T3 POSTER SESSIONS ROUND 2







PRESIDENT'S
EXCELLENCE FUND
SYMPOSIUM

Physical and Cognitive Demands Associated with Police In-Vehicle Technology Use: A Naturalistic Study

(Modeling Emergency Responder Interactions with In-Vehicle Technologies)

- Maryam Zahabi, Xudong Zhang, Stephen F. Crouse

Presenter: Maryam Zahabi

Intersectionality and Diversity Training: How Social Identities Matter in Why People Participate in Diversity Training in Higher Education

(Examining Multiple Intersecting Social Identities and Organizational Roles in Higher Education)

— Jeffrey Liew, Natasha T. Brison, Jane A. Sell

Presenter: Jeffrey Liew

An Information Theoretic Approach to Originality and Bias in Science

(Information Theoretic and Nonlinear Dynamical Approach to Evaluate the Impact of Bias on Research)

— Laszlo Kish, Chanan Singh, Tamas Erdelyi

Presenter: Laszlo Kish

Delivery of CRISPR/Cas-9 Using Cationic Liposome

— Peter P. Nghiem, Mohammad T. Nutan, Pooneh Bagher

Presenter: Peter P. Nghiem

Molecular Mechanisms of Intracellular Copper Trafficking

— Vishal M. Gohil, Paul A. Lindahl, Beiyan Nan

Presenter: Vishal M. Gohil

The Application of Laser-Induced Breakdown Spectroscopy for the Analysis of Arsenic Contaminated Rice Leaves

(Development of a Solvent Free Technology for the Quantification of Heavy Metals in Plant Tissues)

— Xingmao Ma, Waruna D. Kulatilaka, Bing Guo

Presenter: Xingmao Ma

Raman-Based Diagnostics of Libebacter Diseases in Tomatoes

 (Non-Invasive and Non-Destructive Detection of Huanglongbing on Citrus Trees Using Raman Spectroscopy)

— Dzmitry Kurouski, Cecilia Tamborindeguy, Willa W. Chen

Presenter: Dzmitry Kurouski

Inner Junction of Doublet Microtubules in Motile and Non-Motile Cilia

— Hongmin Qin, Luis R Garcia, Timothy D. Phillips

Presenter: Hongmin Qin

Oxidative Stress Enhances Mitochondrial DNA-Dependent Type I Interferon Responses (Defining how Mitochondrial DNA Penlication Intermediates Engage the Oxford DNA

(Defining how Mitochondrial DNA Replication Intermediates Engage the Cytosolic DNA Sensing Machinery)

— Andrew P. West, Pingwei Li, Geoffrey Kapler

Presenter: Andrew P. West

10.	Analytics for Renewable Energy Management in Microgrids
	— Natarajan Gautam, Katherine M. Davis, Anirban Bhattacharya
	Dragantary Mataraian Cautana

Presenter: Natarajan Gautam

Crowd-Biosensing of Location-Based Physical and Emotional Distress for Walkable 11. **Built Environment**

— Changbum R. Ahn, Theodora Chaspari, Jane Futrell Winslow Presenter: Jinwoo Kim

12. Trade-Offs Between Approximation and Generalization in Learning Systems

— Shahin Shahrampour, Boris Hanin, Simon Foucart

Presenter: Shahin Shahrampour

Correlates and Disparities of COVID-19 Vaccine Hesitancy 13.

(Framing Gun Control as a Suicide Prevention Measure: Influencing Health Education, Public Perception)

— Jennifer A. Lueck, Timothy Callaghan, Johanna L. Dunaway

Presenters: Jennifer A. Lueck, Timothy Callaghan

EducatAR: Supplementing the STEM Classroom Experience 14.

— Darren J. Hartl, Raymundo Arroyave, Christopher J. Nowotarski

Presenter: Darren J. Hartl

Emotional Intelligence and its Impact on Identity Formation of Engineering 15. **Graduate Students**

- Behbood B. Zoghi, Sara P. Raven, Cheryl J. Craig

Presenter: Behbood B. Zoghi

Modeling, IoT and Machine Learning for Smart Greenhouse **16.**

(Modeling, IoT and Machine Learning for Smart Agriculture)

— Maria King, Ronald E. Lacey, Konstantinos E. Kakosimos

Presenter: Maria King

Targeting Oncogenic Protein-Protein Interactions to Overcome Drug Resistance 17.

