OTRD

OKLAHOMA TRANSPORTATION RESEARCH DAY

"Transportation Excellence Through Research and Implementation"

2020

OKLAHOMA TRANSPORTATION RESEARCH DAY

Transportation Excellence Through Research and Implementation

Tuesday, October 20

Virtual Zoom Event
ID: 918 9642 3837
Password: 39280789

Click here or scan the QR code to connect to the Zoom meeting

Hosted by

Southern Plains Transportation Center

Oklahoma Transportation

ABC UTC
Accelerated Bridge Construction University Transportation Center

TABLE OF CONTENTS

PROGRAM

8:15 a.m. **Zoom Link Opens** *All times are CDT*

8:30 a.m. **Welcome and Opening Remarks**
Tim Gatz, Secretary of Transportation, Oklahoma Department of Transportation

John Klier, Dean, Gallogly College of Engineering, University of Oklahoma

Kelvin Wang, Regents Professor and Dawson Chair, School of Civil and Environmental Engineering, Oklahoma State University

8:45 a.m. **Keynote Lectures**
Moderator: Rick Johnson, Director of Capital Programs, Oklahoma Department of Transportation

Federal Perspective on Transportation Research
Kelly Regal, Associate Administrator for Research, Development, and Technology, Turner Fairbank Highway Research Center

Moving Ahead: Opportunity and Innovation in a Changing Mobility Landscape
Karen Philbrick, Executive Director, Mineta Transportation Institute

9:45 a.m. **Q/A of Demo Videos and Posters Set One**

10 a.m. **Technical Session One**
Moderator: Rick Johnson, Director of Capital Programs, Oklahoma Department of Transportation

Non-Proprietary UHPC for Transportation Structures
Royce Floyd, Associate Professor, School of Civil Engineering and Environmental Science, The University of Oklahoma

UHPC based Bridge Engineering Solutions
Atorod Azizinamini, Professor and Chair, Department of Civil and Environmental Engineering, Florida International University

Reducing Cracking in Bridge Decks with Baby Aspirin Techniques
Tyler Ley, Professor of Structural Engineering, Oklahoma State University

Mitigating Calcium Oxychloride Deterioration in Cementitious Paste and Concrete
Micah Hale, Professor and Head, Department of Civil Engineering, University of Arkansas

11:15 a.m. **Poster Slides Show, Lunch, and Poster Awards Ceremony**
Moderator: David Ooten, State Research Engineer, Oklahoma Department of Transportation

12:30 p.m. **Technical Session Two**
Moderator: Basharat Siddiqi, Division Administrator, Federal Highway Administration Oklahoma

Stabilization of Expansive Soils: Clay Mineralogy and Durability Issues
Anand Puppala, Professor and A.P. and Florence Wiley Chair, Texas A&M University

Using X-Ray Fluorescence to Assess Soil Subgrade Stabilization Competency During Construction Inspection
Amy Cerato, Professor of Geotechnical Engineering, University of Oklahoma

A Fresh Look at Developing Practical Balance Mix Design
Soheil Nazarian, Professor of Civil Engineering, University of Texas at El Paso

1:30 p.m. **Q/A of Demo Videos and Posters Set Two**

1:45 p.m. **Technical Session Three**
Moderator: Basharat Siddiqi, Division Administrator, Federal Highway Administration Oklahoma

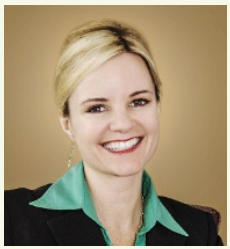
Compost Filter Socks for Storm Water and Erosion Control in Construction
Jason Vogel, Professor of Civil Engineering and Environmental Science, University of Oklahoma

Effect of Mowing Timing and Frequency on Green Antelopehorn Milkweed in Oklahoma Highway Right-of-Way
Dennis Martin, Professor & Turfgrass Extension/Research Specialist, Oklahoma State University

2:30 p.m. **Closing Remarks**
Rick Johnson, Oklahoma Department of Transportation and
Musharraf Zaman, Director, Southern Plains Transportation Center, University of Oklahoma

KEYNOTE SPEAKERS

Kelly Regal joined the Federal Highway Administration's Turner Fairbank Highway Research Center in January 2020 as the new Associate Administrator for Research, Development, and Technology, becoming the first woman to lead the center in its 70-year history. Prior to her appointment at FHWA, she served as the Associate Administrator of Research and Information Technology at the Federal Motor Carrier Safety Administration. Regal joined FMCSA in 2009 and has worked in the transportation industry her entire career. She has more than 30 years of research, engineering and information technology leadership and management experience in the private sector and in the Federal government. Regal holds a bachelor's degree in computer science from Seton Hall University in South Orange, N.J., a master's degree in aeronautical science from Embry-Riddle Aeronautical University, and a Ph.D. in transportation engineering from the New Jersey Institute of Technology.



