



CELEBRATING ★ ★ ★ ★ ★ ★ ★ ★

250

RPUG
Road Profile Users' Group

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★ ★ ★ ★ ★ ★ ★ ★ **YEARS OF PROGRESS**

HONORING THE PAST. PAVING THE FUTURE.

**PITTSBURGH, PA
APRIL 28 - MAY 1**



IN PARTNERSHIP WITH THE TPF-5 (399-DISTRESS), (537-PROFILE) AND (463-FRICTION) POOLED FUNDS



37th RPUG Annual Conference

At-a-Glance Agenda

TUESDAY, April 28 th		
08:00 AM – 04:00 PM	Session 0 – TPF-5(537) & TPF-5(570) Profile & Distresses Meeting	
06:00 PM – 08:00 PM	Ice-Breaker Reception	
WEDNESDAY, April 29 th		
07:00 AM – 08:00 AM	Breakfast (Visit Exhibits)	
08:00 AM – 09:40 AM	Session 1 – Opening	
09:40 AM – 10:10 AM	Break (Visit Exhibits)	
10:10 AM – 11:40 AM	Session 2 – Profile & Smoothness	
11:40 AM – 01:00 PM	Break (lunch)	
12:30 PM – 01:00 PM	Session 3 – Poster	
01:00 PM – 02:50 PM	Session 4 – Condition Survey & Smoothness	
02:50 PM – 03:10 PM	Break (Visit Exhibits)	
03:10 PM – 04:20 PM	Session 5 – Friction & Texture	
04:20 PM – 05:00 PM	Session 6 – RPUG Open Meeting	
06:00 PM – 10:00 PM	Social Event	
THURSDAY, April 30 th		
07:00 AM – 08:00 AM	Breakfast (Visit Exhibits)	
08:00 AM – 09:30 AM	Session 7A – Condition Survey	Session 7B – Profile & Smoothness
09:30 AM – 10:00 AM	Break (Visit Exhibits)	
10:00 AM – 11:50 AM	Session 8A – Smoothness & Condition Survey	Session 8B – Friction & Texture
11:50 AM – 01:00 PM	Break (lunch)	
12:30 PM – 01:00 PM	Session 9 – Poster	
01:00 PM – 02:50 PM	Session 10A – Friction & Texture	Session 10B – Condition Survey
02:50 PM – 03:20 PM	Break (Visit Exhibits)	
03:20 PM – 05:00 PM	Session 11 – Open Forum & Closing	
FRIDAY, May 1 st		
08:00 AM – 12:00 PM	Session 12A - TPF-5(463) Friction Meeting Session 12B - ProVAL Workshop and Users Forum	



Tuesday, April 28th, 2026

08:00 AM – 04:00 PM

Session 0 – TPF-5(537) & TPF-5(570) Profile and Distresses Meetings

Room: Grand Station 1-2

Moderator: John Senger, ILDOT

This event includes two transportation pooled fund (TPF) meetings:

- TPF-5(537) Improving the Quality of Highway Profile Measurements, and
- TPF-5(570) Improve Pavement Surface Distress and Transverse Profile Data Collection and Analysis, Phase III

These meetings are open to their TPF members and all others interested in these subjects.

06:00 PM – 8:00 PM

Ice-Breaker Reception

Room: Admiral Room & Reflection Room

It is an ice-breaker reception and a great networking opportunity to be held in the exhibit hall.

All RPUG attendees are welcome!