— Jae H. Cho, Steve W. Lockless, Jean-Philippe Pellois

Presenter: Jae H. Cho

Living with Fear: A Qualitative Inquiry with Childbearing Black Women 18.

(The Lived Experience of Being a Pregnant Black Woman in Texas)

— Sharon Dormire, Jodie C. Gary, Idethia S. Harvey

Presenter: Sharon Dormire

Assessing and Remediating Health and Safety Issues in Children's Play Spaces 19. in Resort Settings

- Jay Maddock, Courtney Suess Raeisinafchi, John O. Spengler

Presenter: Jay Maddock

Multi-Criteria Decision Analysis for Sustainability & Resilience of Buildings 20. Subjected to Earthquakes

(Multi-Criteria Decision Analysis for Sustainability & Resilience of Buildings Subjected to EQ & Wind)

— Maria Koliou, Petros Sideris, Wei Yan

Presenter: Negar Mohammadgholibeyki

Online Local Natural Hazards Education for Young Adults: Assessing Program Efficacy 21. and Changes in Risk Perception

(Online Local Environment Hazards Education for Young Adults Using a Social Media Platform)

— Courtney Thompson, Daniel W. Goldberg, Tracy A. Hammond

Presenter: Courtney Thompson

Commercially Viable Software for The Automated Whole-Brain Mapping of Fluorescently-Labeled Cells

— Lee Shapiro, Jun Wang, Zhangyang Wang

Presenter: Lee Shapiro

Biodiversity Impacts and Social Dimensions of Land Use in Tropical Montane Ecosystems 23.

— Allison L. Hopkins, Thomas E. Lacher, Leonardo Lombardini

Presenter: Allison L. Hopkins

Understanding the Motivations for Cheating and Lying Using Laboratory Experiments 24_ — Marco Palma, Catherine C. Eckel, Jonathan Meer

Presenter: Marco Palma

Algorithms for Opioid use Prediction Derived from Daily Computer Use Patterns of **25.** Office Workers

— Mark E. Benden, Roger S. Zoh, Jyh C. Liu

Presenter: Mark E. Benden

Microclimatic Design Studies for Long-term Space Habitation **26.**

(Microclimatic Design Studies for Long Term Space Habitats)

— Manoranjan Majji, Robert E. Skelton, Robert D. Brown

Presenter: YouJoung Kim

Investigating Student & Faculty Departmental Spaces Through Visual Ethnography **27.**

— Tina Budzise-Weaver, Sarel Lavy, Pauline Melgoza

Presenter: Tina Budzise-Weaver

Responding to Disasters: When and How to Activate Alternative Capacity? 28.

(Dynamic Evacuation Planning Considering Traffic Congestion)

— Xiaofeng Nie, Andres Fernando Jola Sanchez, Xiubin B. Wang

Presenter: Chaolun Ma

Dihydrotestosterone Differentially Regulates Predictors of T Cell Function in Visceral and 29_ Subcutaneous Adipose Tissue of Female Mice

(The Sexually Dimorphic Control of Local Androgens on White Adipose Tissue Lipid Metabolism)

— Annie E. Newell-Fugate, Mahua Choudhury, Stephen B. Smith

Presenter: Annie E. Newell-Fugate

Sequential Minimum Energy Designs for Model Selection 30.

(Minimum Energy Designs for Model Selection and Classification)

— David Jones, Rui Tuo, Huiyan Sang

Presenter: David Jones

Hydrocarbon Exposure and Public Perceptions in Shale Areas 31.

— Gunnar Schade, Sarah D. Brooks, C. S. Shafer

Presenter: Gunnar Schade

32. "Circular Economy": A Framing Concept to Catalyze Greater Climate Change Policy Action

(Energy, Law and Policy - Creating A New Paradigm)

— Efstratios Pistikopoulos, Felix Mormann, Robin Globus Veldman

Presenter: Valentini Pappa

A Thermally Actuated Microvalve for Smart Irrigation in Precision 33. **Agriculture Applications**

(Exploratory Microfluidics Research Aimed at Broad-Scale Single-Plant Irrigation)

— John A. Thomasson, Debjyoti Banerjee, Xingyong Song

Presenter: Alaba Bamido

Vascular-Islet-On-A-Chip Biosystem 34.

