Completed:
✓ Established the College of Architecture, Planning and Public Affairs
✓ Developed a new construction management degree
✓ Developed a new Master of Construction Management degree program
✓ Developed a new Bachelor of Science in Architectural Engineering to meet critical workforce needs
✓ Established an Institute for Sustainability

Planning:
✓ Enhance Leadership in Transportation
✓ Establish a “Design-Build” Center
✓ Establish Centers of Excellence in Built Infrastructure Renewal and Advanced Construction Materials
✓ Position UTA as a Nexus for Cross-Cultural Understanding, and Creative and Cultural Activities
✓ Establish a Focused Effort on the Wellbeing and Education of Urban Populations
✓ Drive Innovation and Entrepreneurship for Urban Economic Growth
NEW FACULTY
(Since Fall '17)

SSW
Jandel Crutchfield
Zhen Cong

CAPPA
Diane Jones Allen
Joowon Im
Guoqiang Shen

COLA
Changhee Chun
Omobolanle Fenny
Roger Gans
Zerita Hall
Kimberly Harper
Jack Brandon Philips
Delaina Price
Michael TenEyck

COE
Michael Fairchild
Michelle Hummel
Himan Hojat Jalali
Kyung "Kate" Hyun
Chris Ryu
Maria Konsta-Gdoutos
Samantha Sabatino
Surendra Shah
Michael Zaretsky

COED
Elizabeth Fleener
Brenda Harris
Mario Martinez

SUSTAINABLE URBAN COMMUNITIES
POSSIBLE NEW/ENHANCED ACADEMIC PROGRAMS

SSW
Substance Abuse Treatment
Work-Based Training and Certificates

CAPPA
Sustainable Urban Design

COED
Work-Based Training and certificates
Bilingual education
ESL Teaching and Learning
Special Education Technology Education

COLA
Cross-Cultural Understanding, and Creative and Cultural Activities (for UG across majors)
Philanthropy
Strategic Languages

COE
Sustainable Urban Design

SUSTAINABLE URBAN COMMUNITIES
SUSTAINABLE URBAN COMMUNITIES

POSSIBLE NEW/ENHANCED FOCUS AREAS

SSW
Wellbeing and Education of Urban Populations*
Social Connections
Addiction & Recovery Studies
Child Welfare

CAPP"A
Social, Economic and Environmental Design
Transportation Design-Build*
C-TEDD

COE
Built Infrastructure Renewal and Advanced Construction Materials
Pipeline Service Life Prediction
Transportation Center for Livable Communities
Design-Build*

COED
Wellbeing and Education of Urban Populations*
Educational Research, Policy, and Practice

COLA
Cultural Competence

COB
Predictive Urban Growth Models

* indicate duplicates
Sustainable Urban Communities

Dr. Duane Dimos

Vice President, Office of the Vice President for Research
“UTA will foster sustainable urban communities through a focus on the built, natural, economic, cultural, and social environments. Learning from the past and present to ensure a sustainable future, UTA will understand and interpret demographic change and the broad spectrum of human capital.”
Update on UT Arlington

- Carnegie Foundation Research-1 institution (initially R-1 in 2015, reaffirmed in 2018)
- Research expenditures exceeded $100M, 30% growth in three years, broad portfolio
- Restricted research expenditures exceeded $45M (Tier 1 criteria) in 2018 for the 1st time
- Graduated > 200 PhDs each of the last five years
- All Tier 1 criteria except faculty excellence (national academy members) has been met
Sustainable Urban Communities: Built Environment

Transportation

• Center for Transportation, Equity, Decisions, & Dollars: S. Hamidi
  • $7.7M (5 years) University Transportation Center, US DOT
  • Ga Tech, U. Wisconsin, U. S. Florida, Cal Poly
• Members of two other US DOT Transportation Centers
  • S. Mattingly, Portland State
  • A. Puppala, LSU
• Texas Department of Transportation—significant programs at UTA
• Working closely with cities in our region and NCTCOG
• Autonomous vehicles
Sustainable Urban Communities: Built Environment

Working with cities to assess their infrastructure and plan for future maintenance, including:

- Manhole shafts in Arlington
- Concrete bridge components in DFW
- Damage caused by Hurricane Harvey
- Sewer pipelines
- Policies and procedures in Fort Worth
- Non-destructive assessment of bridge components

New Community Design/Build Center

- A. Parr (CAPPA Dean) and M. Zaretsky (CE)