Karen Philbrick has led the Mineta Transportation Institute at the San José State University as executive director since 2014, after five years as MTI research director. Prior to joining MTI, Philbrick shaped the field of transportation in a variety of roles, including assistant director of the National Center for Intermodal Transportation at the University of Denver. She has been appointed three times by the U.S. Secretary of Transportation to sit on the USDOT Transit Advisory Committee for Safety and, since 2013, she has been elected to serve the Council of University Transportation Centers in several roles, including president in 2018-19. Philbrick also has the privilege of serving as the president of the Research and Education Division of the American Road and Transportation Builders Association, where she also sits on the ARTBA Board of Directors and Executive Committee. Phillbrick is part of the Transportation Research Board Committee on AP080 "Transit Safety and Security" and AR010 "Intercity Passenger Rail", where she also serves as the research subcommittee lead.

SPEAKERS AND MODERATORS

Atorod Azizinamini is the Vasant Surti professor of civil engineering; director of Accelerated Bridge Construction University Transportation Center; director of Moss School of Construction, Infrastructure, and Sustainability; and the director of Preeminent Institute for Resilient and Sustainable Coastal Infrastructure at the Florida International University. He has led several major multi-disciplinary bridge engineering-related initiatives. He is a founder of two major transportation field organizations: The National Bridge Research Organization at the University of Nebraska-Lincoln and the Center for Accelerated Bridge Construction at Florida International University. He has developed several bridge engineering products and systems that are being used nationally and internationally.

Amy Cerato is the Rapp Foundation Presidential Professor of civil engineering and environmental science at the University of Oklahoma. She is actively involved in research and consulting in geotechnical engineering, specifically focusing on soil stabilization, expansive soil mitigation and foundation design in problematic soils. She is a registered professional engineer in Oklahoma. She is the author of more than 60 technical papers and the recipient of the 2009 Presidential Early Career Award for Scientists and Engineers and 2008 National Science Foundation CAREER award. She is a member of the DFI Helical Pile and Tiebacks Committee and the ASCE Geo-Institute Committee of Engineering Geology and Site Characterization.

Royce Floyd is an associate professor in the School of Civil Engineering and Environmental Science at the University of Oklahoma and is a registered professional engineer in Oklahoma. Currently, his research is focused on extending the life of transportation infrastructure using innovative concrete materials, such as ultra-high performance concrete. He has been PI or Co-PI on more than fifteen projects sponsored by ODOT, SPTC, and ABC-UTC focused on bridge behavior, evaluation, and repair. He teaches courses on engineering mechanics, reinforced concrete, prestressed concrete, and structural wood design at OU. He is a member of the American Society of Civil Engineers, Precast/Prestressed Concrete Institute, and American Concrete Institute.

Tim J. Gatz was appointed as the secretary of transportation by Governor Kevin Stitt in early 2019. The Oklahoma Transportation Commission named him Oklahoma Department of Transportation executive director, effective April 1, 2019. Prior to assuming these roles, he served as the executive director of the Oklahoma Turnpike Authority for three years. Previously, he served ODOT for more than two decades in various capacities including serving as deputy director from 2013 to 2016 and as division manager of the Project Management Division where he was instrumental to the development of ODOT's Eight-year Construction Work Plan. He also served as the director of Capital Programs and Information Management where he led the department's coordination with county governments. Gatz earned his bachelor's degree in landscape architecture from the Oklahoma State University in 1989 and is a registered professional landscape architect. He has received several honors including the Governor's Public Service Award and the Federal Highway Administration's Partners In Quality Award. He is a member of the American Association of State Highway and Transportation Officials and the American Society of Landscape Architects.

