macro practice areas, where she has conducted funded research. Areas of specialization are border health disparities, participatory action research and social work practice. Eva has conducted research on knowledge, attitudes and practices in tuberculosis; TB stigma; HIV/AIDS; advocacy; Photovoice; intimate partner violence; sexual and reproductive health; and homelessness. Her research is considered innovative and can be replicated by others. Examples include the validation of the TB Stigma Scale with Mexican populations which led to the incorporation of the scales in the first Knowledge, Attitudes and Practice (KAP) in Tuberculosis in Mexico study (2010-11). The findings of the KAP in TB Study in Mexico were presented to the leadership of the National TB Program in Mexico in 2011. The findings of the study informed Mexico's TB national education strategy and produced four 10-minute Spanish educational programs on DVDs for clinicians', health professionals', and the public's use. Dr. Moya is particularly interested in these three cross-cutting themes: Cross-cultural competency; social and behavioral health sciences and transnational social work studies.

### CONTACT

Health Sciences and Nursing Building - 437 - (915) 2536466-8493 - emmoya@utep.edu

## Jorge A. Munoz

Assistant Professor, Physics  
College of Science

### KEYWORDS

• Atomistic Simulations Of Materials • Complex Systems • Machine Learning • Materials Physics • Neural Networks

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology



Dr. Jorge Muñoz is interested in developing and applying machine learning algorithms to extend the reach of atomistic simulations of materials to study the interplay between thermodynamics and kinetics. He is also interested in investigating the fundamental properties and mechanisms of systems capable of learning such as neural and Bayesian networks, particularly in cases that exhibit adaptation, emergence, or phase transitions. Dr. Muñoz received his B.S. in Physics and Applied Mathematics from The University of Texas at El Paso (UTEP), his Ph.D. in Materials Science from the California Institute of Technology (Caltech), followed by employment at Intel Corporation as an Engineer in Components Research and as a Research Scientist in Algorithms Pathfinding.

### CONTACT

Physical Sciences Building - 312C - (915) 747-7541 - jamunoz@utep.edu

## Md Nurunnabi

Assistant Professor, Pharmacy  
School of Pharmacy

### KEYWORDS

• Bio-nanomaterials • Biomaterials • Drug Delivery • Image Guided Therapy

### STRATEGIC AREAS

• Health & Biomedical Sciences and Engineering



Dr. Nurunnabi is a translational scientist who has experience of both academic and industrial research along with founding start-ups. He brings to UTEP a research and teaching background in bioengineering, biomaterials, and drug delivery. He is interested in developing vehicles (nanoparticles, peptide and antibody mediated) for improving cellular and sub-cellular uptake of the therapeutics. The objective of his research is to maximizing therapeutic effects and minimize off-targeting mediated toxicity by increasing therapeutic concentration within the disease area. His laboratory further use molecular imaging technology to be able to track bio distribution of the therapeutics non-invasively which is widely known as "TheraNostic" and "image guided therapy". The key strength of his laboratory is to understand the interface between materials and biological molecules and to address the existing barriers and unmet needs for better management of patients in clinic. The lab utilizes the knowledge and expertise of material, engineering, chemistry and biology to come up with a feasible solution which is translational yet interdisciplinary. Prior to UTEP, Dr. Nurunnabi completed a postdoctoral fellowship at Harvard University. He is currently on the Early Career Editorial Board for the ACS Biomaterials Science & Engineering journal, and serving as editor of the biomaterials book series published by Elsevier. Dr.

### CONTACT

Campbell Building - 507 - (915) 747-8335 - mnurunnabi@utep.edu

## Bilge O'Hearn

Assistant Professor, Sociology and Anthropology  
College of Liberal Arts

### KEYWORDS

• Elites • Governance • Lobbying • Materiality • Policy Studies • Political Anthropology • Politicking • Politics • Power • Statecraft • Transport

### STRATEGIC AREAS

• Energy & Environment • Global Enterprise & Border Studies • U.S. –Mexico and Latin America: Social and Behavioral Issues



Bilge Firat is Assistant Professor of Anthropology at The University of Texas at El Paso. After receiving her undergraduate education in Sociology at Middle East Technical University in Ankara, Turkey, Bilge received her MA and PhD degrees in anthropology from Binghamton University. Trained as a political anthropologist, Bilge pursues questions of access and accountability through the corridors of power from high politics and international diplomacy, to energy and transport infrastructures. Her research interests include regionalism and regional integration; lobbying and informal governance; elites and statecraft; and energy and infrastructure development. Bilge has expertise and experience in cultures of lobbying, policymaking and supranational negotiation strategies in Europe, Eurasia and Turkey. Her recent book *Diplomacy and Lobbying During Turkey's Europeanisation: The Private Life of Politics* hones in on (in)formal negotiations of power, policy and statecraft among politicians, businessmen, diplomats and lobbyists during Turkey's contentious integration to the European Union. Bilge's next line of research follows energy transport infrastructures connecting Europe and Asia via Turkey, and the Americas in their making. Specifically, she is interested in how the materiality of energy-transport infrastructures shapes and is shaped by the cultures of states in their regions. Bilge has a certificate from Azerbaijan Diplomatic Academy's Energy Summer School.