New Center for Advanced Construction and Innovative Materials for Infrastructure

- Surendra Shah (NAE) and Maria Konsta, both Civil Engineering
Sustainable Urban Communities: Natural Environment

Water
• Water safety
• Flooding
• Dams, levees, rivers
• Availability

Wildlife

Environmental protections—EPA, TCEQ
UNESCO Chair (1st at UTA) on Water & Human Settlements (A. Parr, CAPPA)
UTA Institute for Sustainability and Global Impact
• Meghna Tare, Director
• Interdisciplinary between SUC and Global Environmental Impact
Combating substance abuse—opioid crisis and more
Mental health needs in our communities
Decreasing recidivism by linking transportation essentials to services for former criminal offenders like employment centers, educational opportunities, and medical access (National Institute for Transportation and Communities)
Identifying a correlation between urban sprawl and decreased life expectancy in the United States
Help community college transfer students more easily and quickly attain degrees in the STEM fields
How to address poverty in our communities
Connecting UTA to the community: on-campus events, community engagement
Sustainable Urban Communities: Economic Environment

Optimizing power grids to increase their efficiency, reliability, and security, as well as allow for greater use of renewable energy sources (ONR)

Developing improved approaches for humans to work alongside robots (NSF)

Developing new advanced manufacturing approaches

- 3D additive manufacturing
- Flexible, automated manufacturing (UTARI)
- Assisting small manufacturing to become more competitive (TMAC)

Food—agriculture, distribution, safety

Smart City approaches
Dallas to Launch Innovation Alliance


UTA hosted 18th annual SAME conference on ‘Rejuvenating our Infrastructure’
NSF Funding Opportunities – Smart Cities

Smart & Connected Communities (S&CC)
Cyber-Physical Systems (CPS)
Platforms for Advanced Wireless Research (PAWR)
Smart and Connected Health (SCH)
Critical Techniques, Technologies and Methodologies for Advancing Foundations and Applications of Big Data Sciences and Engineering (BIGDATA)
Big Data Regional Innovation Hubs: Establishing Spokes to Advance Big Data Applications (BD Spokes)
Smart and Autonomous Systems (S&AS)
Partnerships for Innovation (PFI)
CISE Research Infrastructure (CRI)
Major Research Instrumentation Program (MRI)
National Robotics Initiative 2.0: Ubiquitous Collaborative Robots (NRI-2.0)
Critical Resilient Interdependent Infrastructure Systems and Processes (CRISP)
• https://www.nsf.gov/cise/scc/

Sponsor: U.S. Embassy Public Affairs Section in New Delhi
Program: Smart Cities Collaboration Competition (ND-NOFO-19-102), Deadline: 2/20/2019
Sponsor: Office of Gulf Coast Restoration, Department of the Treasury
Program: RESTORE Act Centers of Excellence Research Grants Program, Deadline: 8/30/2019
National Institutes of Health (NIH) provides funding opportunities to promote and support Sustainable Urban Communities

Common themes relevant to Sustainable Urban Communities:

• Community partnerships to advance health care research
• Academic-industrial partnerships to translate health care technologies
• Health-care research across the human lifespan
• Access & affordability of health-care and point-of-care technology
• Biopsychosocial perspectives relevant to diseases, treatments, and outcomes
• Addressing health and health care disparities among defined populations

Keep in mind, NIH funding opportunities may be:

• Focused on a specific condition, disease, or population
• Limited to specific institutes within NIH
THE UNIVERSITY OF TEXAS AT ARLINGTON
SUSTAINABLE URBAN COMMUNITIES SYMPOSIUM
Sustainable Urban Communities
ECONOMIC
ENVIRONMENTAL
SOCIAL
DESIGN for HEALTH
Graduate Studio + Industry Partners
CAPPA – Parallel Construction

Low income home
1,560 sq ft
Corner Truman & Slaughter Streets
Housing Channel
Water & Human Settlements Initiative

Intimate Realities of Water Project

Response to Climate Change

Extreme Weather Events Assessment on Transit Desert Communities

Green & Blue Infrastructure Studio

EPA Rain Works Challenge

Reclaiming the Alley Project
City of Rhome – Master Planning
East Mountain City – Master Planning
Sonterra Municipal Utility District – Master Planning
Dallas Fort Worth – Community Engagement (with Architecture Engineering)
SEED Center
Sustainable Cities

