

individuals with disabilities in the Paso del Norte region—aims to use PD to solve issues of access to Assistive Technology (AT) for individuals with disabilities in the region. Instead of asking, “What factors are associated with poor access to AT?” we’re asking, “Are there individuals with AT needs in our region who are successfully navigating their environments without access to AT?” Engineering students will design products in partnership with people with disabilities based on the PD strategies we uncover.

#### **14. Smart Cities at UTEP and beyond: research, community of practice, and student engagement**

Kelvin Cheu, Professor, Engineering, Civil Engineering

Ann Gates, Professor, Engineering, Computer Science

Natalia Villanueva Rosales, Assistant Professor, Engineering, Computer Science

Sergio Cabrera, Associate Professor, Engineering, Electrical and Computer Engineering

Cesar Carrasco, Professor, Engineering, Civil Engineering

Carlos Ferregut, Professor, Engineering, Civil Engineering

Oscar Mondragon, Clinical Associate Professor, Engineering, Industrial, Manufacturing, and Systems Engineering

Soheil Nazarian, Professor, Engineering, Civil Engineering

Making cities “smarter” or transforming them into smart cities is the process of improving economic competitiveness and quality of life by implementing cyberinfrastructure technologies throughout a city, linking the city’s infrastructure services with each other, the residents, leaders and all other stakeholders. In an effort to launch a “smart city” research program at UTEP, UTEP researchers in civil engineering, electrical engineering, industrial, manufacturing and systems engineering, and computer science have formed a research community with each member bringing a unique expertise in this area. The team is a collaboration with Dr. Victor Larios, Director of Smart Cities Innovation Center at Universidad de Guadalajara (UdeG), Mexico, and Dr. Miroslav Svitek, Dean of Faculty of Transportation Sciences at Czech Technical University (CTU), Czech Republic. The efforts aim to identify technological issues and formulate a research agenda for an international smart city research program. The group has secured a grant from the Partners for the Americas Foundation to launch the U.S.-Mexico Bi-Directional Study Abroad Program on Smart Cities. Although this is a study abroad program, students from both countries will form bi-national, multidisciplinary teams to work on research projects related to smart building, smart health care, and smart mobility, jointly supervised by faculty members from the three universities, with partial sponsorship from the information technology industry.

#### **15. Towards the Use of Scientific Research Networks to Analyze an Institution's State of Research**

Yanet Garay, Master's student, Department of Computer Science, Cyber-ShARE Center of Excellence

Monika Akbar, Research Assistant Professor, Cyber-ShARE Center of Excellence

Ann Q. Gates, Professor, Department of Computer Science, Cyber-ShARE Center of Excellence

Identifying research areas of a group of researchers is a difficult task because of the various levels of abstraction in which information may be presented; however, such a task is essential for detecting potential research collaborations within an institution. The presentation describes an approach to create a Scientific Research Network by analyzing relations among topics identified from researchers' scholarly data and utilizing domain ontologies. The derived network can be used to connect researchers, reveal the synergy between different topics associated with researchers within an institution, and identify less explored research areas that can be targeted for further study.

#### **Category B:**

**Individuals, teams, or communities of practice that seek to disseminate efforts**

#### **16. A Culture of Loving Kindness at UTEP**

Kien Lim, Assoc. Professor, Science, Mathematics

Vladik Kreinovich, Professor, Engineering, Computer Science

Antonio Martinez, PhD Candidate, Liberal Arts, Psychology

Kim Díaz, Visiting Professor, Liberal Arts, Philosophy  
Rocio Alvarenga, Clinical Instructor, Health Sciences, Occupational Therapy

The UTEP Loving Kindness Faculty and Staff Group is an informal group with like-minded individuals who aspire to practice kindness. Our mission is to cultivate a culture of loving kindness that enhances student success and everyone's wellbeing at UTEP. The idea for this group was conceived in the 2013/14 Leadership Development Institute (LDI). Several LDI faculty organized a roundtable session at the 2014 Sun Conference and the attendees were interested to meet on a regular basis. Since then we have met regularly about once a month during term time. We have a total of 24 events (e.g., meetings, roundtable sessions) with an average attendance of 6.33 persons. Currently, we have 71 people in our mailing list, of which 19 have attended two or more of our events. We have conducted a roundtable session in each of the last three Sun Conferences, gave four podium presentations related to loving kindness in 2015 Sun Conference, presented at 2015 UTEP LIVE to share our vision with students, helped a group of students formed Miners for Kindness (a student organization), and participated in their Kindness at UTEP Collaborative Workshop. We are in the process of transitioning from an informal group into a Community of Practice. We hope to reach out to more faculty and staff who believe in kindness and wish to foster such a culture at UTEP, or who are interested to learn more about kindness, well-being, and eudaimonic happiness (as opposed to hedonic happiness). Through this community, members can inspire one another to enhance their kindness towards self and others. With sufficient interest, we can organize talks and workshops on topics related to loving kindness. This community is also an avenue for researchers to collaborate and identify research opportunities and/or apply for funding to support institutional transformation towards a culture of kindness. <https://youtu.be/yVbmUyc6NBo>