Sheraton Station Square Hotel

300 W Station Square Dr • Pittsburgh, Pennsylvania 15219 • United States
Phone (412) 261-2000 • Fax (412) 261-2932



FIRST FLOOR



Wednesday, April 29th, 2026

08:00 AM – 09:40 AM Session 1 – Opening Room: Grand Station 1-2	Moderator: Richard Wix (National Transport Research Organisation) – RPUG President
Welcome	Richard Wix (National Transport Research Organisation)
Keynote	Halley Cole (PennDOT)
History of RPUG, PennDOT, & IRI	Richard Wix (NTRO), Colin McClenahen (PennDOT), and Steve Karamihas (Applied Pavement Technology)
09:40 AM – 10:10 AM Break (Visit Exhibits) Admiral Room & Reflection Room	
10:10 AM – 12:00 PM Session 2 – Profile & Smoothness Room: Grand Station 1-2	Moderator: Christy Poon-Atkins, FHWA
Characterization of Roughness on Urban and Low-Speed Roadways	Steven Karamihas (Applied Pavement Technology)
10-Years of Lessons Learned with a Ride Verification Program	Charles Gurganus (Texas A&M University)
Historical Ride Quality Outcomes Under SCDOT's Rideability Specification	Dahae Kim (SCDOT)
Development and Upgrade of Reference Profile Measurement Devices for ICART	Mark E. Gilbert (UMTRI)
12:00 PM – 01:00 PM Break (lunch) Room: Admiral Room & Reflection Room	
12:30 PM – 01:00 PM Session 3 – Poster Room: Waterfront Room	Moderators: Greg Bunting, CentiRe; David Kepniss, LMI Technologies
Enhanced Pavement Profiling Through INS Integration and Point-Cloud Fusion	Ryan Twilley (Fugro)
PaveFormer: A Multi-modal Framework for Pavement Distress Segmentation with Diffusion-based Data Augmentation	Joshua Li (Oklahoma State University)
Scaling AI-Based Pavement Distress Detection for Network PSC	Dominic Passanita (F2S infrastructure Inc.)
Automated Replaced Slab Identification in Jointed Concrete Pavements Using Deep Learning to Improve Pavement Management	Mahla Ardebili Pour (University of California, Davis – Department of Civil and Environmental Engineering)
Development of Workflows for Pavement Distress Segmentation Using 2D Intensity and 3D Range Images	Amirhossein Azadi (Texas State University), Wenhan Tao, Yongsheng Bai, Feng Wang
An Integrated Data-Driven Approach for Hydroplaning Risk Assessment in Asphalt Pavements Using Crash Narrative and Pavement Surface Texture Data	Gauri Mahajan (Texas State University), Xiaohua Luo, Feng Hong, Feng Wang
Bounding-box to Segmentation Labeling for Pavement Distresses Using a Closed-loop Platform on 2D/3D Images	Wenhan Tao (Texas State University), Tesic Jelena, Yongsheng Bai, Feng Wang



Implementation Experience of Automatic Pavement Raveling (Loss of Aggregate) Classification Using Machine Learning

Bingjie Lu (School of Civil and Environmental Engineering, Georgia Institute of Technology)

Network-Level Automated Pavement Condition Assessment Using 3D-Laser Imaging (LCMS) Data: New Jersey Case Study

Manuel Celaya (Advanced Infrastructure Design (AID))

Transformer-Based Model for Roadway Profile Reconstruction in Urban Driving Conditions

Joshua Li (Oklahoma State University)

Geospatial Positioning Based Technologies to Improve Road Quality and Smoothness

Jim Preston (Topcon Positioning Systems)

A Novel Network-Level Framework for Wet-Weather Condition Pavement Skid Resistance Demand Categorization

Md Afif Rahman Chowdhury (North Carolina State University)



Wednesday, April 29th, 2026

01:00 PM – 02:50 PM Session 4 – Condition Survey & Smoothness Room: Grand Station 1-2	Moderator: Jenny Li, TXDOT
Automated Crack Length Estimation for Pavement Maintenance	Trent Rouse (Montana DOT)
Let's Talk About Rutting	Scott Mathison (Pathway)
Lessons Learned from TPP Test Data	Sheng Hu (Texas A&M Transportation Institute)
Measurement and Correction of Concrete Pavement Smoothness	Larry Scofield (IGGA/ACPA)
Performance Comparison between Slow Speed Profilers and Conventional Profilers	Charles Gurganus (Texas A&M University)
02:50 PM – 03:10 PM Break (Visit Exhibits) Admiral Room & Reflection Room	
03:10 PM – 04:20 PM Session 5 – Friction & Texture Room: Grand Station 1-2	Moderator: Nathan Kebede, M Baker Intl
The Future of Friction Measurement & Management	Brian L. Schleppe (VIHSC LLC)
Macrotecture Line Laser Measurement Comparisons at ICART	Edgar de Leon Izeppi (Virginia Tech Transportation Institute)
A Pirate Looks at 40	Andy Mergenmeier (WDM USA)
04:20 PM – 05:00 PM Session 6 – RPUG Open Meeting Room: Grand Station 1-2	Moderator: Richard Wix (National Transport Research Organisation) – RPUG President
RPUG Open Business Meeting	Richard Wix (National Transport Research Organisation)– RPUG President
06:00 PM – 10:00 PM Social Event (details to be announced at the conference)	



