The Graduate Student Research EXPO 2018 is made possible in part by the Expo Planning Committee:

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GRADUATE STUDENT RESEARCH EXPO 2018

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WELCOME FROM THE DEAN

Dear Graduate Research Expo Participants, Judges, and Guests,

On behalf of the UTEP Graduate School, I am pleased to welcome you to the Eighth Annual Graduate Student Research Expo.

One of the most rewarding aspects of graduate study is the opportunity to share new-found knowledge with fellow scholars. For me and for my fellow faculty members, it is extremely rewarding to work closely with you—the next generations of researchers—as you identify important intellectual questions and conduct the research that leads to resolutions of these questions. A crucial element of that enterprise is the public presentation of your research results. The Graduate Student Research Expo provides you the chance to develop the professional skills that allow you to present effectively and contribute to the scholarly interchange that is essential to the development and dissemination of knowledge.

For assistance in putting the program together, we thank those faculty members who have worked closely with presenters as well as faculty, staff, and community members who have agreed to serve as judges. Dr. Aaron Waggoner, Assistant Director for Professional Development & Support, has done an exemplary job planning the Expo, ably assisted by many EXPO Committee members, Graduate School staff members and student volunteers. In particular, I want to recognize the efforts of graduate students Abby Sescio, Sal Dominguez, and Nathalie Gonzalez; their hard work made this event possible. Laura Fernandez, Graduate School Administrative Assistant, and Blanca Carrasco, Assistant Director for Outreach & Communication, were also extremely helpful in our preparation for the EXPO. Finally, I want to thank Dr. Denis O’Hearn, Dean of the College of Liberal Arts, for agreeing to give the keynote address at our luncheon.

Congratulations to all participants!

Charles Ambler, Dean of the Graduate School

Roundtable: Research Excellence

Dr. Lucia Durá, Moderator  Jacqueline Lechuga
Associate Dean, Graduate School  Psychology (PhD)

Rachel Kernen  Suzanne Apodaca
Geological Sciences (PhD)  Environmental Science & Engineering (PhD)

Dr. Lucia Durá, Moderator  Jacqueline Lechuga
Associate Dean, Graduate School  Psychology (PhD)

Rachel Kernen  Suzanne Apodaca
Geological Sciences (PhD)  Environmental Science & Engineering (PhD)
DENIS O’HEARN, Ph.D., has been appointed Dean of the College of Liberal Arts effective July 1, 2018. He comes to UTEP from Texas A&M University, where he has led the Department of Sociology since 2016.

O’Hearn, a native of Carlsbad, New Mexico, earned his doctorate in sociology from the University of Michigan in Ann Arbor in 1988. He also earned master’s degrees in sociology (’85), and in economics and Russian & Eastern European Studies (’78) from the same institution. He received his bachelor’s degree in economics from the University of New Mexico in 1975.

Before arriving at Texas A&M, O’Hearn was a professor of sociology at Binghamton University, which is part of the State University of New York. He has also held academic positions at the University of Wisconsin-Madison and the University of Notre Dame, and institutions in Turkey, Japan, Portugal, Ireland and Réunion Island. He was a Fulbright Scholar in the Department of Sociology at University College-Dublin, Ireland, in 1991-92.

The new dean is a prolific and award-winning author. Most of his publications are about the effects of transnational corporations on socio-economic development and on communities in prisons. His book subjects range from Irish economic history to Cossacks in Russia and the Zapatistas in Mexico. He also wrote a biography on Irish hunger striker Bobby Sands. The American Sociological Association presented him with two Distinguished Book Awards and he also won the Alessandro Tassoni Prize and the International Award Citta ‘di Cassino Letterature dal Fronte, the top Italian book prizes.
HEALTH POSTERS II

Global Health Competencies for Occupational Therapist Education in The United States
Carina Baeza, Occupational Therapy (MDT)
Julio Cesar Martinez, Occupational Therapy (MDT)
Anissa Reynard, Occupational Therapy (MDT)

Peg-400 Coated Chitosan Nanoparticles Loaded with Ellagic Acid for the Prevention of Parkinson Disease By Rotenone Induced Mechanism
Jyoti Ahlawat, Chemistry (PhD)

Case Report: Anatomic Variant- Cadaver with Supernumerary Kidney
Ashley Victoria Alvidrez, Physical Therapy (DPT)

Exploiting Semantic Relationships for Prediction of Drug-Target Binding from Genomic Data.
Ricardo Avila, Bioinformatics (MS)

