



The University of Texas at San Antonio™



2022 Tran-SET Conference

August 31 – September 02, 2022 | Hosted by the University of Texas at San Antonio (UTSA)

AT&T Hotel and Conference Center | Austin, TX

Welcome

Welcome to the 2022 Tran-SET Conference!

On behalf of the Transportation Consortium of South-Central States (Tran-SET), I am honored to welcome you to the 2022 Tran-SET Conference, hosted by the University of Texas at San Antonio (UTSA).



Tran-SET is a regional University Transportation Center (UTC) comprising of 11 partnering institutions across five states (Arkansas, Louisiana, New Mexico, Oklahoma, and Texas) in Federal Highway Administration (FHWA) Region 6, aiming to address the accelerated deterioration of our transportation infrastructure through the development, evaluation, and implementation of cutting-edge technologies, novel materials, and innovative construction management processes: from research to implementation. We believe that our focus on implementation makes us unique and our strong alliances with industry, academic, and government agencies will help us succeed and reach our goals.

The 2022 Tran-SET Conference will bring together academics, industry professionals, state DOTs, and other government agencies interested in solving transportation challenges facing Region 6. Participants in this conference will be introduced to Tran-SET's research, education, workforce development, and technology transfer activities. Attendees will see a variety of technical contributions covering multiple transportation fields, including structures, geotechnical, safety, intelligent transportation systems, policy and planning, pavements, asphalt, and concrete materials. In parallel, the Student Poster sessions comprising of several student posters from different institutions in the region are being showcased at the conference.

Please enjoy the technical sessions, poster competition, and the conference! Your presence is an indication that you are committed to making a positive difference, not only to our transportation industry but also throughout your state jurisdiction.

We hope you have a productive meeting and enjoy all that the conference has to offer! If there is anything I can do, please do not hesitate to contact me via email at marwa@lsu.edu or the Tran-SET team at transet@lsu.edu.

Sincerely,

Marwa Hassan, Ph.D., PE Civil (VA)
Director of Tran-SET UTC

Welcome Message from the Chair of the 2022 Tran-SET Conference

On behalf of the organizing committee, I warmly welcome you to the 2022 Transportation Consortium of South-Central States (Tran-SET) Conference, virtually hosted by University of Texas at San Antonio.

This is the 5th annual conference of the Tran-SET. The theme of this conference is integrating cutting-edge technologies, big data and AI-based techniques to achieve transportation equity and maintain durable, sustainable and resilient transportation infrastructure. The purpose of this Conference is to educate, engage, and work with varied stakeholders (academics, industry professionals, state DOTs, and other government agencies) to solve transportation challenges facing the South-Central United States. The Conference is an opportunity to inform stakeholders on Tran-SET's research, education, workforce development, and technology transfer activities. This includes showcasing our technical contributions in a wide range of transportation fields including pavements, asphalt and cement concrete materials, structures, geotechnical, safety, intelligent transportation systems, and policy and planning.



There were 60 submissions (36 full papers for presentation and publication, 18 abstracts for student presentation/poster presentations, and 6 poster only submissions) for this conference. Topics covered in these submissions include but are not limited to novel materials to enhance durability of cement concrete materials, advanced and renewable materials to improve performance of asphalt mixtures, implementation of innovative construction management processes, environmentally-friendly soil stabilization techniques, effective and simplified approaches to evaluate pavements performance, cost-effective monitoring and preservation of structures, development of safety assessment approaches for infrastructure, and impact of Intelligent Transportation Systems (ITS) on economic development. The submitted papers went through a peer-review process before they were accepted for publication in the conference proceedings. We expect a few hundred participants to attend this conference. Please enjoy the technical sessions, poster presentations, and other conference events!

To put a conference of this magnitude together is not a small task. To this end, I sincerely appreciate all members of the conference steering and scientific committees, speakers and presenters, authors and reviewers, participants, UTSA staff and administrators, student volunteers, the Tran-SET family, USDOT, and sponsors for their efforts and contributions in making this event successful. Please do not hesitate to contact me via email at samer.dessouky@utsa.edu.

Sincerely,

Samer Dessouky, Ph.D., P.E.
Chair, 2022 Tran-SET Conference
Associate Director of Tran-SET
University of Texas at San Antonio

Keynote Speaker

Chandra Bhat, Ph.D., P.E.