### CONTACT

Old Main - 312 - (915) 747-6526 - bohearn@utep.edu

## Roberto A. Osegueda

Professor, Research and Sponsored Projects (Office of) - Civil Engineering  
College of Engineering  
Vice President, Office of Research and Sponsored Projects

### KEYWORDS

• TBA

### STRATEGIC AREAS

• Other



Dr. Roberto A. Osegueda has served as the Vice President for Research since September 2005, with the primary responsibility of overseeing all research and sponsored project activities at the University. Dr. Osegueda has been a champion in building human and research capacity and creating an environment of growth for research. He oversees an office that supports more than 300 faculty and staff who seek extramural funding for their research and sponsored project endeavors. Additionally, he has oversight of all University Research Centers. Dr. Osegueda has served the University of Texas at El Paso since September 1987 in various capacities as faculty, researcher and administrator. In administrative roles, he has been Assistant and Associate Dean of Engineering, Acting Dean of Engineering, and Director of the FAST Center for Structural Integrity of Aerospace Systems. His research has been funded by numerous agencies, including the Air Force Office of Scientific Research, NASA, Ballistic Missile Defense Organization (now Missile Defense Agency), the John Hopkins University Applied Physics Laboratory, Raytheon, NIST, Air Force Research Labs, the Texas Department of Transportation and other agencies and industrial partners. He graduated from Texas A&M University where he received a B.S. in Civil Engineering, M.S. in Civil Engineering, and Ph.D. He is a registered professional engineer in the State of Texas.

### CONTACT

Administration Building - 209 - (915) 747-5680 - osegueda@utep.edu

## Margie Esther Padilla

Clinical Associate Professor, Pharmacy  
School of Pharmacy

### KEYWORDS

• Anticoagulation • Co-curricular • Community Health Centers • Cultural Sensitivity • Diabetes • Disease State Management (DSM) • Health Belief Model • Immunizations • Interprofessional Practice And Education (IPE) • LGBTQIA • Medication Therapy Management (MTM) • Professional Development • Smoking Cessation • Vaccine Uptake • Vaccines

### STRATEGIC AREAS

• Education for the 21st Century Demographic • U.S. –Mexico and Latin America: Social and Behavioral Issues • Other



Dr. Padilla is a Clinical Associate Professor The UTEP School of Pharmacy. She has been engaged in the field of clinical pharmacy since May 2005. Dr. Padilla has a Bachelor's degree of Art in Science from Our Lady of the Lake University and Doctorate in Pharmacy from the University of Texas at Austin College of Pharmacy. She completed a post-graduate residency program in Ambulatory Care at Blackstock Family Practice in collaboration with the University of Texas at Austin College of Pharmacy. Her areas of research and passion interest include immunizations/vaccines (perceptions, barriers, misconceptions, beliefs) in underserved/underserved communities, chronic disease state management in Hispanic populations, and vaccine usage in student (higher education) populations. Other areas of interest include; development of clinic practice settings and patient care; development of collaborative practice agreements between pharmacists and providers; development of clinic or pharmacy policy and procedures; establishment of prescriptive authority; and enhancement of current clinical services in a both a federally-qualified community health center and private family medicine clinic. Dr. Padilla maintains a clinic site for development of her current research. Her interest in community-based research allows her to work with an interdisciplinary group of providers and members within the community.