Thursday, April 30th, 2026

08:00 AM – 09:30 AM Session 7A – Condition Survey (dual tracks) Room: Grand Station 1-2		Moderator: Jeannine Moriarty, CTDOT
Hybrid AI–LCMS Pavement Distress Analysis		Danilo Balzarini (ICC-IMS)
From 3D Measurement to Reliable Decisions		Mary Johns (Pavement Management Services)
Assessing Pavement Network Performance Using Crowd-Sourced Connected Vehicle Data		Ahmed Shah Nisar (Virginia Tech)
Explainable Vision-Language Models for Raveling		Ivan Pupo (Georgia Institute of Technology)
08:00 AM – 09:30 AM Session 7B – Profile & Smoothness (dual tracks) Room: Grand Station 3-5		Moderator: Alex Middleton, MSDOT
Stereoscopic Vision for Profiling		David Malmgren-Hansen (Greenwood Engineering A/S)
Evaluating Network-wide Pavement Roughness Data Using Every Speed Profilers		Ryan Salameh (ICC-IMS)
ICART Profiler Certification Program: Then and Now		Vince Belitsos (ILDOT) Jewell Stone
AUSTROADS vs AASHTO Roughness Validation		Richard Wix (National Transport Research Organisation (Australia))
09:30 AM – 10:00 AM Break (Visit Exhibits)		
10:00 AM – 11:50 AM Session 8A – Smoothness & Condition Survey (dual tracks) Room: Grand Station 1-2		Moderator: Larry Wisner, FHWA
ProVAL – Next Round of Enhancements		George Chang (Transtec Group)
A Structurally Defined Crack Density Indicator Based on a Crack Vector Model (CVM)		Haolin Wang (Georgia Institute of Technology) Zhongyu Yang, Yi-Chang (James) Tsai, and Dave Huft
Road Surface Description		John Ferris (Road Scholar Solutions)
Systematic Literature Review on Cross-Slope and Grade Estimation Methods		Anannya Ghosh Tusti (Texas State University) Gauri Mahajan, Xiaohua Luo, Feng Wang
An Efficient Algorithm for Quantifying the Contribution of Curl and Warp to the International Roughness Index		Steven M. Karamihas (Applied Pavement Technology)



Thursday, April 30th, 2026

10:00 AM – 11:50 AM Session 8B – Friction & Texture (dual tracks) Room: Grand Station 3-5		Moderator: Sarah Sanders, ACPA
Quantifying Hydroplaning Risk: A Monte Carlo Simulation Approach for Enhancing Roadway Safety in Texas	Sadia Bhuiyan Shampa (Texas State University) Xiaohua Luo, Feng Wang	
A Proposal for a 21st Century Skid Resistance Test System	John Andrews (Powel Enterprises)	
Crash Elasticity of Speed-Adjusted Pavement Friction Across Roadway Facility Types	Behrokh Bazmara (Virginia Tech)	
Pavement Safety Prediction with Generative Super-Resolution Micro-Texture Reconstruction	Joshua Li (Oklahoma State University)	
Establishing a Data Value Chain for Continuous Tire-Pavement Friction Data	Isaac Briskin (WDM USA Limited)	
11:50 AM – 01:00 PM Break (lunch) Room: Admiral Room & Reflection Room		
12:30 PM – 01:00 PM Session 9 – Poster Room: Waterfront Room		Moderator: Steve Miles, OHDOT; Steve Hale, NVDOT
Concrete Intelligence: Machine Learning for Joint Detection	Etienne Chabot (Pavemetrics Systems)	
Automatic Distress Detection and Pavement Condition Index (PCI) Evaluation of Asphalt Surfaces Using Fused 2D/3D Image Data	Rupesh Simkhada (Texas State University), Yongsheng Bai, Feng Wang	
A Unified Modular System for Multimodal Roadway Data Acquisition	Ryan Twilley (Fugro)	
Cascaded Workflow of Automated Pavement Crack Detection and Quantification Using Segmentation AI Models	Yongsheng Bai (Texas State University) and Feng Wang	
Active Learning for Infrastructure Distress Segmentation via Pixel-Level Difficulty Estimation	Hong Lang (Tongji University (Current affiliation: University of Illinois Urbana-Champaign))	
Evaluation of Performance of Aircraft Tire on Trapezoidal-Shaped and Rectangular-Shaped Runway Grooving	Richard Ji (FAA)	
Quantifying Laboratory–Field Relationships for Asphalt Pavement Friction and Texture Deterioration	Gary Yang (Texas A&M Transportation Institute)	
Data-Driven Prediction of Asphalt Pavement Macrottexture for Proactive Safety Design	Behrokh Bazmara (Virginia Tech)	
Prediction of Asphalt Pavement Surface Layer Modulus Using Long-Term Pavement Performance Program Falling Weight Deflectometer Data	Gauri Mahajan (Texas State University), Feng Hong, Feng Wang	