University Distinguished Teaching Professor

Joe J. King Endowed Chair Professor in Engineering

Department of Civil, Architectural and Environmental Engineering

Department of Economics (Courtesy Appointment)

The University of Texas at Austin

Dr. Chandra R. Bhat has been a pioneer in the formulation and use of statistical and econometric methods to analyze human choice behavior for transportation and urban policy design. His current research includes the social and environmental aspects of transportation, planning implications of emerging technology and mobility options, equity considerations in transportation safety, and data science and predictive analytics. He is a recipient of many awards, including the 2022 Institute of Transportation Engineers (ITE) Theodore M. Matson Memorial Award, the 2017 Council of University Transportation Center (CUTC) Lifetime Achievement Award, the 2015 American Society of Civil Engineers (ASCE) Frank M. Masters Award, and the 2013 German Humboldt Award. He was listed in 2017 as one of the top ten transportation thought leaders in academia by the Eno Foundation. His former students are now leaders in the travel modeling field, and many have received national-level dissertation/thesis awards for their research under Dr. Bhat's guidance. Dr. Bhat currently serves as the Editor-in-Chief of *Transportation Research – Part B*.



Keynote Speaker

Laura Rogers

Deputy Director, The Ray



Laura Rogers is the Deputy Director at The Ray, responsible for the development and execution of operational policies for the organization, and transferring and scaling the sustainable technologies demonstrated on The Ray Highway to transportation agencies nationally and internationally. Prior to joining The Ray, Laura worked for 14 years in the federal, state and private sectors in the areas of environmental program management, sustainability, energy, and regulatory compliance. Most recently, Laura led the energy, sustainability and environmental stewardship policies and programs at Maryland Department of Transportation Headquarters. Laura conceptualized, designed and executed the MDOT statewide solar program.

Keynote Speaker – EV Summit

Jason JonMichael

Assistant Director

Austin Transportation

Jason JonMichael serves as an Assistant Director in Austin Transportation where he oversees Smart Mobility, Public-Private Partnerships, Placemaking, Mobility Services, Parking Enterprise, and Travel Demand Management. He leads a cross-functional team of community, mobility, technology, policy, data, and user experience specialists to deliver outcomes that improve mobility, safety and access to Austin residents.

A national leader and subject matter expert in smart cities, Jason is also an Executive Board Member, and Past Chairman of OmniAir®, the global certification organization for vehicle communications; Executive Board Member of the Global Autonomous Vehicle Partnership, advancing emerging and next-gen vehicle technologies; and President of the Austin Smart Cities Alliance, a local non-profit member based organization of public, private, academic, and individual contributors.



Keynote Speaker – EV Summit

George Liang, Ph.D.

*Director of Product and System Application Engineering
Infineon Technology American Corporation*



George Liang is the director of product and system application engineering for switching power and battery powered applications at Infineon Technology American Corporation. He leads an engineering team with focus on system power solutions for smartphone, PC, datacenter, telecom network, PCs, battery energy storage system, EV charging, renewable energy, and motor drives. George was the director of application and system engineering for PMIC products in automotive, industrial, computing and communication applications at Integrated Device Technology (acquired by Renesas) until July 2018. Prior joining IDT in May 2015, George had worked at Intersil Corporation (acquired by Renesas) since November 2000 and had hold various engineering and business leadership positions for broad range of power management IC products. Prior joining Intersil in November 2000, George was the R&D manager and power architect at Heart Interface

(Acquired by Xantrex) for AC/DC and DC/AC power supplies for RV, Marine and Renewable energy applications.

George Liang has extensive R&D and marketing experiences on various semiconductor products including analog and digital controllers for isolated and non-isolated DC/DC power converters, PFC controllers, Switching Regulators, integrated power Modules, PMICs, LDOs, Mosfet Drivers, Hot-Plug and Oring Control products etc. He is the inventor of 12 US/International patents and the author of over 40 technical papers. He received his Ph. D. degree in electrical engineering from Chongqing University, China in July 1995.