An Observational Study of Reach Planning and Action in Children with Autism Spectrum Disorder Compared to Typical Developing Children
Patrick A. Cerceceres, Interdisciplinary Health Sciences (PhD)

Sensory Integration and Its Role in Neural Plasticity in Children Diagnosed with Autism Spectrum Disorder
Clarissa Katilyn Diaz, Kinesiology (MS)

Promoter-specific expression of glucosylceramide synthase in Giardia alters its differentiation and protein profile
Vanessa Enriquez, Pathobiology (PhD)

Synthesis of Neoglycoproteins as Potential Vaccines for Chagas Disease
Elisa Garcia Carvajal, Chemistry (PhD)

2D Airy Beam Sheet in Two-Photon Flow Cytometry
Rajen Kumar Goutam, Physics (MS)

Graduate SLP Students’ Attitudes Toward Individuals That Are Transgender: Pre-Post-Academic & Clinical Experiences
Blanca Rene Lopez, Speech-Language Pathology (MS)

El Conocimiento del Modelo Educativo y su Influencia en la Metodología Docente
Elizabeth Márquez Tarango, Educación (Maestría en Ciencias de la Docencia Médica)

Optimization of Heme Oxygenase 1 (HO-1) Protein Expression in BL 21
Roberta Thimbrell, Interdisciplinary Health Sciences (PhD)

The Effects of Congruency on Cross-modal Visual and Auditory Recognition
Haydon Garrett White, Psychology (PhD)

Factores Académicos y Éticos que Inciden en la Aplicación en Lendemó de Vidrio
Heidi Villarreal Dominguez, Educación (Maestría en Ciencias de la Docencia Médica)
THURSDAY, NOVEMBER 8

HEALTH POSTERS 1

Comparing Exercise Levels and Independence in ADLs and IADLs between Seniors at the Pavo Real Senior Center and YMCA in El Paso, Texas: A Cross-Sectional Research Study
Dominique E. Arroyo, Occupational Therapy (MOT)
Jasmine Flores, Occupational Therapy (MOT)
Rebeca Alejandro Perez, Occupational Therapy (MOT)

Effects of Expressive Art on Well-Being in the Homeless Population of El Paso
Aurora Banda, Occupational Therapy (MOT)
Ashley Nicole Duenas, Occupational Therapy (MOT)
Lila Cynthia Favela, Occupational Therapy (MOT)
Elizabeth Hida, Occupational Therapy (MOT)

The Effects of Mindfulness and Art Activities on Caregiver Burden
Joshua Brooks, Occupational Therapy (MOT)
Delene N. Gonzales, Occupational Therapy (MOT)
Marisela Gomez, Occupational Therapy (MOT)
Joshua Padilla, Occupational Therapy (MOT)

Post-traumatic Stress Disorder Symptoms, Well-Being, and College Adjustment in Veterans: A Multiple Mediation Analysis
Yazmin Castanuita, Rehabilitation Counseling (MRC)
Alexis Vargas, Rehabilitation Counseling (MRC)
Adriana O. Cordero, Rehabilitation Counseling (MRC)

Puzzles and Older Adults in El Paso, Texas
Kinea Ali, Occupational Therapy (MOT)
Veronica Brownshaw, Occupational Therapy (MOT)
Megan Villere Goldner, Occupational Therapy (MOT)
Andres Silva, Occupational Therapy (MOT)

Antibiotic Resistance of Extended Spectrum b-Lactamases (ESBLs) in Hospitalized Patients in the El Paso, TX and Juarez, Mexico Border Area
Maria Fuentes, Interdisciplinary Health Sciences (PhD)

Effects of Corner Sitting on the Pre-Term Infant
Ana P. G. Lionel, Physical Therapy (DPT)

Implications of Dual Language Scoring on the PLS-5 for Bilingual Preschool-Aged Children
Callie Rae Mathis, Speech-Language Pathology (MS)

Listener Perception as a Measure of Treatment Effectiveness in Voice Modification for a Transwoman
April Gutierrez, Speech-Language Pathology (MS)

Physical Therapist Spanish Fluency as a Predictor of Patient Perceptions of Warmth and Competence
Samantha Guerrero, Physical Therapy (DPT)

Alteraciones Tempomandibulares y Odontológicas en Pacientes Con y Sin Artritis Reumatoide
Rosa Maria Campos, Salud (Maestría en Ciencias de la Docencia Médica)