### CONTACT

Campbell Building - 702 - (915) 747-8532 - meperez@utep.edu

## Celia M. Pechak

Associate Professor, Physical Therapy - Interdisciplinary Health Sciences  
College of Health Sciences

### KEYWORDS

• Global Health Education • Interprofessional Education • Linguistic Competence / Linguistic Safety In Physical Therapist Education

### STRATEGIC AREAS

• Education for the 21st Century Demographic



Global health education and reducing health disparities are the overarching themes of Dr. Pechak's primary research interests: global health competencies, linguistic competence, and interprofessional education (IPE). While there is no broadly accepted definition, Dr. Pechak concurs that "Global health [is] not bound by geography and focuses on vulnerable communities with limited resources..."<sup>1</sup> Her research has focused on preparing health professions graduates for effective and ethical engagement with underserved and/or vulnerable populations, regardless of the location, in order to reduce health disparities. The focus of her linguistic competence research is to develop a tool to evaluate physical therapist students' clinically-relevant Spanish. Her vision is that the UTEP DPT Program will be the exemplary educational model of how to prepare health professions students to effectively work with limited English proficient Spanish-speaking patients. Dr. Pechak also has growing expertise in IPE. She is currently a co-advocate for the Health-Focused IPE Community of Practice, and the College of Health Sciences' Faculty Fellow for IPE. 1. Balasta MA, Khanal Y, McGinniss J, Moyer P, Rabin TL. Global health without boundaries: structuring domestic and international opportunities to explore global health in a graduate internal medicine training program. *Annals Global Health*. 2016;82(6)1026-1033.

### CONTACT

Campbell Building - 311 - (915) 747-7289 - cmpechak@utep.edu

## Mark R. Pederson

Professor, Physics

College of Science

Department Chair, Department of Physics

### KEYWORDS

• Catalysis, • Density Functional Methods, • Infrared And Raman Spectroscopy, • Molecular Magnetism, • Quantum Science And Algorithms, • Scientific Computing,

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Energy & Environment • National Defense & Border Security • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology



Dr. Pederson's research is in chemical physics, condensed-matter physics, and computational physics. He has continuously concentrated on next-generation computing paradigms for quantum mechanics. Dr. Pederson's pioneering work demonstrated the quantitative computational prediction of quantum tunneling of magnetization (QTM) and spin-electric effects in molecular magnets. Both of these different collective phenomena arise from the spin of the electron. Quantitatively understanding conditions that allows for such coherent phenomena, is necessary from the standpoint of spin-Qubit design in quantum information science and may also unlock the mysteries of bio-navigation. He is currently attempting to link the fields of molecular magnetism and photocatalytic water splitting by demonstrating that variations in QTM, in reacting systems, can be used to spectroscopically sense conversion of water into oxygen and hydrogen without pumping energy into the system. Dr. Pederson is the primary author of a computer code, the Naval Research Laboratory Molecular Orbital Library (NRLMOL), that describes how nanoscale systems interact with electromagnetic radiation. The opportunity to concentrate on developing this code over a long period has enabled these unique computational investigations and predictions.

### CONTACT

Physical Sciences Building - mrpederson@utep.edu

## Deana D. Pennington

Associate Professor, Geological Sciences

College of Science

### KEYWORDS

• Geospatial • Integrated Modeling And Analysis • Interdisciplinary Teamwork • Knowledge Representation • Scenario Analysis • Simulation • Socio-environmental Systems

### STRATEGIC AREAS

• Energy & Environment • Cyberinfrastructure and Collaborative Environments



Dr. Deana Pennington conducts research in three interrelated areas: 1. Land change, sustainability science, and human/environmental systems; 2. Emerging technologies in science, and data-intensive science; and 3. The science of convergence and interdisciplinary team science. Most of her projects incorporate elements of all three.

### CONTACT

Geological Sciences Building - 305C - (915) 747-5867 - ddpennington@utep.edu

## Rebecca Ann Reid

Assistant Professor, Political Science  
College of Liberal Arts

### KEYWORDS

- Comparative Courts • Human Rights • Indigenous Law • International Law • Judicial Decision Making
- Judicial Politics

### STRATEGIC AREAS

- Other



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Dr. Rebecca Reid, Assistant Professor of Political Science at The University of Texas at El Paso, specializes on the establishment and maintenance of the rule of law, the tensions and interactions between international and domestic law, and determinants of judicial decision making in a variety of courts within American and comparative contexts. Her work appears in academic journals such as Political Research Quarterly, The Justice System Journal, and The Journal of Law and Courts, as well as within edited volumes by Routledge and University of Michigan.

### CONTACT

Benedict Hall - 307 - (915) 747-7970 - rareid@utep.edu

## José O. Rivera

Professor, Pharmacy - Interdisciplinary Health Sciences  
School of Pharmacy  
Dean, School of Pharmacy

### KEYWORDS

- Bacterial Resistance • Border Health • Herbal Medicine • Medication Literacy

### STRATEGIC AREAS

- Other



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Dr. Rivera's research interests include border health, complementary alternative medicine, antibody resistance, and medication literacy. His work focuses on improving patient outcomes by understanding healthcare practices on the U.S.-Mexico border.