Keynote Speaker – EV Summit

Harley Hubbard

*Sustainable Transportation Manager
City of San Antonio, Office of Sustainability*

Harley Hubbard (she/her/hers) is the Sustainable Transportation Manager at the City of San Antonio Office of Sustainability. Harley's work focuses on implementing transportation initiatives from the City's Climate Action & Adaptation Plan. Her projects aim to increase the adoption of electric transportation, improve air quality, and promote multi-modal commuting. In addition to her responsibilities with the City, Harley is an adjunct faculty member at San Antonio College where she teaches natural sciences courses. Harley also serves on the board of Women in Transportation's San Antonio Region chapter.

Harley has earned three degrees from Texas Tech University, a Bachelor of Science in Zoology, a Professional Science Master's in Environmental Sustainability & Natural Resource Management, and a Master of Business Administration. She also maintains credentials as a LEED Green Associate and American Association of Airport Executives Certified Member.



Keynote Speaker – EV Summit

Beverly West

*Strategy and Planning Section Director
Texas Department of Transportation*



Beverly West currently serves as the Strategy & Planning Section Director in the Strategic Planning Division of The Texas Department of Transportation. Her role includes oversight of four programs: Emerging Technologies Initiatives, Business Intelligence & Performance Management, Enterprise Policy Governance, and Continuity of Operations.

Beverly's 20+ year public service career at TxDOT is composed of right of way, compliance programs and innovative strategies. In previous roles, she was responsible for oversight of the statewide real estate leasing program, saltwater pipeline leasing program, establishment of the small cell telecommunication leasing program, creating innovative revenue streams for the agency as well as an integral part of the establishment of the TxDOT Compliance Program. Prior to joining TxDOT, she gained valuable experience in the private sector specializing in land development after graduation from Baylor University.

Her teams lead the CAV Task Force, UAM Committee, Texas Technology Taskforce, and the Emerging Technology Transportation Plan. Beverly currently serves on Performance Management committees for AASHTO and TRB and represented TxDOT at the FHWA Western States Summit in 2017-2019 and the Mid-Atlantic States Summit in 2019 speaking on telecommunication and asset monetization. She is a two-time recipient of TxDOT's Journey Toward Excellence Award for TxDOT's Internal Compliance Program and Continuity of Operations Program.

Keynote Speaker – EV Summit

Laura Morrison

Executive Director

Texas Electric Transportation Resources Alliance (TxETRA) Education Fund

Working to achieve equitable and universal adoption of electric transportation in Texas by 2035, Laura leads the TxETRA Education Fund (a 501(c)(3) organization) in developing policies and programs that bring communities and resources together to reduce transportation emissions, to address concerns about climate change, health, health costs, the economy and environmental justice. Efforts have led to fleet electrification of major metro counties, university collaborations on workplace and student EV charging infrastructure, and grassroots policy recommendations on implementing the Federal Justice40 directive in the U.S. National Electric Vehicle Infrastructure funds in Texas. The organization is currently developing an Electric Transportation Roadmap for the state of Texas, in collaboration with a wide variety of stakeholders.



Prior to this work and with deep involvement in the Austin community, Laura served as an Austin City Council member for 2 terms, focusing on community development and public health, emerging technology and digital inclusion, and sustainable water and energy policies. During her service she was often recognized for her efforts, including as a Champion for Working Families, the Grand Marshall of the Pride Parade, an Honorary Ambassador to the Sister City of Oita, Japan and for her advocacy for Families and Youth. She was also an engineer with Lockheed Martin, developing decision support and business compliance systems. She has master's and bachelor's degrees in mathematics from the University of California, Berkeley, and San Diego respectively, and a graduate certificate in disaster management from the University of North Carolina School of Public Health.

Keynote Speaker – EV Summit

Joe Jankosky

*Director, Utility Vertical – Americas
Intel*



Joe Jankosky is the Director, Utility Vertical - Americas at Intel. His primary role is to integrate Intel's product development teams with the broader ecosystem to solve utilities' greatest challenge – to create a digital infrastructure to optimize the physical. Doing so enables greater insight into grid operations; increases the onboarding of renewables; improves safety, reliability and security; and lowers O&M cost. He also drives Intel's utility initiatives in EV charging infrastructure.

Before Intel, Joe led the development of energy management solutions and new business models for Time Warner Cable's IntelligentHome division. He began his energy career negotiating long-term power contracts at Southern California Edison and then created the utility's strategic alliances with IoT manufacturers, including the first Demand Response pilot for Nest thermostats. Joe received his BA, MBA and MPA degrees

from Stanford, USC and Harvard respectively.