Micah Hale is the head of the Department of Civil Engineering at the University of Arkansas. He has served in that position since August 2016. Hale has been with the University of Arkansas since 2002. In his research, he focuses on improving the performance of concrete and developing industry standards for new types of concrete. One of his most recent projects involved finding a solution to cracking caused by a process called alkali-silica reaction, which has been compromising parts of Interstate 49 south of Fayetteville. Hale received his bachelor's, master's and doctorate degrees from the University of Oklahoma. He has received the George D. Nasser Award from the Precast/Prestressed Concrete Institute, the Charles and Nadine Baum Award for Teaching from the University of Arkansas, and the Outstanding Teacher Award from the Department of Civil Engineering. He is a fellow of the American Concrete Institute and was selected to participate in the National Academy of Engineering's Frontiers of Engineering Education symposium in 2010.

Rick Johnson began his career with the Oklahoma Department of Transportation in 1997 as a Transportation CADD Specialist in Roadway Design. In 2001, he moved to the special projects branch of Roadway Design/Project Management Division, eventually becoming the Division 8 project manager in 2010. Beginning in 2014, Johnson established and oversaw the Facilities Management Division. His most recent position was the project management division manager from 2016 until 2019. During his tenure at ODOT, Johnson served as project manager for several notable projects: the reconstruction of the Tulsa Metropolitan Area I-244 TIGER Grant, Oklahoma's first multi-modal bridge crossing to accommodate highway, high-speed intercity and commuter rail, pedestrian and bicycle traffic; as well as Oklahoma's first fully accelerated bridge construction project on SH-51 over Cottonwood Creek.

John Klier is the dean of the Gallogly College of Engineering at the University of Oklahoma. He was appointed Dean on July 1, 2020. Prior to joining OU, he served as professor and head of the Department of Chemical Engineering at the University of Massachusetts-Amherst. Before serving on the faculty at UMass Amherst in 2015, Klier worked for more than 25 years in the private sector with Dow Chemical Co. Klier is a member of several professional organizations, including the National Academy of Engineering and the National Academy of Inventors. His research activities at UMass Amherst involved high-performance environmentally friendly coatings, new strain stiffening materials, renewable and recyclable plastics, next-generation materials for optical applications, and new polymer colloids for targeted cancer therapy. At Dow Chemical Co., he led collaborations with companies from startups to major multinational manufacturers.

Tyler Ley has more than 20 years of experience in the fields of structural and concrete materials engineering. During this time, he has worked as an engineer with a design consultant, construction contractor, government agency, and as a professor. Some of the awards that he has received include: the Halliburton Excellent Young Teaching Award in 2011, the Williams Foundation Professor in 2013 for the College of Engineering, the ACI Walter P. Moore Faculty Achievement Award in 2014, the Researcher of the Year Award from the College of Engineering in 2014, Halliburton Excellent Young Professor in 2014, the OSU Regents Research Award in 2014, and the ACPA Martin J. Knutson Award in 2017 and was named the outstanding professor at a research university by the Oklahoma Foundation of Excellence in 2018. He was named one of the Most Influential People in the Concrete Industry by Concrete Construction Magazine in 2019. Ley is very active in the American Concrete Institute where he is a voting member of the Concrete Durability, Material Science, Concrete Proportioning, and Sustainability Technical committees.

Joshua Li is an assistant professor of Civil and Environmental Engineering at the Oklahoma State University in Stillwater. He received his Ph.D. from the University of Arkansas in 2009. He has research expertise in transportation engineering, particularly in the area of characterization of pavement surfaces using innovative technologies and tools. His research projects have been funded by the Oklahoma Department of Transportation, Federal Highway Administration, Southern Plains Transportation Center, and Louisiana Transportation Research Center. His research publications have appeared in peer-reviewed journals with high impact factors including Journal of Testing and Evaluation, ASTM, Canadian Journal of Civil Engineering, and International Journal of Geomechanics, ASCE.