### CONTACT

Campbell Building - 110H - (915) 747-8535 - jrivera@utep.edu

## Leslie K. Robbins

Professor, School of Nursing - Interdisciplinary Health Sciences  
School of Nursing  
Interim Dean, School of Nursing

### KEYWORDS

• Addictive Disorders • Emotional Intelligence • Interprofessional Education • Mental And Behavioral Health • TBI

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Other



Leslie K. Robbins, PhD, MSN, APRN-BC, RN, FAANP, ANEF is a Professor and Interim Dean in the School of Nursing at The University of Texas at El Paso. Prior to her current endeavor, she served as a Trauma Resolution Therapist, in which position she employed specialized, person-focused, solution-centered methods of psychotherapy that draw on the principles of cognitive behavioral therapy in conjunction with other therapeutic methods. Dr. Robbins, as she is often referred to, established the first DNP program at The University of Texas at El Paso and currently serves as the director. She also developed a grant-supported distance education Psychiatric Mental Health Nurse Practitioner Program and therefore increased the number of mental health practitioners across the nation. Dr. Robbins is dedicated to both student and faculty success. Her clinical practice focuses on providing mental health care to underserved populations. She attributes her success to moving with a good oriented mind set and to her corrective persistence. A published author, Leslie is also found engaging in local, regional, national and international public speaking. She features nearly 40 years of experience in nursing with a special focus on nursing administration and nursing education and always guided by her passion for nursing.

### CONTACT

Health Sciences and School of Nursing Building - CHSSON 372 - (915) 747-7227 - lhrobbins@utep.edu

## Chris Christopher Roberts

Assistant Professor, Electrical and Computer Engineering  
College of Engineering

### KEYWORDS

• 3D Printing • Additive Manufacturing • Microelectromechanical Systems • Microsystems • Robotics • Sensors

### STRATEGIC AREAS

• Energy & Environment • Health & Biomedical Sciences and Engineering • National Defense & Border Security • Cyberinfrastructure and Collaborative Environments • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology



Dr. Roberts' research interests focus on the design, fabrication, and integration of novel sensors and sensor systems. Particular interest is in the areas of micro-electro-mechanical systems (MEMS) and through the use of additive manufacturing for the fabrication of precision sensors, actuators, and electro-mechanical systems. Application areas include medicine, robotics, and energy.

### CONTACT

Engineering Building - A310 - (915) 747-6959 - rcroberts@utep.edu

## William (Bill) Roberts

Assistant Professor, Occupational Therapy  
College of Health Sciences

### KEYWORDS

• Context • Culture • Health Science Education • Occupational Therapy Education • Post-secondary Education • Situated Learning

### STRATEGIC AREAS

• Other



Dr. Roberts' research reflects his passion regarding occupational therapy education, culture, and context. Experiences practicing and teaching occupational therapy internationally drove Dr. Roberts to question how culture and context influenced his therapeutic and education practice. His scholarship explores how culture and context impact occupational therapy education in places where the profession is emerging and where educators often rely on curricular resources that are produced in Western countries and represent different cultural and contextual realities. Most recently, Dr. Roberts has studied the strategies occupational therapy educators used to situate their curriculum in their local cultures and context.

### CONTACT

Campbell Building - 301 - (915) 747-8153 - wroberts2@utep.edu

## William H. Robertson

Professor, Teacher Education  
College of Education

### KEYWORDS

• Action • Constructivism • Curriculum • Education • Edutainment • Instruction • Integration • Learning • Physics • Problem-based • Real-world • Science • STEM • Teaching • Technology • Video

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Global Enterprise & Border Studies • U.S. –Mexico and Latin America: Social and Behavioral Issues



Dr. William H. Robertson is a Professor in the Teacher Education Department in the College of Education at The University of Texas at El Paso. His academic areas of expertise are in science education, curriculum development and technology integration in the K-12 levels. A long time participant and performer in skateboarding with over 40 years in the sport, Dr. Robertson has developed Dr. Skateboard's Action Science (<http://www.drskateboard.com>), which addresses physical science concepts for middle school students utilizing skateboarding and bicycle motocross (BMX). He is the author of Action Science: Relevant Teaching and Active Learning. Additionally, he develops, researches and teaches materials related to problem-based learning and action science. Dr. Robertson was a recipient of the 2009 University of Texas Regents' Outstanding Teaching Award for Tenure-Track Faculty and in 2008, Dr. Robertson was selected as a Fulbright US Scholar and worked in Santiago, Chile at the Universidad Metropolitana de Ciencia de la Educación (UMCE) in the department of Physics. Prior to coming to UTEP, Dr. Robertson was an employee at Los Alamos National Laboratory (LANL). Dr. Robertson completed his Ph.D. in Multicultural Teacher and Childhood Education with an emphasis in science and technology at the University of New Mexico in 2000.