Bachelors of Science in Sustainable Urban Design & Planning

UNIVERSITY OF TEXAS ARLINGTON
Trinity Park Conservancy

Harold Simmons Park, Dallas
Contributions from College of Engineering to the UTA Theme: Sustainable Urban Communities

UTA Symposium: Sustainable Urban Communities

Peter E. Crouch
Dean of Engineering
February 5, 2019
Agenda

- College Research Overview
- Impact of CE department
- New Center - Built Infrastructure Renewal and Advanced Construction Materials (Engineering base)
- New Center SEED (Social, Economic and Environmental Design) Center (CAPPA base)
- Transportation Focus (CAPPA & Engineering base)
- Electric Power Infrastructure
- Sensors, controls, hardwired, fiber & wireless communications infrastructure
- Materials engineering for improved sustainability of urban life
- Efficient, Safe, Integration and Operation of Autonomous (& Tethered) Vehicles in Urban Communities
- Some Examples
College Focus Areas

1. Aerodynamics/ Aero-propulsion
2. Automation / Autonomous Systems
3. Big Data/HPC
4. Built Infrastructure
5. Communications and Networks
6. Energy
7. Internet of Things
8. Logistics
9. Manufacturing
10. Materials
11. Nano-Technology
12. Health Care
13. Security
14. Smart Cities
15. Engineering of Biomedical Systems
16. Water
## Sustainable Urban Communities Pervades Research in Engineering

<table>
<thead>
<tr>
<th>College Focus Areas / University Themes</th>
<th>Health and the Human Condition</th>
<th>Sustainable Urban Communities</th>
<th>Global Environmental Impact</th>
<th>Data-Driven Discovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerodynamics and Aeropulsion</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Automation/Autonomous Systems</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Big Data/HPC</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Built Infrastructure</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Communications and Networks</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Internet of Things</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Logistics</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Materials</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Nano-Technology</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Health Care</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Security</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Smart Cities</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Engineering of Biomedical Systems</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Water</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Civil Engineering is Especially Prominent - Research Centers:

- Solid Waste Institute for Sustainability (SWIS)
- Sustainable and Resilient Civil Infrastructure (SARCI)
- Construction Research Center (CRC)
- Center for Structural Engineering Research (CSER)
- Center for Underground Infrastructure Research and Education (CUIRE)
- Geotech Extreme Events Reconnaissance (GEER)
- Urban Water Institute
But almost all academic units and College research themes play a role

Example: A new center of excellence being stood up as we speak:

New NAE recruit Dr. Surendra Shah and co-recruit Dr. Konsta-Gdoutos (both in CE) are forming a new Center of Excellence:

**Built Infrastructure Renewal and Advanced Construction Materials**

- Will be recruiting two new faculty in either science or engineering to be part of the build up

- Arranging workshop in next few weeks – invites faculty from related disciplines to attend and consider collaboration with the Center

- His personal interest is nano to composite materials research (very much supported by MSE) is a College focus formerly not associated with this University research theme.
SEED (Social, Economic and Environmental Design) Center

• New collaborative center between CAPPA and CoE, led by CAPPA, in which students work with faculty, non-profits and industry partners to prototype and fabricate built projects in the DFW area.

• Projects will involve exploration of innovative building assemblies through manual and digital means.

• These can be tested by the CE’s Structural Lab for optimized design and students’ learning. The center will be instrumental in advancing the building specifications nationally and internationally.

• CoE/CE hired Professor Michael Zaretsky to collaborate with Dean Parr of CAPPA to establish the Center. Professor Michael Zaretsky Significant progress has been made through collaborating with the Social Economic Environmental Design (SEED) Network (https://seednetwork.org/). Currently identifying a potential space owned by the City of Arlington for the location of the Center.
Transportation Research got a huge boost in 2016 when UTA was awarded 3 USDOT Centers

https://www.transportation.gov/utc/2016-utc-grantees
National Institute for Transportation & Communities (NITC): Improving Mobility of People and Goods (NATIONAL UTC) Portland State University – Lead Consortia Members: Oregon Institute of Technology, University of Arizona, University of Oregon, University of Texas at Arlington, University of Utah

Transportation Consortium of South Central States (Tran-SET): Improving the Durability and Extending the Life of Transportation Infrastructure – Region 6 (REGIONAL UTC) Louisiana State University – Lead Consortia Members: Arkansas State University, Baton Rouge Community College, Navajo Technical University, New Mexico State University, Oklahoma State University, Prairie View A&M University, Texas A&M University, University of New Mexico, University of Texas at Arlington, University of Texas at San Antonio

Center for Transportation Equity, Decisions and Dollar (CTEDD): Preserving the Existing Transportation System (TIER 1 UTC) University of Texas at Arlington – Lead Consortia Members: California Polytechnic State University, San Louis Obispo, Georgia Institute of Technology, University of South Florida, University of Wisconsin – Madison
Impact of Transportation Research Centers and Associated Activity

NITC from Portland State University (National Center), Tran-SET from LSU (Regional Center) and CTEDD from UTA CAPPA (Tier 1 center).