— Abhishek Jain, Yuxiang Sun, Akhilesh K. Gaharwar

Presenter: Abhishek Jain

Designing Optimal Diets via Mathematical Programming 35.

— Sergiy Butenko, Stephen T. Talcott, Hrayer Aprahamian

Presenter: Sergiy Butenko

Gender Differences in Sepsis Survival Involve Effects of Gonadal Steroid Hormones and 36. Activation of Inflammatory Pathways that Contribute to Disease Progression

(Targeting Gender Differences in Epigenetic and miRNA Mechanisms Underlying Sepsis)

— John Stallone, Sanjukta Chakraborty, Corey J. Bishop

Presenter: John Stallone

Engineering with Nature: The Fusion of Coastal Engineering and Ecology 37.

- Russell A. Feagin, Ignacio J. Rodriguez, Jens Figlus

Presenter: Rachel Innocenti

Using Raman Spectroscopy for the Detection of Opioid Use Disorders 38.

(Non-Invasive Methodologies for the Detection of Opioid Use Disorders)

— Shoshana Eitan, Samuel Mabbott, Paul J. Wellman

Presenter: Shoshana Fitan

39.	Texas Freedom Colonies Project Community Heritage Collaborative
	(Texas Freedom Colony Project Portal & Community Heritage Collaborative)
	— Andrea R. Roberts, Rebecca L. Hankins, Lynn M. Burlbaw
	Presenter; Andrea R. Roberts

- **40.**Biomimetic Interlocking Modules for Rapid Emergency Shelter Fabrication
 Ho-Yeong (Julian) Kang, Zofia K. Rybkowski, Matthew Yarnold

 Presenter: Ho-Yeong (Julian) Kang
- 41. Inflamm-Aging and Osteopenia in a Rodent Model of Spinal Cord Injury
 Michelle A. Schapiro, Dana Gaddy, Cedric Geoffroy

 Presenter: Michelle Hook
- **42.** Collaboration in Virtual and Face-To-Face Environments
 (Improving Teamwork using Collaborative Virtual Reality Environment)

 Bin Mai, Jinsil Seo, Andrew McCubbins

 Presenter: Bin Mai
- Avian Behavior, Physiology, and the Gut Microbiome (Avian Microbiomes)

 Jessica L. Yorzinski, Gil G. Rosenthal, Sarah A. Hamer
 - Presenter: Melanie Florkowski
- Validating Rainfall Parameterizations in Climate Models Using Predictive Empirical Analysis
 - Ramalingam Saravanan, Mikyoung Jun, Suhasini T. Subbarao *Presenter: Ramalingam Saravanan*
- Genetic Studies of an Essential NTPase Motor System in Pathogenic Parasites & Computational Approaches in Drug Discovery
 (Drug Development Against Essential NTPase Motor Proteins in Pathogenic Parasites)

 Jorge A. Cruz-Reyes, Phanourios Tamamis, Thomas D. Meek
 - Jorge A. Cruz-Reyes, Phanourios Tamamis, Thomas D. Meek Presenter: Joshua Meehan
- Wearable Sensing Framework for Examining the Effect of Built Environments on Human Performance

(Wearable Sensing Framework for Examining the Effect of Built Environments to Human Performance)

- Youngjib Ham, Winfred E. Arthur, Patrick C. Suermann *Presenter: Jeehee Lee*
- **47.** Doctoral Programs at Predominately White Institutions: Shared Experiences from Women of Color
 - Chanda Elbert, Chayla Haynes Davison, Jamilia Blake Presenter: Tyler Evan, Marigold Hudock, triad team members

48.	Millennial-Scale Hurricane Activity on the Yucatan Peninsula: Climate Drivers and
	Cultural Impact

— Peter J. Van Hengstum, Robert L. Korty, Courtney Schumacher

Presenter: Richard Sullivan

A Systems-Oriented Post-Event Assessment of Community Resilience 49_

— Burak Guneralp, Nasir G. Gharaibeh, Philip R. Berke

Presenter: Lidia Mezei

Mid-IR Spectroscopy on a Chip for Label-Free Detection of Bio-Markers **50.**

(Miniaturized Photonic Crystal Bio-Sensors for Sensitive and Label-Free detection of Bio-Markers)

— Hans Schuessler, Paotai Lin, Genny Carrillo

Presenter: Hans Schuessler

51. Generating Nanoparticles Using Supercritical Fluids

—Dorrin Jarrahbashi, Mohammed Al-Hashimi, Shiren Wang

Presenter: Dorrin Jarrahbashi

52. Investigating the Potential for Inter-Generational Effects of Temperature Stress on Blow Flies

— Aaron Tarone, Jeffery K. Tomberlin, Clifford H. Spiegelman

Presenter: Aaron Tarone

Antihistamines Cause Mesenteric Lymphatic Vessel Dysfunction and Development of **53.** Metabolic Syndrome

— Anatoliy A. Gashev, Shannon S. Glaser, Mansoor A. Khan

Presenter: Ziyaur Rahman

Impacts of Primary Productivity on Air-Sea Gas Exchange in an Anthropogenic Estuary 54

- Katie Shamberger, Shari A. Yvon-Lewis, Antonietta S. Quigg

Presenter: Katie Shamberger

Virtual Reality, Process Safety, and Counterfactual Thinking—New Paradigm for Training? **55.**

- S. Camille Peres, Mindy E. Bergman, Rachel E. Smallman

Presenter: S. Camille Peres

56. Coevolution of River-Channel Geomorphology and Riparian Vegetation on The Lower Brazos River, Texas

Inci Guneralp, Georgianne W Moore, Anthony M. Filipp

Presenter: Andrew Vanderheiden

Cr(VI) Toxicity Targets p53-SIRT1-Mediated Germ Cell Death that Leads to **57.** Premature Ovarian Failure

(p53-SIRT1 Cross-Talk in CrVI-Induced Reproductive Toxicity)

— Sakhila Banu, E. Tiffany-Castiglion, Ke Zhang

Presenter: Sakhila Banu

58. 3 Phase Flow Assessment with Fiber Optics Sensor

— Mohammad Azizur Rahman, Abu Rashid Hasan, Ibrahim Hassan

Presenter: Mohammad Azizur Rahman

59. Roles of Inflammation and Gut Microbiota Metabolite Indole in Pathophysiology of Diet-**Induced Steatohepatitis**

(Interplay Between Gut Microbiome and Innate Immunity in Non-Alcoholic Steatohepatitis)

— Chaodong Wu, Giridhar N. Athrey, Degiang Sun

Presenter: Chaodong Wu

A Triad of Geological and Environmental ICPMS Applications 60.

(Radiogenic Trace-Element Isotope "Fingerprinting" of Solid Samples by LA-ICPMS)

- Brent Miller, Nicholas D. Perez, Shankararaman Chellam

Presenter: Brent Miller

61. Personal Continuous Glucose Monitoring System for Diabetes Self-Management

— Bobak Mortazavi, Xia Hu, Sherecce A Fields

Presenter: Bobak Mortazavi

Comparative Models of NSAID-Induced Intestinal Inflammation **62.**

(Porcine Model of NSAID Enteropathy)

— Canaan Whitfield-Cargile, Robert S. Chapkin, Kelley M. Mankin

Presenter: Canaan Whitfield-Cargile

Adaptive Assembly of Cotton Root Microbiome in Gel Microdroplet-Based 63. Microfluidic Platform

(Adaptive Assembly of Root Microbiome Using Microfluidics for Innovative Cotton Disease Control)

— Won Bo Shim, Thomas Chappell, Arum Han

Presenter: Won Bo Shim

Striatal and Reward-Related Function in a Mouse Model for Fragile X Syndrome 64.

(Striatal Cholinergic Dysfunction in Neurogenetic Disorders

- Laura N. Smith, William Griffith, Scott V. Dindot

Presenter: Gia Valles

The Pragmatics of Othering: A Critical Discourse Analysis of Cyberhate **65.**

— Jyotsna Vaid, Zohreh R. Eslami, Brian N. Larson

Presenters: triad team members

Flux of Seawater and Animals in a Submarine Cave 66.

(Flux of Seawater and Plankton in a Submarine Cave)

— Thomas Iliffe, Ayal Anis, Joshuah Perkin

Presenter: Thomas Iliffe

Strain Localization in Geomaterials **67**.

— Hiroko Kitajima, Amine A. Benzerga, Janet F. Bluemel

Presenter: Hiroko Kitajima

68. Development of Expertise in Seismic Interpretation in Petroleum and Scientific Exploration

- Eric Riggs, Robert S. Reece, Khalil M. Dirani

Presenter: Eric Riggs

Characterization of Jellyfish Toxins and Their Toxicological Effects on Fish 69_ — Maria P. Miglietta, David Hala, Sing H. Sze

Presenter: Maria P. Miglietta

- Bottom-Up Synthesis of Nanographenes and its Effects on Electrical and Optical Properties 7N. (Computation-Guided Bottom-Up Synthesis of Nanographenes for the Preparation of Metamaterials)
 - Quentin Michaudel, Matthias Sebastian Maier, Micah Green

Presenter: Sam Kempel

- 71. Social and Contextual Influences on Children's Development: Insights from Secondary Data **Analysis**
 - Idean Ettekal, Rebecca J. Brooker, Wen Luo

Presenter: Idean Ettekal

- **72.** Paternal Contribution to Placentation and Pregnancy Success
 - Ky Garrett Pohler, David W. Forrest, Gregory A. Johnson

Presenter: Ky Garrett Pohler

- Revitalizing Neglected Public Space with Recycled Plastics **73**.
 - Alejandro Borges Gonzalez, Weiling He, Terry Creasy

Presenters: triad team members

Understanding the Impact of Information on Market Efficiency and Consumer Well-Being 74. — Yu (Yvette) Zhang, Yonghong An, Yan Liu

Presenter: Yu (Yvette) Zhang

Muscle Synergies, Assistive Devices and the Control of Movement **75.**

— Louis G Tassinary, Takashi Yamauchi, Jeonghee Kim

Presenter: Louis G Tassinary

Socioeconomic Impacts of Local Fracking Booms: Household Wealth and College Attendance **76.** (Socioeconomic Impacts of Local Fracking Booms: A Comprehensive Interdisciplinary Perspective — Steven Puller, Anastasia V. Shcherbakova, Christian Brannstrom

Presenter: Steven L. Puller

- Demographic-GIS Analysis of Spatial Population Distribution in U.S. Urban Areas in 1940 **77**_ (Demographic-GIS Analysis of Spatial Population Distribution and Change in *US Urban Areas 1910-1940)*
 - Mark Fossett, Walter D. Kamphoefner, Sierra D. Laddusaw

Presenter: Mark Fossett

The Role of MALAT1 and Nrf2 in Regulating Diabetogenic Effects of **78.** Early Life Air Pollution Exposure

- Natalie Johnson, Aline Rodrigues Hoffmann, Alva O. Ferdinand

Presenter: Natalie Johnson

Topological Phases of Matter and Quantum Error Correction and Detection **79**_

— Michael Brannan, Andreas Klappenecker, Eric Rowell

Presenters: triad team members

Deep Learning - Exploring the Limits Beyond Low Hanging Fruit RN_

— Philip Galanter, Nima Khademi Kalantari, Jeffrey M. Morris

Presenter: Philip Galanter

Multiplexed Magnetic Resonance Imaging with Para-Hydrogen Induced Spin Polarization 81.

— Christian B. Hilty, Steven M. Wright, Jim X. Ji

Presenter: Jiandu Hu

82. Perovskite Optical Metamaterials

— Zi Jing Wong, Svetlana A. Sukhishvili, Alexey A. Belyanin

Presenter: Yixin Chen

Intelligent GPR Semi-Autonomous UAV in 3D Internal Structural Analysis of Buildings 83.