### CONTACT

Education Building - 807 - (915) 747-6426 - robertson@utep.edu

## Salamah Salamah

Associate Professor, Computer Science  
College of Engineering

### KEYWORDS

• Cyber Security • Engineering Education • Formal Methods • Software Engineering • Software Engineering Process • Software Quality Assurance

### STRATEGIC AREAS

• Education for the 21st Century Demographic • National Defense & Border Security



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Dr. Salamah spent five and a half years as an assistant and later associate professor in Computer Science and Software Engineering at Embry-Riddle Aeronautical University. He joined UTEP in January 2013 to direct the Masters of Science in Software Engineering (MSSwE) program. His teaching and research interests include software engineering process, software quality assurance for safety-critical systems, and formal methods in software development. His research has been supported by NASA, the Software Engineering Institute (SEI), the National Science Foundation (NSF), Honeywell Corporation, and Lockheed Martin Corporation. Dr. Salamah also directs the NSF-Funded Scholarship For Service Program at UTEP. The program provides funds for students entering the MSSwE Secure Cyber-Systems track or PhD in Computer Science with an emphasis in cyber-security.

### CONTACT

Chemistry and Computer Science Building - 3.0608 - (915) 747-6671 - isalamah@utep.edu

## Yuanrui Sang

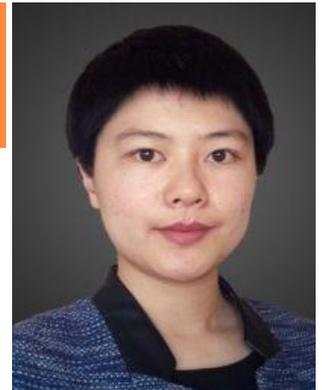
Assistant Professor, Electrical and Computer Engineering  
College of Engineering

### KEYWORDS

• Flexible Power Transmission Systems • Power System Economics • Power System Reliability And Resilience • Renewable Energy

### STRATEGIC AREAS

• Energy & Environment • Health & Biomedical Sciences and Engineering • Cyberinfrastructure and Collaborative Environments



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Dr. Sang's research focuses on power system operations and planning, including the analysis of power system economics, reliability and resilience, based on power system optimization models. Her other research interests include the application of high-performance computing in power systems research, nexus of critical infrastructures, and environmental impact of energy systems. Her previous research experience includes the application of power flow control technologies in power systems, preventive operation of power systems during hurricanes, and marine energy.

### CONTACT

Engineering Building - A-334 - (915) 747-6632 - ysang@utep.edu

## Gregory S. Schober

Assistant Professor, Rehabilitation Sciences  
College of Liberal Arts

### KEYWORDS

• Community-Engaged Scholarship • Food Insecurity • Health Policy • Political And Civic Behavior • Poverty • Social Policy

### STRATEGIC AREAS

• Global Enterprise & Border Studies • Health & Biomedical Sciences and Engineering • U.S. –Mexico and Latin America: Social and Behavioral Issues



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Dr. Schober's research interests include health policy, political and civic behavior, and global health. His research agenda currently focuses on four main areas: (1) the consequences of health policy for behavior and health; (2) governance and health in developing countries; (3) health disparities among patients with diabetes in the U.S.-Mexico border region; and (4) poverty, food assistance, and health.

### CONTACT

Health Sciences and Nursing Building - 486 - (915) 747-8506 - gschober@utep.edu

## Jessica M. Shenberger-Trujillo

Clinical Assistant Professor, Pharmacy  
School of Pharmacy

Director, Assessment and Evaluation, School of Pharmacy

### KEYWORDS

• Assessment • Attitude And Behavior Change • Community-Based Participatory Research • Cultural Change • Cultural Conflict • Cultural Identity • Evidence-Based Practices • Military Social And Behavioral Research • Program Evaluation • Scholarship Of Teaching And Mentoring • Social Psychology • Statistical Methods

### STRATEGIC AREAS

• Education for the 21st Century Demographic • National Defense & Border Security • U.S. –Mexico and Latin America: Social and Behavioral Issues



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Dr. Shenberger-Trujillo engages in social and behavioral research related to intergroup conflict, culture, and religion. Additionally, she investigates factors that predict health attitudes and behaviors. As the Director of Assessment and Evaluation for UTEP's School of Pharmacy, Dr. Shenberger-Trujillo leads accreditation efforts, assessment of student outcomes, and program evaluation. Dr. Shenberger actively mentors undergraduate, graduate, and professional (PharmD) students on research projects.

