



Tunneling Short Course Thursday Afternoon, Oct 18 UTC-UTI Program

Below is the Thursday afternoon program on Underground Transportation Infrastructure, summarizing the problems of interest and the emerging solutions to these problems carried out through the US DOT's University Transportation Center for Underground Infrastructure. Presenters listed with *

1:00 Operational Resilience of Traffic Tunnels

Sandeep Khetwal*, Shiling Pei *, Marte Gutierrez, Colorado School of Mines

1:20 Tunnel Liner Damage due to Fire and Blast: Fast-Running Predictions and Upcoming Test Programs (30 min)

Aerik Carlton,* Qi Guo,* Clay Naito, Spencer Quiel, Lehigh University

1:40 Evaluating the Use of Recycled and Sustainable Materials in Self-Consolidating Concrete for Underground Infrastructure Applications

Hector Cruz*, Mehran Mazari, and Tona Rodriguez, Cal State University, Los Angeles

2:00 Examination of Segmental Liner Loading for Soft Ground Tunnels: Design Approaches vs. Actual Behavior

Mike Mooney,* Marte Gutierrez, Tamir Epel*, Colorado School of Mines

2:20: Use of Deep Learning for Automatic Detection of Cracks in Tunnels and Other Transportation Infrastructure

Francesco Di Stasio*, Luca Zacheo, Fred Daneshgaran and Marina Mondin, Cal State University, Los Angeles

2:40 Coffee Break

3:00 Feasibility Study of the Future Extension of the Eisenhower-Johnson Memorial Tunnel

Gauen Alexander*, Ashton Krajnovich, and Marte Gutierrez, Colorado School of Mines

3:20 Waterjet Shotcrete Removal during Tunnel Liner Repair and Maintenance

Hugh Miller*, Erik Charrier, Josef Bourgeois, John Steele, Brian Asbury, Colorado School of Mines

3:40 Tunnels in Squeezing Ground Conditions

Ketan Arora*, Marte Gutierrez, and Reza Hedayat, Colorado School of Mines

4:00 3D Geologic Modeling for Tunneling

Ashton Krajnovich*, Wendy Zhou, and Marte Gutierrez, Colorado School of Mines

4:20 Predicting Soil Composition ahead of TBM Using Deep Recurrent Neural Networks

Louis Fisher*, Mohammad Pourhomayoun, Cal State University, Los Angeles

4:40 Adjourn