In engineering:
• 8/10 research projects funded by these centers annually ($600k).
• 7/8 PhD students are directly supported by these projects
• 5/6 GTAs are supported as cost share.
• ~14 PhDs directly and indirectly funded by them, potential graduation of 5 to 6 PhDs per year.
• Additionally Engineering has TxDOT research funding close to $1.5M annually. Supports 5/6 PhD GRAs.

Principal College of Engineering Faculty: Drs. S. Mattingly, A. Puppala, K. Hyun & College recruiting an additional junior position in Transportation – Provides interdisciplinary research opportunities between Engineering, CAPPA, and Social Work.
Electric Power Infrastructure (EE)

- Reliability and quality monitoring/assurance, providing required infrastructure addressing safe delivery and maintenance at various voltages and currents (Wei-Jen Lee, largely corporate and nonprofit funding)
- Optimization to most effectively use existing infrastructure, capability to pinpoint impending component failures, identifying most effective ways/points to upgrade infrastructure to address changing needs. (Ramtin Madani, ONR and DOE funding)
- Incorporation of secondary grids (microgrids) to integrate renewable energy and other dynamic sources into the primary grid along with addressing changing energy demands at different locations over a day, week, and so on. (Ali Davoudi, NSF and ONR funding).
- Energy storage devices such as used in microgrids, and in electrically powered devices and vehicles. (David Wetz, corporate and ONR).
Sensors, controls, hardwired, fiber & wireless communications infrastructure (EE)

- Low cost hazardous/toxic gas detection sensors (Alice Sun and Weidong Zhou, NSF and DARPA).
- Concealed weapons detection (Qilian Liang, ONR). This radar sensor network approach has potential to detect weapons in open areas, in contrast to detection while moving through a portal.
- Rapidly deployable emergency communications network (Yan Wan, NIST and other sources)
- Fiber optic amplifier for low cost, higher capacity fiber optic networks (Vasilyev, DARPA).
- Millimeter –wave quasi-optical beamforming antenna for picocells and backhaul in 5G communications (Jonathan Bredow, corporate funding anticipated within the next few months). This is expected to be low cost helping address the need for greater capacity in the overall communications infrastructure.
Materials engineering for improved sustainability of urban life (MSE)

Experimental and theoretical exploration of the mechanisms impacting materials reliability (both in structural and device level), energy efficiency, and environmental safety.

- Dr. Meletis: New coating materials providing better corrosion and erosion/impact resistance (NSF)
- Dr. Ashwath Material development of new lubricants for reducing friction (funded mostly by industrial partners)
- Dr. Kim has researched on the technological venues for enhancing reliability of microelectronic devices - diffusion, reaction and corrosion (SRC, Texas Instruments, and Intel)
- Dr. Koh: has been developing energy-efficient electronic devices that can function with extremely little energy. (NSF and ONR)
- Dr. Cao is attempting to predict those properties researched by Drs. Meletis and Kim using the frame of the computational materials science
- Drs. Meletis & Cao - New materials and devices for energy management - energy efficient materials based on nanotechnology, design of energy storage materials based on the computation
Efficient, Safe, Integration and Operation of Autonomous (& Tethered) Vehicles in Urban Communities (MAE, EE, CE, UTARI)

College of Engineering is amassing very strong field of faculty researchers in the area of Autonomous vehicles – both in the theory and development of the vehicles themselves, but also their applications:

- Assessing the state of infrastructure components in regular situations
- Assessing the state of infrastructure components in emergency/natural disaster situations
- Cybersecurity in Autonomous Vehicle Systems
- Applications and Research in Unmanned Ariel Vehicles (UAVs)
- Vehicle swarms used for contaminant monitoring
- Counter – swarm operations

- Example recent activity: AFRL & Wright Brothers Institute, announce International "Swarm and Search AI Challenge"
- College has a Certificate in Autonomous Systems/UAVs
- None exhaustive list of participants: Drs. Puppala, Abolmaali, Fang, Wan, Subbarao, Chakravarthy, Lewis, Huber, Gans, Dogan
Some Examples of Projects:
Those with Pictures
Hurricane Harvey implications