### CONTACT

Campbell Building - 110-D - (915) 747-8518 - jmshenberger@utep.edu

## Eric D. Smith

Associate Professor, Industrial, Manufacturing, and Systems Engineering (IMSE)  
College of Engineering  
Graduate Coordinator, Graduate Program Director, IMSE Dept.

### KEYWORDS

• Cognitive Biases • Industrial Engineering • Systems Engineering • Tradeoff Studies

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Energy & Environment



Dr. Smith's work within the Systems Engineering Program and the IMSE Department is to ensure that teaching initiatives are directed toward increasingly networking with industries of practice in order to draw in industry knowledge and at the same time plug-in students to their personally discovered career paths and areas of contribution.

### CONTACT

Engineering Building (Engineering and Sciences Complex) - A-245 - (915) 747-5205 - esmith2@utep.edu

## Charles Thomas Spencer

Associate Professor, Biological Sciences - Biology, Ecology and Evolution - Border  
Biomedical Research Center (BBRC)  
College of Science  
Director, Assessment for Biological Sciences

### KEYWORDS

• Animal Models • Bacteria • Immune Response • Immunology • Infectious Disease

### STRATEGIC AREAS

• Health & Biomedical Sciences and Engineering • National Defense & Border Security



Charles T. Spencer, Ph.D., is an Assistant Professor of Biological Sciences. Dr. Spencer's research interests are in zoonotic and re/emerging bacterial infectious diseases and the disease burdens of such accumulating at national boundaries. Inflammation is a critical part of our immune response to infectious diseases. However, certain infectious diseases –e.g., Francisella tularensis, Ebola, pandemic influenza, hantavirus, SARS and MERS– trigger an exuberant host inflammatory response defined by excess production of pro-inflammatory cytokines by immune cells, a condition termed “cytokine storm.” For these diseases, the production of this pathological cytokine storm is the direct cause of acute respiratory distress (ARDS), hemorrhage, hypovolemic shock, pneumonia, tissue damage, and ultimately of death of the patient. Currently, the laboratory focuses on Francisella tularensis, the causative agent of tularemia and rabbit fever and a potential bioweapon. The objective of this research program is to define the immune response elicited by inflammatory infectious diseases with the ultimate goal of determining commonalities that could be targeted for therapeutic intervention. For this, he seeks to analyze the cellular activation, serum cytokines, tissue proteins and lipids, metabolic activity, and transcriptional activation of the immune response. These data will be compared to direct comparisons and previous results obtained with conventional infections.

### CONTACT

Bioscience Research Building - 5.148 - (915) 747-8776 - ctspencer@utep.edu

## Carlos Anthony Tarin

Assistant Professor, Communication  
College of Liberal Arts

### KEYWORDS

• Borderland Studies • Debate • Environmental Communication • Forensics • Indigenous Studies • Latina/o Communication • Latinx Studies • Non-profit Organizing • Organizational Communication • Qualitative Research Methods

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Energy & Environment • Global Enterprise & Border Studies • U.S. –Mexico and Latin America: Social and Behavioral Issues



Dr. Tarin's research interests lie at the intersection(s) of organizational communication and the environment. Specifically, he is interested in exploring how organizations employ situated cultural discourses as a means of fostering environmental engagement. Much of his work draws on structuration theory and structuring activity theory as a way of understanding how organizational practices become routinized and codified. He has written on a variety of topics ranging from environmental public participation, eco-cultural identity, and decolonial organizing. His work generally focuses on international contexts and the US/Mexico border. In addition to his work on environmental organizing, Dr. Tarin is also interested in issues of difference and identity. His work in this area has focused on topics such as sexual harassment in higher education, diversity and inclusivity, and identity formation in intercollegiate forensics.

### CONTACT

Cotton Memorial - 102 - (915) 747-6202 - catarin@utep.edu

## Andrea Tirres

Staff, Research and Sponsored Projects (Office of)  
Center/Other Units  
Manager, Interdisciplinary Network - Office of Research and Sponsored Projects

### KEYWORDS

• Community Of Practice • Hispanic-Serving Institutions • Inclusion • Interdisciplinary • Transdisciplinary • Translational

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Energy & Environment • Global Enterprise & Border Studies • Health & Biomedical Sciences and Engineering • National Defense & Border Security • Cyberinfrastructure and Collaborative Environments • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology • U.S. –Mexico and Latin America: Social and Behavioral Issues



