

Fourth Symposium on Infrastructure Asset Management – SIAM4

Northwestern University Transportation Center

600 Foster St.

Evanston, IL 60208

Schedule:¹

Saturday, June 4, 2022

8:30	Continental Breakfast	
9:00	Welcome Remarks – Pablo L. Durango-Cohen, Northwestern University	
9:10	Keynote Address	
	Robert Peskin	<i>Conceptual Model Integrating Transit Asset Management and Financial Planning</i>
9:45	Session 1: Asset Management Tools to Address Emerging Issues in Planning and Project Delivery Session Chair: Joe Schofer	
	Daijiro Mizutani	<i>Optimal Repair Policies for Infrastructure Systems with Life Cycle Cost Minimization and Annual Cost Leveling</i>
	Panagiotis Anastasopoulos	<i>An In-Depth Econometric Analysis of Pavement Performance and Service Life by Pavement Rehabilitation Treatment Type and Delivery Method</i>
10:45	Coffee Break	
11:00	Session 2: Designing and Managing Infrastructure for Equity, Sustainability, and Resilience I Session Chair: Bryan Adey	
	Jing Yu	<i>Considering Environmental Impact in Pavement Design: An Input-Output Model with Substitution</i>
	Yun-Chi Yu & Paolo Gardoni	<i>Optimal Community Planning and Policies for Improving Transportation Connectivity to Essential Facilities after Earthquakes</i>
	Samer Madanat	<i>Tradeoffs Between Optimality and Equity in Transportation Network Protection against Sea Level Rise</i>
12:30	Lunch	
2:00	Session 3: Modeling and Tools to Support Asset Management Session Chair: Rabi Mishalani	
	Craig Richmond	<i>Jointly Optimal Policies for Pavement Maintenance, Repaving and Reconstruction: A Different Approach</i>
	Arnold Yuan	<i>Value of Information for Flexible Asset Management Policies: A Gamma Process Approach</i>
	Ricardo Archilla	<i>Optimal Assignment of Safety Treatments to Reduced Roadway Departure (RWD) Crashes</i>

¹ All talks are 20 minutes with 10 minutes for Q&A.

3:30 **Coffee Break**

4:00 **Session 4:** Asset Management Practice and Research Frontiers
Session Chair: Paolo Gardoni

Angelo Asnake

Safety Integrated Strategic Pavement Management Using a Hybrid Approach of Stochastic and Deterministic Process as a Practical Solution in Developing Countries: The Case of Addis Ababa, Ethiopia

Sue McNeil

Asset Management Plans: State-of-the-Practice and Research Opportunities in State Departments of Transportation in the United States

5:00 **Adjournment**

6:30 - 10:00 **Dinner at The Barn**, Rear 1016 Church St. Evanston, IL 60201

Sunday, June 5, 2022

- 8:30 **Continental Breakfast**
- 9:00 **Session 5:** Designing and Managing Infrastructure for Equity, Sustainability, and Resilience II Session Chair: Robert Peskin
- Rabi Mishalani *Incorporating Resilience in Infrastructure Investment Decision-Making*
- Saviz Moghtadernejad *Determination of Post-Disaster Restoration Programs for Road Networks Using a Double-Stage Optimization Approach*
- Joe Schofer *Managing Infrastructure Assets for Resilience*
- 10:30 **Coffee Break**
- 11:00 **Session 6:** Managing Rail Infrastructure
Session Chair: Arnold Yuan
- Bryan Adey *Assessing the Effects of Intervention Free Periods on Railway Intervention Costs and Service*
- Adrian Hernandez *Framework to Support Infrastructure Upgrades for Decarbonization of U.S. Freight Rail*
- 12:00 **Lunch**
- 1:30 **Session 7:** Emerging Technologies and Methods to Support Asset Management
Session Chair: Sue McNeil
- Taichi Ishikawa *Local Anomaly Detection on Slopes Based on Deep Learning with a Point Cloud*
- Cristina Torres-Machi *Can Satellite Data Be Used to Estimate Pavement Roughness?*
- Jinwoo Lee *Autonomous Condition Monitoring-Based Pavement Management System*
- 3:00 **Coffee Break**
- 3:15 **Session 8:** Emerging Methods and Issues in Asset Management
Session Chair: Samer Madanat
- Sam Labi *Infrastructure Preparations for CAV: A Conversation on Demand and Supply Perspectives, and a Numerical Case Study on Dedicated Lane Deployment Scheduling*
- Jorge Prozzi *Estimating Pavement Friction at a Network Level*
- Omar Swei *Electrification of the Vehicle Fleet and its Effect on the Global Warming Potential of Roadways*
- 4:45 **Final Remarks and Adjournment**