Dennis Martin is a professor and turfgrass extension/ research specialist at the Oklahoma State University. He holds the Distinguished Huffine Professorship in the Department of Horticulture and Landscape Architecture at OSU. He received his bachelor's, master's, and doctorate degrees in horticulture from the University of Illinois at Urbana-Champaign. Dennis has led the OSU Roadside Vegetation Management Research and Training Team since October 1990. His work in right-of-way includes research and training on adapted vegetation and management that provides an erosion resistant and resilient ground cover that promotes motorist safety, is aesthetically pleasing, is affordable, and that provides ecosystem services. His fine turf work involves evaluation of and education about low-input as well as intensive input turfgrasses for lawns, parks, grounds, golf courses, and athletic fields in Oklahoma. He also assists in the development of new turf-type bermudagrasses and is a co-inventor of OSU's Tahoma 31, Latitude 36, Northbridge, Patriot, Riviera, and Yukon bermudagrasses that are used on lawns, golf courses and sports fields across the U.S. and abroad.

Soheil Nazarian is the McIntosh Murchison chair professor of Civil Engineering and the director of the Center for Transportation Infrastructure Systems at The University of Texas at El Paso. He has more than 35 years of experience in the areas of design and evaluation related to geotechnical and transportation infrastructure and lifeline. He has significantly contributed to the body of knowledge in construction, quality management and mechanistic characterization of transportation infrastructure. He has been the PI and Co-PI of more than 100 research projects funded by various federal and state agencies. Nazarian has been the author or coauthor of more than 250 technical articles in journals and conference proceedings primarily sponsored by the ASCE, and the Transportation Research Board. Nazarian is the Chair of the Geotechnical Instrumentation and Modeling Committee of the Transportation Research Board. He serves on the Executive Board of the International Society of Intelligent Construction.

David Ooten was named State Research Engineer at Oklahoma Department of Transportation in June 2016. He previously served as division engineer for the Strategic Asset and Performance Management Division and the Technology Services. In his current position leading the Office of Research and Implementation, he directs ODOT's efforts to research, implement, and innovate to improve transportation in Oklahoma. Ooten began his career at ODOT as an engineer-in-training in 1986. The next year, he became a research project manager and held that position until 1993, when moving up to engineering manager in the Research and Development Division. Ooten served on loan staff with the Strategic Highway Research Program in Washington, D.C. in 1991 and 1992. In 1999, he was named research and development division engineer, and in 2002 he became the division engineer for the Information Services Division, which was later renamed the Technology Services Division.

Anand Puppala currently serves as A. P. Wiley and Florence Chair of Zachry Civil and Environmental Engineering at the Texas A&M University and is also an associate director of Center for Infrastructure Renewal, both appointments started since September 2019. Currently, Puppala is serving as the chair of soil mechanics section of the Transportation Research Board and is a member of Design and Construction group of TRB. He chaired American Society of Civil Engineers's Engineering Geology and Site Characterization committee and TRB committee on Soil and Rock Instrumentation. He is a current member of ASCE-GI's Technical Coordination Council. Puppala also served as president of United States Universities Council on Geotechnical Education and Research from 2007-2009.

Basharat Siddiqi became the division administrator for the FHWA Oklahoma Division in February 2016. He leads a multidisciplinary staff that provides stewardship, oversight and guidance to state, local and other transportation stakeholders to continuously improve the mobility and safety in Oklahoma. Prior to joining the Oklahoma Division office, Basharat served as the senior highway advisor in Kabul Afghanistan. In this capacity, he worked with various U.S. Embassy sections, other U.S. government agencies, the military, and the Afghan ministries with transportation equities. He coordinated with stakeholders on program direction related to transportation development in Afghanistan; established and maintained communications and ensured compliance with U.S. Department of State and U.S. military requirements. He also served as the assistant division administrator for the Federal Highway Administration in Oklahoma, Delaware and Maryland Offices. Basharat has held various positions within the organization including technology service team leader for the New York Office, engineering coordinator and area engineer positions in the New Jersey Office and Research Engineer for the Georgia Division Office. Basharat holds a bachelor of science in civil engineering and a master of engineering in transportation from the University of Utah. Basharat is a registered professional engineer and has a professional traffic operations engineer license and is also a certified public manager. He also serves on the Oklahoma Federal Executive Board Executive Policy Council Steering Committee.

Jason Vogel currently serves as the director of the Oklahoma Water Survey and as a professor in the School of Civil Engineering and Environmental Science at the University of Oklahoma. For more than 25 years, Vogel has worked to facilitate and develop solutions for water issues throughout the Great Plains, with a specialization in stormwater and stream management. Prior to joining the faculty at OU, Vogel held faculty and research positions at Oklahoma State University in the Department of Biosystems and Agricultural Engineering and at the U.S. Geological Survey. He is a registered professional engineer.