FRIDAY, NOVEMBER 9

Multi-Discipline Scholarship

THE UNIVERSITY OF TEXAS AT EL PASO
PANEL PRESENTATIONS
## THURSDAY, NOVEMBER 8

### MENTAL HEALTH

**Well-Being as a Higher-Order Construct: A Hierarchical Confirmatory Factor Analysis in a Sample of Veterans with Mental Illnesses**

Adriana Cordero, Rehabilitation Counseling (MRC)
Alyxis Vargas, Rehabilitation Counseling (MRC)
Yazmin Castrolia, Rehabilitation Counseling (MRC)

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### GENETIC & ENVIRONMENTAL RISK FACTORS

**Prevalence of Obesity and Risk Factors for Metabolic Syndrome among Uninsured College Hispanic Students in El Paso, Texas**

Juan Aguillera, Interdisciplinary Health Sciences (PhD)
Karen Del Rio, Leadership Studies (MS)
Salvador Dominguez, Interdisciplinary Health Sciences (PhD)
Mdn Nurul Huda, Biomedical Engineering (PhD)
Francisco Morales, Interdisciplinary Health Sciences (PhD)

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### LANGUAGE & BILINGUALISM

**Grammatical Error Types using a Picture Description Task in English and Spanish with Young Children**

Isabel Angelica Cano, Speech-Language Pathology (MS)
Lisa Vallces, Speech-Language Pathology (MS)
Stephanie Escobar, Speech-Language Pathology (MS)

**Language Proficiency Measures that Predict Language Performance of Preschool Bilingual Children**

Jordan Allyssabeth Orozco, Speech-Language Pathology (MS)

**Age-Related Changes in Speech Recognition Performance in Spanish-English Bilinguals**

Jordan Allyssabeth Orozco, Speech-Language Pathology (MS)

**Is the Physical Therapy Spanish Proficiency Measure a Valid Tool to Assess Physical Therapist Students Clinically-Relevant Spanish Language Abilities?**

Evelyn Villareal, Physical Therapy (DPT)
The Social Effects of Deportation and how Post-9/11 Rhetoric Changed Immigration Policy
Eduardo Coronel, Borderlands History (PhD)

Movilidad Humana: Diseño y Validación de Instrumento para su Evaluación; Encuesta de Percepción sobre Movilidad Humana 2018
Minerva Rosario Hernández Saucedo, Ciencias Sociales (Carrera en Ciencias de la Comunicación)

Humanizando la Deportación: Fase II
Anna Daniela Velez Arroyo, Ciencias Sociales (Carrera en Relaciones Internacionales)

Additive Manufactured Electric Motor
Carlos Felipe Acosta Carrasco, Mechanical Engineering (MS)

Optimal Control and Stability Analysis for a Resilient Mixed Capacity Oriented Production-Inventory System
Yasser Alberto Davison, Manufacturing Engineering (MS)

Development of a Wire Embedding Device for Large Area Additive Manufacturing System
Christopher Minjares, Mechanical Engineering (MS)

Titanium Nitride Metal Matrix Composites
Andrés Gerardo Navarro, Mechanical Engineering (MS)

A Modified Wilshire Model for Long-Term Creep Deformation Prediction
Jaime Aaron Cane, Mechanical Engineering (MS)

Evaluation of Promising Performance Test Methods to Determine Cracking Resistance of Asphalt Concrete Matures
Elias Castilla, Civil Engineering (MS)

Pavement Damage Analysis in Texas Overload Corridors
Ali Morovatdar, Civil Engineering (MS)

A Comparison of Calibration Techniques for the Theta Projection Model
Jimmy Jesus Perez, Mechanical Engineering (MS)

Fundamental Motion & Crystal Orientation of CdTe Grain Boundaries via Molecular Dynamics
Sharmin Abdullah, Computational Science (PhD)

Can We Generate Hydrogen Fuel Efficiently from Renewable Resources? Tahmina Akter, Chemistry (PhD)

Structural and Adsorption Properties of Sc3N8C80 and Sc3N8C80PCBM on Perovskites
Bethuel Khambala, Computational Science (PhD)

Anna Wairimu Mwangi, Geological Sciences (PhD)

Data-Driven Solar PV Power Forecasting Using Machine Learning Techniques
Dan Alberto Rosa de Jesus, Electrical & Computer Engineering (PhD)
### EDUCATION & MITIGATION INCLUSIONS

**MINER ROOM**

**8:00-9:15 AM**

**EDUCATION IN THE MINER ROOM 9:30-10:45 AM**

**3D PRINTING WITH MULTIMATERIALS**

**DEL NORTE III 9:30-10:45 AM**

Multimaterial Additive Manufacturing for Multifunctional Properties of Monolithic Structure  
Kazi Md Masum Billah, Mechanical Engineering (PhD)

