2015 UTEP Interdisciplinary Research (IDR) Symposium: Strategies for Enabling Interdisciplinary Research

Flash Presentations - Center Descriptions

CENTER FOR LAW AND HUMAN BEHAVIOR
www.clhb.utep.edu
The Center for Law and Human Behavior (CLHB) is a focal point at The University of Texas at El Paso for extramural research in the social and behavioral sciences. At the CLHB, faculty interested in pursuing funded research will find the expertise and support they need to help them refine their ideas and craft competitive proposals. Once awards are received, the CLHB's full-time program manager provides professional grants management services to ensure projects comply with all required internal and external regulations. The CLHB serves as a community of scholars and helps identify common interests and themes among faculty for research and inquiry. The Center monitors funding opportunities from federal, state, local, non-profit, and foundation sources and actively seeks to facilitate cross-disciplinary teams of researchers to pursue sponsored research projects and contracts. The CLHB sponsors symposia and invited speakers to help inform faculty of emerging research themes on which they can collaborate. Locally, the CLHB helps researchers develop relationships with government and non-profit stakeholders in areas such as criminal justice, demography, program evaluation, and behavioral health among others. In sum, the CLHB helps catalyze the efforts of social and behavioral science faculty and students in pursuit of UTEP's goal of becoming a Tier 1 research university.

CENTER FOR TRANSPORTATION INFRASTRUCTURE SYSTEMS (CTIS)
http://ctis.utep.edu
The main goals of the Center for Transportation Infrastructure Systems are to address the needs for basic and applied research related to transportation infrastructure. Most transportation and geotechnical engineering research at UTEP is concentrated under this Center. At any given time, CTIS researchers are involved in more than twenty externally funded projects. These projects can be placed in two broad categories: (1) Materials, Design and Management, and (2) Planning and Operation. The laboratory facilities available to the researchers of the Center are comprehensive and modern. The Center is equipped with a modern soil and pavement materials research test facility for conducting the most advanced dynamic and static laboratory tests, on soils, asphalt, asphalt concrete and Portland cement concrete. At the heart of the Center's operation are the students. Undergraduate and graduate research assistants work side-by-side with faculty and research affiliated with CTIS on ongoing projects. More than 30 students are involved in a number of projects at any given time. We are always looking for new students from the College of Science and College of Engineering to join our group. For more information, please visit the CTIS website.

CENTER FOR ENVIRONMENTAL RESOURCE MANAGEMENT
www.cerm.utep.edu

CYBER-SHARE CENTER OF EXCELLENCE (Cyber-ShARE)
cybershare.utep.edu
Cyber-ShARE is an NSF-funded Center, now in its eighth year of funding. The Center **vision** is to become nationally and internationally recognized for innovative cyber-enhanced education and research to enable collaborative, interdisciplinary science and engineering. Our **mission** is to advance and integrate cyber-enhanced, collaborative, and interdisciplinary education and research through technologies that support the acquisition, exchange, analysis, and integration of data, information, and knowledge. Toward this end, we have ongoing activities at the Center level and in three subprojects:

- iConnect conducts activities that promote the sharing of data, information, and knowledge through both technical and face-to-face means.
- iLink investigates next-generation internet technologies for scientific data and model integration, tracing the automated process so that users can know their provenance and hence trust the results.
- iSense investigates the development and application of a variety of sensor types and innovative analyses to generate multi-scale models of carbon exchange.
- iFuse investigates data and model fusion approaches for integration geophysical data from different sources for improved understanding of earth structure.

CENTER FOR INLAND DESALINATION SYSTEMS (CIDS)

cids.utep.edu

The Center for Inland Desalination Systems (CIDS) is studying desalination-related issues such as:

- Mining the brine concentrate produced during the desalination process
- Developing small-scale portable desalination equipment to be used in remote locations
- Developing processes that maximize energy and water production efficiencies

High recovery desalination can mitigate environmental and economic concerns with brackish desalination by minimizing the amount of waste that must be disposed of by cities and rural users. Current research direction at CIDS is focused on developing and demonstrating highly efficient brackish desalination systems in Texas, New Mexico, California, and Florida. CIDS develops technologies and approaches that maximize the benefits of desalination, while minimizing the input energy and negative environmental impacts. CIDS has several regional partners, including the El Paso Water Utilities Public Service Board, which manages the largest inland desalination facility in the United States. Other partnerships include the Consortium for Hi-Technology Investigations in Water and Waste Water (CHIWAWA) and Veolia Water Solutions and Technologies. CIDS is competing in the Desal Prize April 7-13. This competition is aimed to spur innovation to bring cost effective desalination to rural farmers. CIDS will demonstrate Zero Discharge Desalination at up to 95% recovery.