Kelvin Wang is a regents professor and Dawson chair in transportation engineering at the Oklahoma State University. He received his Ph.D. from Arizona State University in 1992. His research interests focus on automated technologies for pavement survey and pavement data systems for design and management. In particular, automated cracking survey has been a main thrust of his research in the past 15 years, including developing 3D laser based imaging sensors, algorithms and computer implementations of database management and image processing of transportation assets, hardware integration and geographical positioning of data. His early work includes optimization and Markovian process for pavement management. In recent years, a primary work conducted by his team includes database support for the MEPDG and DARWin-ME pavement design systems that will become the next-generation of pavement design procedure. Wang recently started working on developing technologies to establish geographically true 3D virtual pavement surface at 1mm resolution that can be used for a variety of analysis on pavements, including distress and profiling surveys and surface characteristics for safety.

POSTER PRESENTATIONS AND POSTER VIDEOS WITH LINK *(List by Topic)*

Click here or scan QR code to access all posters, abstracts, and videos

Asphalt Materials (10 Posters)

Rheology of Virgin Asphalt Binder Combined with High Percentages of RAP Binder Rejuvenated with Waste Vegetable Oil
Connor Dugan, Chris Sumter, Shivani Rani, Ashik Ali, Edgar O'Rear, and Musharraf Zaman, University of Oklahoma

An Enhanced Mixture Design Approach for Mitigating Cracking Issue of Asphalt Concrete Pavement
Md Mehedi Hasan and Rafiqul A. Tarefder, University of New Mexico

Determination of Critical Cracking Temperature of an Asphalt Concrete from BBR and IDT Tests Data
Md Amanul Hasan and Rafiqul Tarefder, University of New Mexico

Application of Intelligent Compaction Analyzer (ICA) for Monitoring Construction Quality of Asphalt Pavement
Sagar Ghos, Andrew Elaryan, Syed A. Ali, and Musharraf Zaman, University of Oklahoma

Traffic Load Simulation on Eco-Friendly Rubberized Chip Seal
Alireza Pourhassan, Ahmed Gheni, and Mohamed ElGawady, Missouri University of Science and Technology

Compatibility Analysis between Asphalt Binders and Mineral Aggregates by Using Surface Free Energy Techniques
Tandra Baghchi and Zahid Hossain, Arkansas State University

Development and Validation of a Polystyrene Functional Group-Based Index to Predict the SBS Content Using a Handheld FT-IR Spectrometer
Roksana Hossain, Nazimuddin M. Wasiuddin, and Delmar Salomon, Louisiana Tech University

Study on Micro-Scale Aging Behavior of Polymer-modified Asphalt Binders by Atomic Force Microscopy
Sumon Roy and Zahid Hossain, Arkansas State University

A Novel DSR- based Extensional Deformation Test Method for the Determination of SBS Degradation due to Aging
Roksana Hossain and Nazimuddin M. Wasiuddin, Louisiana Tech University

In -Situ Determination of Reclaimed Asphalt Pavement (RAP) Content
Shams Arafat, Nazimuddin M. Wasiuddin, and Delmar Salomon, Louisiana Tech University

Bridges (10 Posters)

End Regions Repair of Prestressed Girders for Restoring the Shear Capacity using UHPC, FR-SCC, and MALP
Mujtaba Ahmadi, Royce Floyd, and Jeffery Volz, University of Oklahoma

Rehabilitation of the End Corroded Region of Prestressed Concrete Bridge Girders
Phuoc M. Huynh and Royce Floyd, University of Oklahoma

Folded Steel Plate Girder Bridge System for Spans up to 100-ft
Muhammad Afzal and Atorod Azizinamini, Florida International University

Instrumentation of Prestressed Concrete Bridge Girders
A. Acheli, D. Cochran, C. Filip, and Bruce W. Russell, Oklahoma State University

Methods for Assessment of Bridge Condition and Rating for Shear
Royce W. Floyd, Jin-Song Pei, Cameron D. Murray, Peng F. Tang, and John M. Toshima, University of Oklahoma