Keynote Speaker

Brian Dietrich

Sales Manager

Intel

Brian is currently assigned to Intel's Government & Education industry vertical, where he has commercial business responsibilities for state government agencies, local governments and institutions of higher education in the Texas marketplace. In this assignment, Mr. Dietrich manages strategic demand generation programs, tracks technology consumption and assists with technology transformation projects in education, healthcare, state/local government, energy and broadband.



ABOUT TRAN-SET

The theme of the Center is “Solving Emerging Transportation Resiliency, Sustainability and Economic Challenges through the Use of Innovative Materials and Construction Methods: From Research to Implementation.” The Center’s Mission is to support all phases of research, technology transfer, workforce development, and outreach activities of emerging technologies that can solve transportation challenges in Region 6.

ABOUT REGION 6

The combined Region 6 UTC team represents a collaborative partnership between nine major institutions and two community colleges. This partnership will combine the distinct characteristics and strengths of each institution to deliver a Center with unique capabilities to tackle regional transportation challenges.

Tran-SET Team

CENTER DIRECTOR

Dr. Marwa Hassan

KEY PERSONNEL

Dr. Charles Berryman

Dr. Heena Dhasmana

Dr. Chao Wang

ASSOCIATE DIRECTORS

Dr. Zahid Hossain

Mr. Timothy Dykes

Dr. Gholam Ehteshami

Dr. Craig Newton

Dr. Samir Ahmed

Dr. Raghava Kommalapati

Dr. Ibrahim Karaman

Dr. Susan Bogus

Dr. Stefan Romanoshi

Dr. Samer Dessouky

PROGRAM DIRECTORS

Dr. Mostafa Elseifi

Dr. Louay Mohammad

Dr. Sam Cooper, Jr.

Dr. Tyson Rupnow

Dr. Paola Bandini

Dr. Mahmoud Reda Taha

Dr. Anand Puppala

CENTER ADVISORY BOARD

Eric Kalivoda, Chair

Kathy Trahan

Mark Headley

James Setze

Patrick Gallagher

Connie Fabre

Fadi Faraj

Will Seaman

Susan Schowen

Ava Dejoie

David Hadwiger

Alan Stevenson

Brett Haggerty

Enad Mahmoud

Bryan Sims

CONFERENCE STEERING COMMITTEE

Dr. Samer Dessouky, Chair

Dr. Heena Dhasmana, Co-Chair

Dr. Sara Ahmed

Dr. Zahid Hossain

Program at-a-Glance

All times mentioned are in **United States Central Daylight Time (CDT)**, which is the **Coordinated Universal Time (UTC) – 05:00** in September 2022.

Wednesday | August 31, 2022

1:00pm – 5:00pm **Central Advisory Board (CAB) Meeting**
By Invitation Only

Thursday | September 1, 2022

7:30am – 8:00am **Breakfast**

8:00am – 9:00am **Opening Session/Keynote Speaker (Dr. Chandra Bhat)**

9:10am – 12:00pm **Student Poster Competition**

9:10am – 10:30am **Concurrent Technical Session 1A**
Intelligent Transportation Systems
Concurrent Technical Session 1B
Structural

10:30am – 10:40 am **Break**

10:40am – 12:00pm **Concurrent Technical Session 2A**
Cement Concrete
Concurrent Technical Session 2B
Geotechnical
Concurrent Technical Session 1B
Safety

12:00pm – 1:20pm **Lunch Break (with Keynote Speaker) (Mr. Brian Deitrich)**

1:30pm – 5:00pm **Tran-SET Summit on Electric Vehicle Usage and
Integration in the Modern Economy**

6:00pm – 9:00pm **Dinner and Social Event**

Program at-a-Glance

Friday | September 2, 2022

7:30am – 8:00am	Breakfast
8:00am – 9:00am	Opening Session/Keynote Speaker (Ms. Laura Rogers)
9:10am – 12:00pm	Student Poster Competition
9:10am – 10:30am	Concurrent Technical Session 3A <i>Structural</i>
	Concurrent Technical Session 3B <i>Asphalt Materials</i>
10:30am – 10:40 am	Break
10:40am – 12:00pm	Concurrent Technical Session 4A <i>Pavements</i>
	Concurrent Technical Session 4B <i>Cement Concrete</i>
	Concurrent Technical Session 4C <i>Construction</i>

STUDENT POSTER COMPETITION

Please join us as students present their research and participate in a poster competition on **Thursday, September 1st from 9:10-12:00 pm (CDT)**. There are 14 posters in the contest. These posters will be judged by a panel and prizes along with certificates will be awarded for the first, second, and third place. The fourth and fifth places will receive certificates.

Technical Sessions

THURSDAY | 9:10am – 10:30am | Session 1

Session 1A: Intelligent Transportation Systems (ITS)

Moderators: TBD

Location: Salon D

As transportation agencies are asked to maximize the benefits of their investments in infrastructure, they are continually exploring more intelligent, cost-effective solutions. This session will investigate such solutions for a wide range of transportation issues.

Assessment of drivers' behavior and traffic safety in presence of connected and automatic vehicle platoon near on-ramp and off-ramp

Taniya Sultana – Louisiana State University

Hany Hassan - Louisiana State University

Analysis of Large Truck Crashes in Texas

Hatim Sharif - U of Texas at San Antonio

Khondokar Billah - U of Texas at San Antonio

Samer Dessouky - U of Texas at San Antonio

Traffic Signal recognition using end-to-end deep learning

Tonmoy Sarker - Louisiana State University

Xiangyu Meng - Louisiana State University

Reinforcement learning algorithm for autonomous vehicles decentralized collision-free trajectory planning

Joseph Clemmons - U of Texas at San Antonio

Umar Jamil - U of Texas at San Antonio

Alan Chen - U of Texas at San Antonio

Ashley Land - U of Texas at San Antonio

Sara Ahmed - U of Texas at San Antonio

Yufang Jin - U of Texas at San Antonio

Session 1B: Structural

Moderators: TBD

Location: Salon E

This session further explores Tran-SET's research theme of "Preserving the Existing Transportation System" by showcasing research projects involving the use of innovative materials/techniques to improve the resiliency and durability of transportation structures.

Climate-induced bridge condition deterioration evaluation using mechanics-based deterioration models

Ao Du - U of Texas at San Antonio

Jiannan Cai - U of Texas at San Antonio

Cone Penetration test (CPT) based liquefaction hazard investigation in Mississippi county of northeast Arkansas

Rupesh Mahat - Arkansas State University

Ariful Md. Hasan - U of Tennessee Knoxville

Zahid Hossain - Arkansas State University

Studying steel fiber reinforcement for 3D Printed elements and structures

Hassan Ahmed - Louisiana State University

Ilerioluwa Giwa - Louisiana State University

Daniel Game - Louisiana State University

Marc Hebert - Louisiana State University

Hassan Noorvand - Louisiana State University

Gabriel Arce - Virginia DOT

Marwa Hassan - Louisiana State University

Ali Kazemian - Louisiana State University

Development of metakaolin fly ash for transportation infrastructure

Oscar Huang - Texas A&M University

Ruwa Abufarsakh - Louisiana State University

Hassan Noorvand - Louisiana State University

Gabriel Arce – Virginia DOT

Marwa Hassan - Louisiana State University

Miladin Radovic – Texas A&M University

Technical Sessions

THURSDAY | 10:40am – 12:00pm | Session 2

Session 2A: Cement Concrete

Moderators: TBD

Location: Salon D

This session presents the application of novel materials to increase the durability of concrete materials while using locally available by products to create high-performing and cost-effective solutions to engineering problems.

Effect of Portland limestone cement (Type II) combined with bagasse ash on the compressive strength of ECC

Samuel Guidroz - Louisiana State University

Omar Omar - Louisiana State University

Sujata Subedi - Louisiana State University

Hassan Noorvand - Louisiana State University

Marwa Hassan - Louisiana State University

Towards 3D printable Engineered Cementitious Composites: Mix design proportioning, flowability, and mechanical performance

Muhammad Zafar - University of New Mexico

Amir Bakhshi - University of New Mexico

Maryam Hojati - University of New Mexico

Effects of Supplementary cementitious materials on the long-term durability properties of concrete

Abu Akid - Arkansas State University

Raiyan Chowdhury - Arkansas State University

Zahid Hossain - Arkansas State University

Marwa Hassan - Louisiana State University

Alan Meadors - OK/AR Chapter, ACPA

Stress response model for engineered cementitious composites Ultra-thin white topping

Ricardo Hungria - Louisiana State University

Hassan Noorvand - Louisiana State University

Marwa Hassan - Louisiana State University

Heena Dhasmana - Louisiana State University

Session 2B: Geotechnical

Moderators: TBD

Location: Salon E

In Region 6, many geotechnical issues are affecting transportation infrastructure including the presence of clay soils, marshlands, coastal zones and extreme weather conditions. This session presents research on topics relevant to the south central states including soil stabilization using sustainable materials and impact of extreme weather on the stability of transportation structures.

Use of rice husk ash and hydrated lime as stabilizing agents for poor subgrade soils and embankments

Fares Tarhuni - Arkansas State University

Zahid Hossain - Arkansas State University

Evaluation of sustainable and environmentally friendly stabilization of cohesionless sandy soil for transportation infrastructure

Oscar Huang - Texas A&M University

Jungyeon Jang - Texas A&M University

Surya Sarat Congress - Texas A&M University

Anand J. Puppala - Texas A&M University

Miladin Radovic - Texas A&M University

Calibrations of the innovative S3F sensor for shear stress measurements in soil

Hussein Alqrinawi - Louisiana State University

Hai Lin - Louisiana State University

Shengli Chen - Louisiana State University

Investigation of the impact of rainfall patterns on highway slope stability

David Burrows – PrairieView A&M University

Md. Jobair BinAlam – PrairieView A&M

University

Raghava Kommalapati – PrairieView A&M

University

Hongbo Du – Prairie View A&M University

Hatim Sharif – U of Texas at San Antonio

Technical Sessions

THURSDAY | 10:40am – 12:00pm | Session 2

Session 2C: Safety

Moderators: TBD

Location: Salon AB

As transportation engineering practitioners and researchers, it is important to think about the transportation system holistically when addressing factors such as user perspective, equity, and their interaction with the system components. This session introduces a variety of user-related issues and potential solutions in Region 6.

Life cycle environmental impacts of renewable diesel use for transportation in Texas

Hongbo Du - PrairieView A&M University

Raghava Kommalapati - PrairieView A&M University

Md. Jobair BinAlam - PrairieView A&M University

Benefits of e-ticketing in Highway construction and its future integration

Karthik Subramanya - U of Texas at Arlington

Sharareh Kermanshachi – U of Texas at Arlington

Apurva Pamidimukkala - U of Texas at Arlington

Karthikeya Loganathan - U of Texas at Arlington

Occupational fatigue and physical health of construction workers in extreme hot weather

Sanjgna Karthik - U of Texas at Arlington

Sharareh Kermanshachi - U of Texas at Arlington

Karthikeya Loganathan - U of Texas at Arlington

Evaluation of operational challenges in highway construction material delivery

Karthik Subramanya - U of Texas at Arlington

Sharareh Kermanshachi – U of Texas at Arlington

Apurva Pamidimukkala - U of Texas at Arlington

Karthikeya Loganathan - U of Texas at Arlington

Student Poster Session

THURSDAY | 9:10am – 12:00pm

Moderator: TBD

Location: Pre-function area

Poster ID	Poster Title	Student Name	Student Affiliation
1272	Liquefaction analysis of Mississippi county of Northeast Arkansas using CPT data	Rupesh Mahat	Arkansas State University
2076	Effect of Warm Mix Additives on Asphalt Binders Rheology, Chemistry, and Moisture Susceptibility	Md. Najmsuh Sakib Oyan	Arkansas State University
2313	Comparative Analysis of the Environmental Impacts of Concrete 3D-Printed Bridges	Sara Miryousefi Ata	Louisiana State University
3317	Drying Shrinkage and Alkali-Silica Reaction of Concrete Incorporating Supplementary Cementitious Materials	Abu Sayed Mohammad	Arkansas State University
4127	Moisture Susceptibility and Chemical Analysis of Recovered Asphalt Binders	Md. Najmsuh Sakib Oyan	Arkansas State University
6636	Permeable Curbs for Storm water Pollution Mitigation	Aldo Hernandez	University of Texas at San Antonio
9435	Soil Stabilization with Rice Husk and Hydrated Lime	Fares Tahrani	Arkansas State University
-	Energy Efficient and Battery SOC-aware Coordinated Control of Connected and Autonomous Electric Vehicles	Shaopan Guo	Louisiana State University