Implementation of Pre-Formed Cavities for Large Diameter Wire Embedding in Hybrid 3D Printing  
Jose Luis Coronel, Mechanical Engineering (PhD)

High-Temperature and Portable Chamber for Thermoplastic Hybrid Manufacturing  
Leonardo Isaac Gutierrez, Mechanical Engineering (MS)

Impact of Process Parameters on Large Area 3D Printed Materials  
Xavier Jimenez, Mechanical Engineering (MS)

Development of a Compact Material Extrusion Multi-tool Fabricator  
Jose Francisco Motta, Mechanical Engineering (MS)

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**PANEL PRESENTATIONS**

**THE UNIVERSITY OF TEXAS AT EL PASO**

- Development of Satellite Based Dust Optical Depth from MODIS Deep Blue Product Collection 6.1 in the Western United States  
  Iyassu G. Ebedinga, Environmental Science and Engineering (PhD)

- Make Your Own Photocatalyst: Facile Synthesis of ZnO Nanoparticles for Water Remediation  
  Md Tarjul Islam, Chemistry (PhD)

- PBL and Preservice’s Influence on the Ozone Concentrations in the El Paso-Juarez Airshed in the Summer of 2017  
  Nakul Nitin Karle, Environmental Science and Engineering (PhD)

- Arctic Aquatic Invertebrates are Responding to Warmer Environment  
  Mariana Vargas, Ecology and Evolutionary Biology (PhD)

- Data Mining-based Techniques in Critical Operation of Electrical Transmission and Distribution Systems in a Natural Disaster Event: Comprehensive Review  
  Rossana Villegas, Electrical & Computer Engineering (PhD)

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**LEADERSHIP & EDUCATION IN THE BORDER**

**DEL NORTE III 9:30-10:45 AM**

- Second-in-Command and the Ability to Balance Leaders and Followers  
  Todd Eric Brown, Leadership Studies (MA)

- Leadership Challenges in the Borderplex Region: Using the Triple Heli Model and In-depth Interviews  
  Jonathan David Dyem, Leadership Studies (MA)

- An Examination of Further Alternatives for Low Achieving College Students  
  Erika Patricia Gentry, Educational Administration (MEd)

- University Community Relationships: How Effective Relationships are Mutually Beneficial  
  Rebecca Marie Gutierrez, Educational Administration (MEd)

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**INCLUSION & DIVERSITY**

**DEL NORTE II 9:30-10:45 AM**

- History of TRID Programs  
  Heriberto Jose Garcia, Education (MA)

- Impacto de las Políticas Públicas del Gobierno Independiente Municipal de Juárez Sobre la Exclusión Social  
  Guisell Lerma Mejia, Ciencias Políticas (Carrera en Relaciones Internacionales)

- The Scientific Discourse and the LGFTTTIQ+ Community: From the Naturalistic Fallacy to the Inclusive Possibility of Sexual Diversity  
  Miguel Angel Sanchez Valdez, Humanidades (Doctorado en Educacion, Artes y Humanidades)

- Indigenous Borderlands and Masculinities in the Tarascan-Aztec Frontier  
  Daniel Santana, Borderlands History (PhD)

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**INFRASTRUCTURE I**

**MINER ROOM**

**11:00-12:15 PM**

- Influence of Climate Change on Scour Vulnerable Bridges  
  Anjuma Ara Akhter, Civil Engineering (MS)

- Alternative Approaches for the Laboratory Evaluation of Moisture Susceptibility of Cementitious Materials  
  Mohammad Rashidi, Civil Engineering (PhD)

- Calibration of NYSLAB, a 3D Rigid Pavement Analysis Tool  
  Abbasali Taghivahalseari, Civil Engineering (PhD)

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**POLICY, DIALOGUES, & STAKEHOLDERS RELATIONSHIPS**

**DEL NORTE III 11:00-12:15 PM**

- What Influences Adolescents’ Perceptions of Fairness Regarding Legal Policies  
  Isabellle M. Clough, Psychology (PhD)

- Using Cognitive Dialogues as Formative Assessments to Improve Project-Based Learning in a Science Internship  
  Yi-Yo Liao, Teaching, Learning, and Culture (PhD)

- Mediation of Cognitive Dialogues Between High-School Students and Scientists  
  Chelsea Lucas, Education (MA)

- Convergent Validity of Observational Rating Scales as Measures of Rapport in Investigative Interviews and Interrogations  
  Justin Loren Magel, Psychology (PhD)