Andrea Tirres is the Interdisciplinary Network Manager within the Office of Research and Sponsored Projects. Her efforts center on creating a framework through which research teams, communities of practice, and individuals are provided with strategic opportunities, tools, and knowledge to advance interdisciplinary research and activities. She also serves as Deputy Director of the Computing Alliance of Hispanic-Serving Institutions (CAHSI), an NSF INCLUDES national alliance. As a member of the CAHSI Backbone, she focuses on training leadership within each geographic region, building strategic relationships with industry and nonprofit stakeholders at a national level, and managing the CAHSI Student Scholars Leadership Program. She is co-advocate of the Interdisciplinary Research and Education Community of Practice and also serves on the President's Advisory Committee on Campus Sustainability. Tirres has contributed to a variety of projects during her career, including shared water resources in the context of individual, community and government management, affordable lending products within the financial services sector, and community development. She holds an M.P.Aff. from the University of Texas at Austin and a B.A. from Stanford University.

### CONTACT

Kelly Hall - (915) 747-7352 - altirres2@utep.edu

## Emre Umucu

Assistant Professor, Rehabilitation Counseling  
College of Health Sciences

### KEYWORDS

- Aging And Alzheimer's Disease • Chronic Illnesses And Disability • Community-Engaged Scholarship
- Diabetes • Positive Psychology And Mental Health • Veterans • Well-Being And Happiness

### STRATEGIC AREAS

- Education for the 21st Century Demographic • Health & Biomedical Sciences and Engineering • U.S. –Mexico and Latin America: Social and Behavioral Issues • Other



Dr. Umucu's research focuses predominantly on psychosocial adaptation to chronic illnesses and disabilities. Currently, Dr. Umucu is working on evaluating and validating PERMA (i.e., Positive emotion, Engagement, Relationships, Meaning, Accomplishment) model of well-being individuals with chronic conditions. He is also interested in developing culturally-sensitive positive psychology interventions to improve well-being among individuals with chronic health conditions, such as severe mental illness, substance use disorder, Alzheimer's disease, and diabetes. He has published several scientific articles and book chapters on psychosocial adjustment, employment, quality of life, well-being among individuals with chronic illnesses, including severe mental illness, diabetes, brain injury, and Alzheimer's disease.

### CONTACT

Campbell Building - 409 - (915) 747-7275 - eumucu@utep.edu

## David Vila Dieguez

Assistant Professor, Languages and Linguistics  
College of Liberal Arts

### KEYWORDS

- Cultural Studies • Latin America • Popular Music • Portugal • Punk • Spain

### STRATEGIC AREAS

- Other



David Vila Dieguez studies Spanish culture and literature; Iberian studies; Basque, Galician and Portuguese culture, literature and languages; subcultural and punk studies; contemporary Iberian and Latin-American song studies; popular music; and the relationship between contemporary popular culture and political activism.

### CONTACT

Liberal Arts Building - 216 - dviladiegu@utep.edu

## Elsa Y. Villa

Clinical Assistant Professor, Teacher Education - Research and Sponsored Projects (Office of)  
- University Studies/Entering Student Program  
College of Education

### KEYWORDS

• Communities Of Practice • Cooperative Learning • Engineering Identity • Inquiry-based Learning • Problem-based Learning • Situated Learning

### STRATEGIC AREAS

• Education for the 21st Century Demographic



Dr. Villa shares her appointment between the UTEP Office of Research and Sponsored Projects and the UTEP College of Education where she is director of the Center for Education Research and Policy Studies. She has taught at numerous levels: grades 7 through 12, community college, and university in the disciplines of mathematics, science, education, engineering, and computer science. Dr. Villa recently led an NSF-funded grant Latinas in Computer Science and Engineering, an investigation of identity and agency of undergraduate Latina students with co-PIs from the UTEP Colleges of Engineering, Liberal Arts, and Education. Currently, Villa is PI of a U.S. Department of Education grant with co-PIs from the UTEP Colleges of Engineering, Science, and Education. Since 1994, Villa has led and co-led numerous STEM grants from corporate foundations and state and federal agencies, and has publications in refereed journals and edited books. Her research interests include communities of practice, gender, STEM teacher education, transformative learning, and identity.