Student Poster Session

THURSDAY | 9:10am – 12:00pm

Moderator: TBD

Location: Pre-function area

Poster ID	Poster Title	Student Name	Student Affiliation
-	Effect of Portland Limestone Cement (Type II) Combined with Bagasse Ash on the Compressive Strength of Engineered Cementitious Composites	Samuel Guidroz	Louisiana State University
-	Development of Ultra-High Performance Engineered Cementitious Composites for 3D Printing Applications	Daniel Game	Louisiana State University
-	Evaluation of Engineered Cementitious Composites (ECC) Reinforced with Cellulose Nanocrystals	Andrea Gavilanes	Louisiana State University
-	Stress Response Model for Engineered Cementitious Composites Ultrathin White-topping (ECC-UTW)	Ricardo Hungria	Louisiana State University
-	Fresh And Hardened Properties Of Potassium Hydroxide Activated Metakaolin And Fly Ash-Based Geopolymer Mortars	Ruwa Abufarsakh	Louisiana State University
-	Effect of Using Calcium Lactate with Bacillus Pseudofirmus Bacteria on Self-Healing Efficiency of Bacterial Concrete	Omar Omar	Louisiana State University
-	Traffic Crash Data Analysis Using CRIS Database in Texas	Tulan Sampath Bandara	University of Texas at San Antonio
-	Development of Virtual Driving Environment Using CARLA, SUMO and OpenCDA for Data Collection for Reinforcement Learning	Alan Chen	University of Texas at San Antonio
-	AI-powered Optimal Charging Strategy for Electric Vehicles	Umar Jamil	University of Texas at San Antonio

Technical Sessions

FRIDAY | 9:10am – 10:30am | Session 3

Session 3A: Structural

Moderators: TBD

Location: Salon D

This session focuses on discussing research efforts in improving the structural integrity of construction projects in Region 6.

Case study of modulus of deformation of railway earthworks by static plate load test

Md. Al-Amin - China Civil Engineering Construction Corporation

Zahid Hossain - Arkansas State University

Spatial variability effects of wall erosion on assessment of Reinforced concrete sanitary sewer pipes (RCSSPs)

Moein Ebrahimi - U of Texas at Arlington

Himan Hojat Jalali - U of Texas at Arlington

Fresh and hardened properties of potassium hydroxide activated metakaolin and fly-ash based geopolymer mortars

Ruwa Abufarsakh - Louisiana State University

Hassan Noorvand - Louisiana State University

Gabriel Arce - Virginia DOT

Marwa Hassan - Louisiana State University

Sujata Subedi - Louisiana State University

Rebar geometric information inspection using RGBD-UAV system

Mahsa Sanei – University of New Mexico

Ali Khorasani – University of New Mexico

Fernando Moreu – University of New Mexico

Session 3B: Asphalt Materials

Moderators: TBD

Location: Salon E

One of the four major research themes of TRANSET is “Enhancing the Durability and Service Life of Infrastructure”. This session explores this theme by applying cutting-edge technologies and novel materials to asphalt concrete materials.

Identification of low-density polyethylene, HDPE, and polypropylene in asphalt binder with a hand-held FTIR spectrometer

Md. Reazul Islam - Louisiana Tech University

Nazimuddin Wasiuddin - Louisiana Tech University

Rheological, chemical and water resistance properties of asphalt binders modified with selected warm mix additives

Md. Najmsuh Sakib Oyan - Arkansas State University

Zahid Hossain - Arkansas State University

A laboratory evaluation on moisture susceptibility of dense-graded asphalt mixtures

Md. Tanvir Sarkar - Arkansas State University

Md. Najmsuh Sakib Oyan - Arkansas State University

Mostafa Elseifi - Louisiana State University

Zahid Hossain - Arkansas State University

Prediction of performance of asphalt overlays using Decision tree algorithm

Elise Mansour - Louisiana State University

Momen Mousa – Sam Houston State University

Marwa Hassan - Louisiana State University

Technical Sessions

FRIDAY | 10:40am – 12:00pm | Session 4

Session 4A: Pavements

Moderators: TBD

Location: Salon D

This session further explores Tran-SET's research theme of "Preserving the Existing Transportation System" by showcasing research projects involving several novel materials/techniques and health monitoring systems to enhance the durability of transportation structures in Region 6.