Repair of Corroded Steel Bridge Columns using Ultra-High Performance Concrete: Experimental Study
Binod Shrestha, Mohanad M. Abdulazeez, and Mohamed A. ElGawady, Missouri University of Science and Technology

Construction Time and Cost Advantages of GRS-IBS Relative to Conventional Bridges
Javier A. Chaves Camargo and Kianoosh Hatami, University of Oklahoma

Eccentrically Loaded Steel Connections with Bolts and Welds in a Single Load Sharing System
E. Stringer, Mohamed Soliman, and Bruce W. Russell, Oklahoma State University

Characterizing the Behavior of Steel Axial Lap Connections with Bolts and Welds in Combination
C. Bennett, L. Shen, Mohamed Soliman, and Bruce W. Russell, Oklahoma State University

Seismic Site Response Analysis in North-East Arkansas (NEA)
Md Rafique Islam and Zahid Hossain, Arkansas State University

Concrete Materials (4 Posters)

Relationships between Compressive and Splitting Tensile Strengths of Cast and Core High-Strength Concrete Cylinders
Richard Campos, Matias M. Larrain, Musharraf Zaman, and Victor Pozadas, University of Oklahoma and ROCA Engineering

Quantify the Moisture Content of Mortar in the Field Using Impedance and Temperature Profile
Lichun Chen and M. Tyler Ley, Oklahoma State University

Effect of Citric acid on Slump and Compressive Strength of BCSA Cement
Gerardo Aguilar and Cameron Murray, University of Arkansas

Assessment of Durability and Service Life of Recycled Concrete Aggregate (RCA) for Use in Pavement Base Construction
Syed A. Ali, Musharraf Zaman, Gregory S. Garland, and Matt Romero, University of Oklahoma and Oklahoma Department of Transportation

Geotechnical Engineering (4 Posters)

Strength Development and Mineral Formation of Sulfate-bearing Soils Stabilized with Slag Cement
Mengting Chen, Hussein Al-Dakheeli, Amir Javid, Jim Puckette, and Rifat Bulut, Oklahoma State University

Comparison of Whole Rock XRF and Portable XRF for Quantifying Calcium-Based Stabilizers in Chemically Treated Soil
Kwestan Salimi, Michelle Basham, Amy B. Cerato, and Gerald A. Miller, University of Oklahoma

Light Weight Deflectometer for Deflection/Modulus-Based Compaction Control
Dawson Wiseman, Md. Fazle Rabbi, and Deb Mishra, Oklahoma State University

Structural Behavior of Geosynthetic-Reinforced Pavement on Expansive Soils
Debojit Sarker and Jay X. Wang, Louisiana Tech University

Machine Learning, Traffic, Safety (7 Posters)

Field Testing and Evaluation of Leader-Follower Autonomous Truck Mounted Attenuator Vehicle System for Work Zone Maintenance
Qing Tang, Yanqiu Cheng, Xianbiao Hu, Chenxi Chen, and Yang Song, Missouri University of Science and Technology

Considering Grade Separation of Rail-Highway Crossings in Oklahoma
Xue (Helen) Yang, Joshua Q. Li, and Wenyao Liu, Oklahoma State University

Water Film Depth Prediction Model for Chip Seal Surface Drainage
Alireza Pourhassan, Ahmed Gheni, and Mohamed ElGawady, Missouri University of Science and Technology

Machine Learning in Transportation: A Survey
Caleb Lagge and Dean Hougen, University of Oklahoma

Utilizing Pavement Friction Data for the Reduction of Traffic Crashes and Delays
Wenyao Liu, Joshua Qiang Li, Guangwei Yang, Xue Yang, and Kelvin C. P. Wang, Oklahoma State University

Comparison of Machine Learning and Statistical Approaches for Predicting Travel Times in the Oklahoma Highway System
Said Jalal Saidi and Dean F. Hougen, University of Oklahoma

Visualizing Transit System Performance Impacted By COVID-19 Virus: A Case Study Of Saint Louis, Missouri
Maged Shoman and Yaw Adu-Gyamfi, University of Missouri – Columbia

Pavement and Other Infrastructure (7 Posters)

Field Characterization of Pavement Materials Using Non-Destructive Test and Sensor Data from an Instrumentation Section at I-40
Zafrul Khan, Rafiqul Tarefder, and Amanul Hasan, University of New Mexico