### CONTACT

Education Building - EDUC 100E - (915) 747-6948 - [evilla@utep.edu](mailto:evilla@utep.edu)

## Natalia Villanueva Rosales

Assistant Professor, Computer Science  
College of Engineering

### KEYWORDS

• Cyberinfrastructure • Data Exchange • Data-to-model Integration • Ontology Engineering • Question Answering • Semantic Web

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Energy & Environment • Cyberinfrastructure and Collaborative Environments • Emerging Technologies: Information Technology • Biotechnology & Nanotechnology



The amount of scientific data has dramatically increased with the development of faster and cheaper technology. In 2020, 44 trillion gigabytes are expected to be found as digital data. The manual processing of scientific data is no longer scalable. Dr. Villanueva Rosales' research aims to improve the automated discovery, integration, analysis and interpretation of scientific data by providing context or meaning to information using Semantic Web technologies. This context, encoded in ontologies, can be used by computers to identify data and models required to answer a specific research question. The impact of her work can be clearly appreciated when it is applied to interdisciplinary research, where a key challenge is the integration of data and reusability of models initially created for a different purpose. Two distinctive areas of her research include data- and ontology-based knowledge negotiation and the creation of trust models for interdisciplinary teams. Her work has been applied in the areas of pharmacogenomics, ecology and climate change.

### CONTACT

Chemistry and Computer Science Building - 3.0508 - (915) 747-8643 - [nvillanuevarosales@utep.edu](mailto:nvillanuevarosales@utep.edu)

## Charlotte M. Vines

Associate Professor, Biological Sciences - Border Biomedical Research Center (BBRC) -  
Biology, Biomedicine  
College of Science

### KEYWORDS

• Autoimmune • Breast Cancer • Central Nervous System • Chemokine • Childhood • Leukemia

### STRATEGIC AREAS

• Health & Biomedical Sciences and Engineering



Dr. Vines studies the G protein-coupled receptor called CC Chemokine Receptor 7 (CCR7). This receptor (expressed on different populations of T cells, activated B cells, neutrophils, monocytes, NKT cells and dendritic cells) plays roles in regulating trafficking of these cells into and out of the lymph nodes. Her laboratory studies the signaling events that are controlled by CCR7 that promote migration of cells in the body. Her laboratory is working to identify signaling events in breast and T cell cancers that can serve as targets to block growth or movement of these cancers.

### CONTACT

Bioscience Research Building - 4.124 - (915) 747-8127 - cvines@utep.edu

## Amy E. Wagler

Associate Professor, Mathematical Sciences - Computational Science - Border Biomedical  
Research Center (BBRC)  
College of Science

### KEYWORDS

• Bias Reduction And Small Sample Size Adjustments In Generalized Linear Models Settings •  
Generalized Linear Mixed Models • Language And Culture In Statistics Education • Latent Variable  
Models • Multiple Comparisons • Readability Of Instructional Materials • Simultaneous Inference

### STRATEGIC AREAS

• Education for the 21st Century Demographic • Health & Biomedical Sciences and Engineering • U.S.  
–Mexico and Latin America: Social and Behavioral Issues • Other



Dr. Amy Wagler conducts research on models with categorical outcomes, including generalized linear and mixed models, and, in particular, she specializes in simultaneous estimation of quantities resulting from these models. Many of her research projects involve making small sample adaptations to estimation procedures for generalized linear and mixed models and developing powerful methods of multiplicity control for non-normally distributed endpoints. Dr. Wagler also working on projects where latent variables are integrated into generalized linear mixed models while controlling for multiplicity of inferences in these settings. Another aspect of her scholarly activity involves work on various applications of generalized linear models in educational research. Current research topics include: English language learners experiences and resources when learning introductory statistics, assessing the lexical and grammatical complexity of introductory statistics textbooks, science and statistics integration activities, and the use of calibration exercises and post-dictions in introductory statistics.

### CONTACT

Bell Hall - 311 - (915) 747-6847 - awagler2@utep.edu

# John S. Wiebe

Professor, Psychology  
College of Liberal Arts  
Interim Provost and VPAA, Academic Affairs



## KEYWORDS

• Adherence • Chronic Illness • Coping • HIV • Mental Health • Testing

## STRATEGIC AREAS

• Education for the 21st Century Demographic • Health & Biomedical Sciences and Engineering • U.S. –Mexico and Latin America: Social and Behavioral Issues

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Dr. Wiebe's research has focused on adaptation to severe chronic medical conditions, such as end-stage renal disease and HIV infection. He is interested in individual differences in cognitive, emotional, and behavioral adaptation to chronic illness, and developing clinical interventions to improve patient adaptation and quality of life in resource-limited environments. His lab group has recently been involved in the adaptation of cognitive-behavioral therapy for depression and medication nonadherence for use among Spanish-speaking Latinos living with chronic illness. The group is also doing work aimed at understanding the role of substance use in avoidant coping among the chronically ill.

## CONTACT

Administration Building - 310 - (915) 747-7611 - [jwiebe@utep.edu](mailto:jwiebe@utep.edu)