Prediction of pavement smoothness and aggregate segregation using CNN and image processing

Ramchandra Paudel - Louisiana State University

Mostafa Elseifi - Louisiana State University

A rapid in-situ test method for the determination of oxidative field aging using a handheld FTIR spectrometer

Md. Reazul Islam - Louisiana Tech University

Delmar Salomon - Pavement Preservation Systems, LLC

Nazimuddin Wasiuddin - Louisiana Tech University

Structural health assessment of pavement sections in the south-central states using FWD parameters

Nitish Bastola - U of Texas at Tyler

Mena Souliman - U of Texas at Tyler

Samer Dessouky - U of Texas at San Antonio

Mechanical properties of Ultra-high performance concrete containing natural pozzolan and metakaolin

Seyedsaleh Mousavinezhad - New Mexico State University

Gregory Gonzales - New Mexico State University

William Toledo - New Mexico State University

Judit Garcia - New Mexico State University

Craig Newston - New Mexico State University

Session 4B: Cement Concrete

Moderators: TBD

Location: Salon E

In this session, innovative efforts in creating sustainable cement concrete applications will be discussed.

Development of Ultra high performance Engineered Cementitious Composites for 3D printing applications

Daniel Game - Louisiana State University

Ilerioluwa Giwa - Louisiana State University

Hassan Ahmed - Louisiana State University

Hassan Noorvand - Louisiana State University

Gabriel Arce - Virginia DOT

Marwa Hassan - Louisiana State University

Ali Kazemian - Louisiana State University

Direct shear bond assessment between Ultra high-performance concrete and normal strength concrete

William Toledo - New Mexico State University

Seyedsaleh Mousavinezhad - New Mexico State University

Gregory Gonzales - New Mexico State University

Craig Newston - New Mexico State University

Evaluation of Engineered cementitious composites reinforced with cellulose nanocrystals

Andrea Gavilanes - Louisiana State University

Hassan Noorvand - Louisiana State University

Sujata Subedi - Louisiana State University

Marwa Hassan - Louisiana State University

Effect of using calcium lactate with bacillus pseudofirmus bacteria on self-healing efficiency of bacterial concrete

Omar Omar - Louisiana State University

Hassan Noorvand - Louisiana State University

Marwa Hassan - Louisiana State University

Sujata Subedi - Louisiana State University

Jose Milla – Louisiana Transportation Research Center

Tyson Rupnow - Louisiana Transportation Research Center

Technical Sessions

FRIDAY | 10:40am – 12:00pm | Session 4

Session 4C: Construction

Moderators: TBD

Location: Salon AB

This last session highlights the role of human involvement in the construction process and different methods being adopted to increase the overall construction efficiency.

Adoption of e-ticketing technology in highway construction: roadblocks and recommendations

Karthik Subramanya - U of Texas at Arlington

Sharareh Kermanshachi – U of Texas at Arlington

Apurva Pamidimukkala - U of Texas at Arlington

Karthikeya Loganathan - U of Texas at Arlington

Predicting the retro reflectivity degradation of thermoplastic pavement markings using genetic algorithm

Ipshit Idris - Louisiana State University

Momen Mousa – Sam Houston State University

Marwa Hassan - Louisiana State University

Heena Dhasmana - Louisiana State University

Utilizing e-ticketing to increase productivity and minimize shortage of inspectors

Karthik Subramanya - U of Texas at Arlington

Sharareh Kermanshachi - U of Texas at Arlington

Apurva Pamidimukkala - U of Texas at Arlington

Karthikeya Loganathan - U of Texas at Arlington

Impact of construction worker physical health and respiratory issues in hot weather: A pilot study

Sanjna Karthik - U of Texas at Arlington

Sharareh Kermanshachi - U of Texas at Arlington

Karthikeya Loganathan - U of Texas at Arlington

Thank you to our 2022 Conference Sponsors!

You can access the full conference proceedings
by visiting our website,
<https://transet.lsu.edu/2022-tran-set-conference/>