— Byul Hur, Boong Y. Ryoo, Wei Zhan

Presenter: Byul Hur

Tracking the Genes Underlying Seasonal Migration 84.

(Unravelling the Genetic Basis of Seasonal Migration in Songbirds)

— Kira Delmore, Christine Merlin, Kamran Entesari

Presenter: Kira Delmore

Probing Chirality of Biomolecules with Nano-Structured Laser Light 85.

(Nanoantennas for High-Resolution Raman Spectroscopy of Biomolecules)

— Alexei Sokolov, Krzysztof A. Michalski, Muhammad S. Zubairy

Presenter: Alexei Sokolov

Theory-Guided Design and Development of Metal-Organic Frameworks for 86. Solar Energy Conversion

— Xiaofeng Qian, Tahir Cagin, Hongcai J. Zhou

Presenter: Xiaofeng Qian

Clock-Maker's Work-Space: Tangible Mixed Reality for 3D Design in the **87.** Peripersonal Space

(Tangible Augmented Reality Design Workflows for Digital-To-Physical Prototyping by Children) — Fnu Vinayak, Francis K. Quek, Shinjiro Sueda

Presenter: Vinayak Krishnamurthy

Unraveling Pathological Mechanisms of Muscular Dystrophy 88.

- Vladislav Panin, Hung-Jen Wu, Vladislav V. Yakovlev

Presenter: Vladislav Panin

Integrated Feedback for Individuals with Motor Impairments 89.

(Integrated Feedback and Augmented Reality for Individuals with Motor Impairments)

— Deanna Kennedy, Pilwon Hur, Li Zeng

Presenter: Deanna Kennedy

Investigating Regulation of Spermiogenesis Using a Novel Method of Spermatid Isolation for 90_ **Comparative Omics Analysis**

— Tracy Clement, Robert C. Burghardt, Deborah Bell-Pedersen

Presenter: Tracy Clement

Refine Microstructure in Renewable Carbon Fiber for Energy Storage Application 91_

— Joshua Yuan, William L Rooney, Wenhao Wu

Presenter: Joshua Yuan

92. Advanced Mechanical Performances of Polymer Composites

(Advanced Mechanical Performances of Polymer Composites Promoted by Rigid Ladder-Molecules)

— Lei Fang, Hung-Jue Su, Iman Borazjani

Presenter: Lei Fang

Philosophical Foundations of Probability and Mathematical Reasoning 93.

— Kenny Easwaran, Jeffrey Kuan, Frank J. Sottile

Presenter: Kenny Easwaran

94. Learning with Safety Constraints

(Playing Virtual Chicken: Learning Interaction Protocols between Pedestrians and Autonomous Vehicles

— Dileep Manisseri Kalathil, Srinivas G. Shakkottai, Bani K. Mallick

Presenter: Dileep Manisseri Kalathil

A New Stable Fracture Mechanics Test: Application to PMMA 95.

(Studying Controlled Fracture Using Cutting

— Dinakar Sagapuram, Arun R. Srinivasa, Ashlee E. Watts

Presenter: Dinakar Sagapuram

Improved Metrics to Assess the Burden of Livestock and Crop Disease and Production Loss 96.

(The Burden of Crop and Livestock Disease-Associated Production Losses)

- Gregory B. Colwell, Christine M. Budke, Rebecca Fischer

Presenter: Gregory B. Colwell

- **97.** *Mapping and Understanding Cybercrime Operations*(Mapping Cybercrime Operational Networks: Incentive Structures and
 - Platform Economics)

 Jesse Sowell, Korok Ray, Narasimha Annapareddy

Presenter: Jesse Sowell

- **98.** Better Water-Use Efficiency Through Coupled Microalgae Production and Horticulture Industries
 - Daniel Roelke, Terry Gentry, Mahmound El-Halwagi

Poster not submitted

- Novel Regulation in Assembly of the NADPH Oxidase-2 (Nox2) Complex During Spaceflight in Muscle
 - John Lawler, Shaodong Guo, Thomas Kent

Poster not submitted

Testing Plasma Jet Delivery Systems for CRISPR/Cas Editing of Live Plant Tissues— Michael Thomas, Endang M. Septiningih, David A. Staack

Poster not submitted