“UT-Arlington flood expert helped keep Houston hospitals safe during Harvey's onslaught” – *Dallas Morning News*

Together with professor Phil Bedient of Rice University, Professor Nick Fang helped Texas Medical Center (TMC) in Houston remain dry and operating throughout. Their system predicts flooding conditions ahead of time allowing TMC in particular to “shut their floodgates and evacuate basement garages before the flood hit — but not so early as to make access unnecessarily difficult for patients and staff.”
Cyber Security in Autonomous Vehicles

An attacker can hack into a carefully chosen subset of vehicles on the highway and turn them into vehicles with malicious intent.

These vehicles may perform subtle velocity changes and induce malicious waves in the traffic.

These may include shock waves that lead to pile-up crashes, or stop-and-go waves that have an economic impact in terms of lost time due to being stuck in traffic.

Vehicle Swarms Used for Contaminant Monitoring

- Underwater UAV swarms can be used for monitoring oil spills in an ocean, or for water quality monitoring in rivers and lakes.
- Aerial vehicle swarms can be used for monitoring dispersion of volcanic ash in the air.

Such swarms will need to be reconfigured in real-time depending on the spread of the contaminant.


Field Investigation Studies

UAV & LIDAR Studies
Horizontal inclinometer
MEMS Instrumentation
Sensor Installation
Data logger with laptop
Inclinometer Casing
Local Calibration of the AASHTO Pavement M-E for the Design of New Flexible Pavement Structures 
(Pavement Design Guide) (New York State DOT)

Validation of Maximum Allowable Amounts of Recycled Binder, RAP & RAS using Accelerated Pavement Testing 
(Texas DOT)

Testing of the RAP&RAS Experimental Pavement Sections 
(Texas DOT)

Accelerated Pavement Testing and Materials - Dr. Romanoschi
Flash Flood Warning System - Dr. DJ Seo’s Group

Potential Regional Solution for Location- and Time-Specific Warnings

• Uses High-Resolution (1 min, 500 m) Rainfall Data from CASAWX
• Runs the NWS Hydrologic Model
• Produces Runoff, Discharge and Flood Frequency Maps
• Integration of All Available Data Under Way
  ✓ City-Owned HWWS
  ✓ UTA-Deployed Sensors
  ✓ Cellphone App

Apr 13, 2015, surprise flash flooding in Fort Worth

Runoff map accurately identifies areas of flooding
INFRASTRUCTURE REHAB & REPLACEMENT

- Have you developed a Capital Improvement Plan (CIP)?
- Are you aware of existing infrastructure needs?
- Are you replacing infrastructure pro-actively rather than re-actively?

Texas Water Development Board
Sewer Maintenance

• Sewer systems account for approximately 50% of the underground infrastructure in the United States (Shook and Bell 1998)
• ASCE Assigns a Grade D to Nation’s Infrastructure (Limited Information on Condition of Sewer Pipelines)
• Without a condition assessment for the pipe, a collapse is imminent
• A portion of a West Side road collapsed in San Antonio after a sewer main ruptured underground and a Deputy was killed (San Antonio Express-News)

By San Antonio Express-News Updated 6:32 pm, Tuesday, December 13, 2016
Inspection Method - CCTV

HD Profiler Module

Assessment Method
- HD-CCTV
- SONAR
  - AE

Identification of Defected Regions
- Core Sampling
- Corrosion Study

Propose Indicators - Pipe Condition Assessment Between the Physical Conditions and Assessment Results
Field Measurement
Sustainable Urban Communities

Scott D. Ryan, MSW, MBA, PhD
School of Social Work
Social Work Connection

The Grand Challenges for Social Work represent a dynamic social agenda, focused on improving individual and family well-being, strengthening the social fabric, and helping create a more just society.