A Refined Multi-Category Pavement Distress
Identification Framework Based on Deep Grid
Segmentation and Pseudo-Label Guidance

Haoyu Sun (RoadMainT Co., Ltd)

Research on Vehicle-mounted Integrated Detection
System Based on Spatiotemporal Synchronization
Fusion

Zhang Kaixing (Roadmaint.com)



Thursday, April 30th, 2026

01:00 PM – 02:50 PM Session 10A – Friction & Texture (dual tracks) Room: Grand Station 1-2		Moderator: Jianhua Li, WSDOT
High-Speed Pavement Texture Measurement Prototype Investigating the Combined Effects of Pavement Macrotecture and Friction in Facility-Specific Wet-Weather Safety Performance Functions Accounting for Device Variability in Lab–Field Friction Correlations Optimizing Cross-Slope Estimation Using Mobile and Static LiDAR Data Towards Standardized Pavement Surface Texture Spectral Analysis and Evaluation	Mohammad Fakhreddine (University of Illinois at Urbana-Champaign) Md Afif Rahman Chowdhury (North Carolina State University) Nathan Moore (National Center for Asphalt Technology) Anannya Ghosh Tusti (Texas State University) Ahmad Alhasan (Ingios Geotechnics)	
01:00 PM – 02:50 PM Session 10B – Condition Survey (dual tracks) Room: Grand Station 3-5		Moderator: Shane Underwood, NC State
Three-Level Cracking Definition Framework Pavement–Vehicle Interaction: Review and Trends Evaluating Cracking Data Quality Using Field-Labeled Crack Map Ground Reference Solid-State Area-Scan LiDAR for Pavement Profile Measurement (AASHTO R56 Compliant) and Automated Distress Readiness Coarse-to-Refined Road Alignment Extraction and Parameterization from MLS Point Clouds	Zhongyu Yang (Georgia Institute of Technology), Haolin Wang, Yi-Chang (James) Tsai, and Rick Miller Prashant V. Ram (Applied Pavement Technology) Haolin Wang (Georgia Institute of Technology), Zhongyu Yang, Yi-Chang (James) Tsai, and Jeannine Moriarty Kevin Mandli (XenomatiX) Hong Lang (Tongji University)	
02:50 PM – 03:20 PM Break (Visit Exhibits)		
03:20 PM – 05:00 PM Session 11 – Open Forum & Closing Room: Grand Station 1- 2		Moderator: Stephanie Weigel, NDDOT
Open Forum Closing	TBA Richard Wix (National Transport Research Organisation) - RPUG President	



Friday, May 1st, 2026

08:00 AM – 12:00 PM

Session 12A – TPF-5(463) Friction Pooled Fund Meeting Moderators: Edgar D. de León Izeppi, VTTI
Room: Grand Station 1-2

This is a TPF-5(463) Friction Pooled Fund Meeting to discuss the TPF's friction studies.

All TPF members and friends are welcome!

08:00 AM – 12:00 PM

Session 12B – ProVAL Workshop & Users Forum Moderator: George K. Chang, Transtec Group, A
Room: Grand Station 4-5 Terracon Company

This workshop is hands-on and focuses on ProVAL software hands-on exercises. It also includes a ProVAL users' forum for interacting with users and gathering feedback. [Register here.](#)

Trainers include George Chang & Dave Merritt (Transtec Group, A Terracon Company)

All participants need to bring their laptop computer preinstalled with ProVAL 4.0 and sample files.

[Download detailed instructions.](#)

This workshop is open to all!

SEE YOU NEXT YEAR!