

Adhesion and Cohesion of Asphalt in Pavement

Sponsored by
the Federal Highway Administration

Organized by
Western Research Institute

Hitching Post Inn Resort and Conference Center
Cheyenne, Wyoming ▪ June 22-24, 2005

Wednesday, June 22

Session 1 **Chair: Ernie Bastian, FHWA**

1:40-2:00	Introduction, Direction and Desired Outcome of the Symposium	Ray Robertson Western Research Institute
2:00-2:30	Research to Specification—The Process	John D'Angelo FHWA
	<u>State Perspectives</u>	
2:30-3:10	Louisiana Perspective on Adhesion and Cohesion Determination	Ioan Negulescu Louisiana State University
3:10-3:30	BREAK	
3:30-3:50	New Mexico Tests for Adhesion	Tom Raught New Mexico DOT
3:50-4:25	Nebraska DOR Experience with Adhesive Failure	Laird Weishahn Nebraska DOR
4:25-5:00	Wyoming DOT Perspective on Adhesion and Cohesion Determination	Bruce Morgenstern Wyoming DOT

Pavement Performance Prediction Symposium 2005

Thursday, June 23

Session 2 **Chair: Tom Harman, FHWA**

Additive Supplier and User Perspectives

8:00-8:45	The Value of Liquid Antistrip Additives	Jim Anagnos Akzo Nobel
8:45-9:30	The Value of Crumb Rubber as a Pavement Additive	Doug Carlson Rubber Pavements Association
9:30-10:15	The Value of Hydrated Lime as a Pavement Additive	Eric Berger Chemical Lime Company
10:15-10:35	BREAK	
10:35-11:20	The Use of Polyphosphoric Acid in Asphalt	Gaylon Baumgardner Paragon Technical Services
11:20-12:05	The Value of Polymer Modification for Cohesion Improvement	George Prejean & Gregg Babcock DuPont Polymers
12:05-1:25	Luncheon — Plenary Speaker	Mr. John Cox Director, Wyoming DOT

Mr. John Cox **Director, Wyoming Department of Transportation**

Director John Cox was appointed as WYDOT Director by Gov. Dave Freudenthal in January 2005, becoming the fourth person to serve as director since the agency was created during the Wyoming state government reorganization of 1990-91.

As director, Cox is responsible for Wyoming largest and most diverse state agency, with an annual budget of nearly \$440 million and counting more than 2,000 employees based in 60 locations.

Prior to appointment as director, Cox served as administrator of the WYDOT's Highway Patrol division for nearly seven years. Among his accomplishments during that time has been leading the most comprehensive reorganization of the Patrol since the 1960s, improving efficiency and communications and giving more decision-making authority to supervisors in the field.

Cox was born in Denver and raised in York, Nebraska. He first worked for the Highway Patrol in 1978 as a trooper based in Rock Springs. His 28-year law enforcement career also included 11 years as chief of police in Powell and five years as a division supervisor in the Douglas Police Department, as well as positions with the Converse County Sheriff's Department and the Chadron (Neb.) Police Department.



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Session 3 **Chair: John D'Angelo, FHWA**

1:25-2:10	Characteristics of Epoxy Asphalts	Jack Youtcheff FHWA
	<u>Basic Research on Adhesion and Cohesion—Surface Energy, Crack Energy Dissipation & Crack Healing</u>	
2:10-2:55	Variations in Asphalt Adhesion as a Function of Aggregate Type	Shin-Che Huang Western Research Institute
2:55-3:15	BREAK	
3:15-4:00	Determination of Surface Energy Using Atomic Force Microscopy	Appy Beemer Western Research Institute
4:00-4:15	Use of NMR Imaging to Determine Asphalt Surface Energy	Fran Miknis Western Research Institute
4:15-5:00	Wetting Dynamics of Asphalt	Troy Pauli Western Research Institute

Friday, June 24

Session 4 **Chair: Jack Youtcheff, FHWA**

8:00-9:00	Dissipation of Crack Energy and Dynamic Mechanical Analysis	Bob Lytton Texas A&M University
9:00-10:00	Dynamic Mechanical Analysis and Use of Surface Energy to Predict Adhesion	Dallas Little Texas A&M University
10:00-10:30	BREAK	
10:30-11:15	Adhesion Thermodynamics	Troy Pauli Western Research Institute
11:15-Noon	Conclusions What needs are perceived? How can these be addressed? What research should be done? Research Needs Statement Closing Remarks	Ray Robertson Western Research Institute

Symposium Presentations will be posted at www.westernresearch.org

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