#### **17. Providing community based research inputs to an emerging community of practice: Borders, migration, and human well-being**

Josiah Heyman, Professor and Director, Liberal Arts, Anthropology and Sociology and Center for Inter-American and Border Studies

Marlene Flores, MA student, Liberal Arts, Latin American and Border Studies

Jeremy Slack, Assistant Professor, Liberal Arts, Latin American and Border Studies

This community of practice is made up 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 human security/human rights/human well-being perspectives. There are two areas of focus: (1) Migration, authorized, unauthorized, and asylum; and (2) Ports of entry, mobility (trade and travel), and border community well-being. The tasks are to identify major emerging issues, to cluster people around them, and to start working groups on research proposals and writing projects. A snowball sample survey (using Qualtrics) was distributed widely to immigration advocacy email lists. A good response of 50 responses was returned. These included four open-ended questions designed to obtain advocacy community concerns and interests in potential research. Responses have been coded into major themes, as well as retaining the full set of data. This community-based input has been distributed to participants in an intensive research planning workshop. It will be one of the main bases for identifying research tasks and working groups around those tasks. These tasks will be planned in the workshop by interdisciplinary working groups of UTEP faculty and limited numbers of distinguished academic invitees. This method is useful to research groups exploring how to do effective community based research.

#### **Category C:**

#### **Active or completed interdisciplinary research/education projects that seek to disseminate results**

#### **18. Implementation of a Connectomics Course-Based Undergraduate Research Experience in Introductory Biology**

Christina D'Arcy, Postdoctoral Instructor, Science, Biological Sciences

Arshad Khan, Assistant Professor, Science, Biological Sciences

Jeffrey Olimpo, Assistant Professor, Science, Biological Sciences

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# 4TH ANNUAL UTEP IDR SYMPOSIUM CREATING THE SPACE, CULTURE, AND ANCHORS FOR INTERDISCIPLINARY RESEARCH AND EDUCATION (IDRE) APRIL 25, 2016

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## MIXED MEDIA POSTER PRESENTATION ABSTRACTS

### **Category A:**

**Newly emerging research/education projects or communities that seek to extend involvement**

#### **1. Providing Support and Facilitating Connections: the Interdisciplinary Research and Education (IDRE) Community of Practice**

Gaspare Genna, Associate Professor, Liberal Arts, Political Science

Andrea Tirres, Interdisciplinary Network Manager, Office of Research & Sponsored Projects

The Interdisciplinary Research and Education (IDRE) community was started in July 2014. It is made up of individuals from diverse academic disciplines and institutional positions involved in IDRE. We engage each other to improve the knowledge, ability, and capacity for enabling, leading, evaluating, and participating more effectively in IDRE. We aspire to be a vibrant, supportive community focused on expanding our knowledge base and skills for effectively leading IDRE, and providing access to best practices, methods and tools that facilitate successful IDRE. We have sponsored twelve events since our inception as a community, ranging from workshops to happy hours to presentations by members on their interdisciplinary projects. We welcome you to explore our community pages and attend our next event! You can find more information on this community as well as a list of members at

<http://expertise.utep.edu/communities/interdisciplinaryresearchandeducationidre>

#### **2. Introducing a new research community – Water Research Group**

Wen-Yee Lee, Associate Professor, Science, Chemistry

The world is facing the crises in water scarcity and pollution both of which are the two major factors for sustainable development and protection of human health and the environment. The experts and government leaders in the International Conference on Water and the Environment and the United Nations Conference on Environment and Development have clearly addressed the need to focus on fundamental approaches to the assessment, development and management of freshwater resources, technology development, public awareness campaigns, and capacity building programs. Underlying all these must be a greater recognition of the need for us to organize multidisciplinary efforts to address the crucial aspects of water research, such as monitoring water quantity and quality, developing advanced water treatment technologies, and public health risk assessment, and environmental assessment. UTEP is located in a perfect location to address water scarcity and trans-boundary environmental issues. The goal of this newly established Water Research Group is to integrate research expertise and resources on UTEP campus to establish the interdisciplinary research capacity on water related topics. The community aims to actively collaborate and share resources with researchers across the US and other nations to pursue research and funding opportunities for research and education on water quality issues on local, regional, and global scales.

#### **3. Impacts of Dust on Tropical Volcanic Soil Formation: Insights from Strontium and Uranium-Series Isotopes in Soils from Basse-Terre Island, French Guadeloupe**

Yvette Pereyra, MS Candidate, Science, Geology

Lin Ma, Assistant Professor, Science, Geological Sciences