- Eradicate Social Isolation
- Create Social Responses to a Changing Environment
- Promote Smart Decarceration
- Advance Long and Productive Lives
- End Homelessness

Building Sustainable Communities

Key Initiative: Enhance research, teaching, and outreach in the area of urban communities through integration of efforts of existing centers and through key hires.
Academic Efforts

**Sample Courses:**
- SOCW 3312: Disability & Social Work
- SOCW 3314: The Latina Experience
- SOCW 3315: Introduction to Substance Use Disorders
- SOCW 4310: Social Work with Children & Families
- SOCW 4314: Intimate Partner Violence
- SOCW 4370: Social Work in Schools
- SOCW 4371: Forensic Social Work

**Social Work Minors:**
- Substance Use Treatment Minor
- Diversity Minor
- Social Justice and Social Welfare Minor

**MSW Core Practice Area:**
- Community & Administrative Practice
Research Efforts

Social Work Grand Challenge: Eradicate Social Isolation

• PI: Jandel Crutchfield (Social Work), Co-Investigators Courtney Cronley (Social Work) and Kate Hyun (Civil Engineering)

• Community Partner: Collin County Homeless Coalition

Award Amount: $20,000 from Portland State (Department of Transportation)

Title: Helping Environmental Justice Populations Maintain Access to Opportunities in a Boomtown: An Interdisciplinary, Mixed-Methods Approach to Addressing Infrastructure Needs
Research Efforts

**Social Work Grand Challenge: Eradicate Social Isolation**

- **PI:** Noelle Fields (Social Work)
- **Collaborating Institution:** Ohio State
- **Award Amount:** $44,405 from Ohio Department of Transportation
- **Title:** *Safe Routes to Age in Place*

- **Investigators:** Kate Hyun (Civil Engineering), Courtney Cronley and Noelle Fields (SW)
- **Award Amount:** $20,000 from the City of Arlington
- **Title:** *Characterizing Handitran and Via Users: A Comparative Analysis of the Riders and their Travel Patterns*
Engaging Students

Social Work Grand Challenge: Eradicate Social Isolation

• Project: Effect of Transportation Disadvantage on Mental Health Outcomes for Low SES Female Survivors of IPV (Student: Jessica Williams)
  – This study will explore to see if transportation disadvantage affects mental health outcomes for low SES female IPV survivors with dependent children.

• Project: The Impact of Access and Barriers to Transportation on Substance Use, Abuse, and Recovery: A Systematic Review (Student: Craig Keaton)
  – A systematic review of the literature is proposed to examine the impact of transportation access and/or barriers on substance use disorder, treatment and recovery in the United States
Research Efforts

Social Work Grand Challenge: Create a Social Response to a Changing Environment

- PI: Zhen Cong, Associate Dean for Research and Faculty Affairs
- Collaborating University: Texas Tech

- Award Amount: $502,270 sponsored by the National Science Foundation
- Title: A Multi-level Dynamically Coupled Model for Evaluating Older Adults' Vulnerability and Resiliency to Disasters
Research Efforts

Social Work Grand Challenge: Promote Smart Decarceration

• PI: Anne Nordberg (Social Work), Co-Investigators Jaya Davis (Criminal Justice) and Stephen Mattingly (Civil Engineering)
• Community Partner: Unlocking Doors
• Award amount: $193,149 from Portland State (NITC)
• Title: Optimizing housing and service locations to provide mobility to meet the mandated obligations for former offenders to improve community health and safety
Future Directions

• Expanding research efforts in new directions

Create Social Responses to a Changing Environment

• Understanding Rapid-Onset Hazards Risk Communications at Multiple Levels (NOAA - Cong)
• Disasters Through Risk Reduction, Infrastructure Investment and Community-Based Support (National Academies of Sciences Engineering and Medicine – Mattingly)

Advance Long and Productive Lives

• Acculturation, Caregiving Solidarity and Caregiving Behavior of Adult Children Caring for Aging Parents with Cognitive Decline in Chinese Immigrant Families (NIH – Xu & Fields)

End Homelessness

• Family Navigation to Increase Earlier Access to Mental Health Care for Children in Situations of Family Violence and Disrupted Housing: A Pilot Test of the Feasibility and Utility of CARE (NIH – Cronley & Voth Schrag)
Future Directions

• Diversify Funding
• Foster New Interdisciplinary Collaborations

Current/Past Collaborators

• College of Architecture, Planning and Public Affairs
• Kinesiology
• Education
• Theatre Arts
• Nursing and Health Innovation

• Psychology
• Civil Engineering
• Industrial, Manufacturing, and Systems Engineering
• UT Arlington Research Institute (UTARI)
Future Directions

• Expand Research Portfolio of Current Research Centers
  – Center for Addiction & Recovery Studies
  – Center for Child Welfare

• Develop New Research Center
  – Center on Social Connectedness

Key Initiative: Enhance research, teaching, and outreach in the area of urban communities through integration of efforts of existing centers and through key hires.