Center for Advancement of Space Safety and Mission Assurance Research (CASSMAR)

www.casmar.com

The Center for Advancement of Space Safety and Mission Assurance Research (CASSMAR) is focused on enabling human spaceflight through interdisciplinary research to identify, characterize and mitigate the leading risks to safety and mission assurance. By leveraging new and existing partnerships with government and commercial aerospace industries, the CASSMAR vision is to become the authoritative resource for spaceflight risk reduction research. Each research thrust within CASSMAR remains closely aligned with known risks formally identified by NASA, the European Space Agency (ESA), Japan Aerospace Exploration Agency (JAXA) and other pioneering agencies currently advancing the capability for human presence in space. These include the hazards associated with micrometeoroids and orbital debris, materials performance in extreme environments, and energy storage technology – all of which are areas of research with recent or current activity within the Colleges of Engineering and Science at UTEP. By providing the interdisciplinary framework supporting these lines of research, CASSMAR will help prepare the next generations of competent, diverse and enthusiastic space scientists with the sensitivity and appreciation for working effectively across disciplines while solving the complex problems of human space exploration.

NATIONAL CENTER FOR BORDER SECURITY AND IMMIGRATION (NCBSI)

http://ncbsi.utep.edu

The National Center for Border Security and Immigration (NCBSI) is a university-based Center of Excellence (COE) funded by the Department of Homeland Security Science and Technology Directorate (DHS S&T), Office of University Programs. The NCBSI at the University of Texas at El Paso assists the Department of Homeland Security and its components in meeting their border security and immigration

(BSI) related research, education and science and technology needs. The Center provides full, dynamic support to those agencies and individuals who are charged with the implementation of immigration policy, the interdiction of transnational threats and those who maintain the integrity of the nation's borders and immigration infrastructure. The Center also advances the understanding and analysis of national immigration and border security policies and their societal impacts.

HUNT INSTITUTE FOR GLOBAL COMPETITIVENESS

huntinstitute.utep.edu

The Hunt Institute for Global Competitiveness, founded in 2014, is an independent, non-partisan organization dedicated exclusively to the economic analysis of the cross-border region of El Paso del Norte (PdN), comprised by West Texas, Southern New Mexico and Northern Chihuahua. The Institute serves as a multi-disciplinary research platform for the creation and application of theoretical and practical mechanisms in order to help fostering the region's competitive capacity. The Hunt Institute brings together regional stakeholders from the public and private divide to examine issues and offer policy insight into areas such as business and economic development, education, infrastructure and urban planning, energy and natural resources and public health.

CENTER FOR EXCELLENCE IN TEACHING AND LEARNING

http://cetal.utep.edu

Founded in 1997, the UTEP Center for Excellence in Teaching and Learning (CETaL) is an innovative community dedicated to inspiring and engaging scholars and practitioners through programs, resources, and services designed to prepare students to meet lifelong intellectual, ethical, and career challenges. While there are various workshops/forums throughout the school year, the most prominent events are the New Instructor Training (August), the Fall Instructor Retreat (August), and the International Sun Conference on Teaching and Learning (March; this month's conference featured 89 sessions and attracted over 200 attendees as well as local television coverage). CETaL also provides various resources, on topics ranging from scholarship of teaching and learning (SoTL) to peer observation. Directed by Dr. Larry Lesser, CETaL has the goals to: advance SoTL across the UTEP campus, incorporate assessment and reflection as part of our commitment to continuous improvement, integrate technology and other effective instructional tools, and support the pedagogical practice of all instructors (i.e., including graduate student instructors, part-time faculty, and full-time faculty). CETaL coordinates the UTEP ROTA process and plays a role on various grants (Howard Hughes Medical Institute, National Institutes of Health, National Endowments for the Humanities).

REGIONAL GEOSPATIAL SERVICE CENTER (RGSC)

gis.utep.edu

The mission of RGSC is to provide and promote GIS (Geographic Information System), remote sensing, GPS (Global Positioning System) and geospatial research, support and its application to regional and local entities for engineering, science, natural resource management and planning, economic development, health and border security, facilitate and support the application of geospatial technologies in interdisciplinary research, education and community service. The Center has enhanced capabilities of equipment, data warehousing, data mining, and dissemination and software accessibility. The center houses a site license for ArcGIS software, web GIS, and geodatabase management applications. The full ArcGIS suite at RGSC includes desktop, server-based, and all the extensions that ESRI offers, including ArcGIS Online, a web application that allows sharing and searching of geographic information. In addition to GIS software, RGSC also houses licenses for ENVI and ERDAS Imagine, a remote sensing software to process and analyze imagery. Additional capacity includes licenses for AutoCAD software, survey grade and portable GPS units, and next-generation Cyclone II software. RGSC has participated in multiple state wide research and data collection projects, and many projects locally for the City of El Paso and other local entities. In addition, the center supports all research and educational activities at UTEP for all faculty, staff and students.