Forensic Investigations in Oklahoma State Highways
Matias Mendez Larrain, Syed A. Ali, Sagar Gosh, Kenneth Hobson, and Musharraf Zaman, University of Oklahoma

Comprehensive Evaluation of Rutting of Warm Mix Asphalt Utilizing Long-term Pavement Performance (LTPP) Specific Pavement Studies (SPS)
Biswajit K. Bairgi and Rafiqul Tarefder, University of New Mexico

Long Term Performance Monitoring of High Friction Surfacing Treatments (HFST) Sites
Wenyao Liu, Guangwei Yang, Kelvin Wang, Joshua Q. Li, Xue Yang, and Guolong Wang, Oklahoma State University

Ground Tire Rubber (GTR) Dry Process: Experiment Pavement Surface Evaluation
Guolong Wang, Guangwei Yang, Kelvin C. P. Wang, Joshua Q. Li, and, Wenyao Liu, Oklahoma State University

Long Term Pavement Performance Monitoring of Six LTPP SPS-10 Sections in Oklahoma
Wenyao Liu, Guangwei Yang, Kelvin Wang, Joshua Qiang Li, and Guolong Wang, Oklahoma State University

Effects of Deicing Agents and Environmental Conditions on Performance of Asphalt Pavements in Cold Regions
Maryam Mihandoust and Rouzbeh Ghabchi, South Dakota State University

DEMO VIDEOS

Click here or scan the QR code to access all demo videos

Sub-mm 3D Data Collection, Safety, Structural Capacity, and Survey Capabilities at OSU
Kelvin C.P. Wang and Joshua Q. Li, Oklahoma State University

Oklahoma Transportation Library: Exhibit of Available Resources
Michael Molina, University of Oklahoma

Concrete Phoenix
Jake LeFlore, Research Technician, Oklahoma State University

Raising Rescued Monarch Butterfly Eggs and Larvae to Adulthood
Dennis Martin, Oklahoma State University

Maintenance Activity Truck Tracking System (MATTS)
James "Marty" Farris, Oklahoma Department of Transportation

Demonstration of Portable X-Ray Fluorescence (WRF) Technology to Asses Stabilized Subgrade Competency
Amy B. Cerato and Gerald A. Miller, University of Oklahoma

Compost Filter Stocks (CFS)
Jason Vogel, University of Oklahoma

Local Technical Assistance Program (LTAP)
Aaron Wright, Oklahoma State University

Weed Wiper Used for Roadside Vegetation Management
Kent Dowell, Pontotoc County Maintenance Superintendent, Oklahoma Department of Transportation

POSTER JUDGES

Brent Burwell
Executive Director, American Concrete Pavement Association (Oklahoma and Arkansas Chapter)

Zachary Gutierrez
Bridge Engineer, Federal Highway Administration–Oklahoma

Walt Peters
Assistant Division Engineer, Bridge Division, Oklahoma Department of Transportation

Scott Seiter
Standard Testing

Kevin Suitor
Asphalt Branch Manager, Materials Division, Oklahoma Department of Transportation

2020 OTRD ORGANIZING COMMITTEE

OKLAHOMA DEPARTMENT OF TRANSPORTATION
Bryan Cooper
Ron Curb
Gary Hook
Bryan Hurst
David Ooten
Wayne Rice
Teresa Stephens

UNIVERSITY OF OKLAHOMA
Suzan Aktansel
Bailey Hopkins
Michael Molina
Dominique Pittenger
Musharraf Zaman

GRAPHIC DESIGN
Margarita Rodriguez, Gallogly College of Engineering

OKLAHOMA STATE UNIVERSITY
Joshua Li
(Poster Session Lead)

Oklahoma Department of Transportation

Office of Research and Implementation
200 NE 21st St, Oklahoma City, OK 73105
(405) 522-8921 | www.odot.org

Southern Plains Transportation Center

The University of Oklahoma
OU Gallogly College of Engineering
202 W. Boyd St., Room 213A, Norman, OK 73019-1027
(405) 325-4682 | www.sptc.org

Accelerated Bridge Construction - University Transportation Center

Florida International University
10555 W. Flagler Street, EC 3680, Miami, FL 33174
abc-utc.fiu.edu