



University of Colorado
Boulder



Annual Inter-University
Symposium on Infrastructure
Management

AISIM 2024

Program

May 17, 2024

LOCATION

Event will take place at the University of Colorado Boulder, room ECCE 1B41. Instructions to access the room can be found here: <https://www.colorado.edu/faculty/torresmachi/aisim-transportation-and-directions>

SCHEDULE AT A GLANCE

08:00 AM – 08:45 AM	Registration & Breakfast
08:45 AM – 09:00 AM	Opening Remarks
09:00 AM – 09:30 AM	Keynote: Asset Management at Denver International Airport
09:30 AM – 10:30 AM	Session 1: Sustainability, Equity and Resilience
10:30 AM – 10:45 AM	Coffee Break
10:45 AM – 12:00 PM	Session 2: Infrastructure Inspection and Maintenance
12:00 PM – 01:00 PM	Lunch Break
01:00 PM – 02:15 PM	Session 3: Financing and Improving Infrastructure
02:15 PM – 02:30 PM	Coffee Break
02:30 PM – 03:45 PM	Session 4: Future Challenges and Opportunities
03:45 PM – 04:00 PM	Closing Remarks
05:00 PM – 8:00 PM	Dinner/Awards at Mountain Sun Pub and Brewery Dinner location: 1535 Pearl St., Boulder, CO, 80302 https://maps.app.goo.gl/uJCKPw7XDHnZ462EA

*Please note that lunch and snacks will be provided during the event, but dinner is at the attendee's own expense. The dinner venue is a **cash-only establishment** - Plan accordingly.*

DETAILED PROGRAM

Keynote Presentation: Asset Management at Denver International Airport

Presenters: Bryan Oldham, Tim White, Brendan Dillon

Abstract: Denver International Airport (DEN), the third busiest airport in the United States and sixth busiest in the world. To manage the nearly 80 million passengers traveling annually to and through the airport requires tens of thousands of assets. In fact, DEN can be considered a small city with assets that include roads and bridges, underground utilities, and of course all the buildings and runways you see. This presentation will highlight how we manage DEN assets, the issues we face, and walk you on a passenger's asset management journey through DEN.

Session 1: Sustainability, Equity and Resilience**Moderator: Francisco Contreras, University Colorado Boulder**

- 1.1 David Holguin-Mejia (Purdue University); Jason Flatto; Kumares Sinha; Nadia Gkritza; Samuel Labi, *"Sustainable Development in Road Infrastructure Development: Opportunities and Business Case"*
- 1.2 Fawzi G. Khalife (Colorado State University); Mehmet E. Ozbek; Rebecca A. Atadero; Erin E. Arneson, *"Incorporating Equity into Transportation Asset Management: Status and Recommendations from Professionals"*
- 1.3 Adair Garrett (Georgia Institute of Technology); Jose Antonio Panero; Dr. Adjo Amekudzi-Kennedyt, *"Application of Multi-Capability Resilience Assessment to Rail Assets and Operations to Improve Safety"*

Session 2: Infrastructure Inspection and Maintenance**Moderator: Elijah Evers, University Colorado Boulder**

- 2.1 Sajjad Safari (University of Delaware); Monique Head; Kiyarash Aminfar; David Lattanzi, *"Multi-modal computer vision framework for improved hydraulic structural inspection"*
- 2.2 Sara Arezoumand (Iowa State University); Alireza Sassani; Omar Smadi, *"Comparative Analysis of Flexible Pavement Preservation Methods Using Pavement Performance Models"*
- 2.3 Abdallah Al-Hamdan (Iowa State University); Omar Smadi, *"Weighting Variables for Condition Indices Using Subjective Data Framework"*
- 2.4 Babatunde Atolagbe (University of Delaware), *"A two-step framework for minimizing barriers to the use of decision support tools in transportation asset management"*

Session 3: Financing and Improving Infrastructure**Moderator: Johnathan Schmidt, University Colorado Boulder**

- 3.1 Richard Ajagu (Purdue University); Malaya Atisso; Samuel Labi, *"Infrastructure Funding: Local Public Agencies and Asset Management Plans"*
- 3.2 Deepak Benny (Purdue University); Samuel Labi; Saeel Shrivallabh Pai, *"State highway infrastructure financing using matching funds from the IIA"*
- 3.3 Jose Antonio Panero (University of Delaware), *"Actions to Increase Capacity on Railway Lines"*
- 3.4 Istiakur Rahman (University of Colorado Boulder); Cristina Torres-Machi, *"Optimizing Frontage Road Maintenance with Satellite Imagery through Quantitative Analysis of Value of Information"*

Session 4: Future Challenges and Opportunities**Moderator: Anneliese Crayton, University Colorado Boulder**

- 4.1 Austin Jarrell (West Virginia University); James Bryce, *"Comparative Analysis of Future Climate Projected Flexible Pavement Subsurface Temperatures under RCP 8.5"*
- 4.2 Jing Yu (Northwestern University); Pablo L. Durango-Cohen, *"Integrating Environmental Repercussions in the Optimal Design of Goods, Services, and Infrastructure"*
- 4.3 Adrian Hernandez (Northwestern University); Pablo L. Durango-Cohen; Hani S. Mahmassani, *"Multi-Period Flow-Based Refueling Location Models to Support the Deployment of Decarbonization Infrastructure for Transportation Systems"*
- 4.4 Prathyush Lebaku (University of Houston); Lu Gao; Pan Lu, *"Deep Learning for Pavement Condition Evaluation Using Satellite Imagery"*

NOTES:
