

Winter Maintenance & Effects Research Group





Who are we?



Laura Fay



Anburaj "Anbu"
Muthumani



Dr. Na Cui



Dr. Ning Xie

Partnerships, Funding Agencies, and Volunteerism

- Partnerships

- Unpaved Roads Institute (URi) www.unpavedroadsinstitute.org
 - Partnering with: University of California, Davis (UCD), University of Nevada, Las Vegas (UNLV), University of Alaska, Fairbanks (UAF)
- University Transportation Center, The Center for Environmentally Sustainable Transportation Cold Climates (CESTiCC)
<http://cem.uaf.edu/cesticc/>
 - Partnering with: University of Alaska, Fairbanks (UAF) and Washington State University (WSU)

- Funding Agencies

- Clear Roads Pooled Fund, Minnesota DOT, Nevada DOT, National Cooperative Highway Research Program (NCHRP), Federal Highway Administration – Central Federal Lands (FHWA-CFL), Colorado DOT, The Nature Conservancy, PNS, Aurora Consortium.

- Volunteerism

- Transportation Research Board (TRB)
 - Winter Maintenance Committee
 - Sub-Committee on Maintenance Equipment
 - Sub-Committee on Large Volume Snow Removal, Snow Fences, and Avalanches
 - Low Volume Roads Committee
 - International Erosion Control Association (IECA) University Liaison



Winter Focused Research

Current Projects

- Quantifying Salt Concentration on Pavement (Aurora, Iowa DOT)
- North American Contracting for Snow and Ice Response (Clear Roads, MnDOT)
- Refining Return on Investment Methodology/Tool for MnPass (MnDOT, LRRB)
- An inorganic composite coating for pipeline rehabilitation and corrosion protection (USDOT)
- Highway Deicing Products and Applications Best Practices Study (Colorado DOT)
- Winter Maintenance Text Book (CESTiCC)
- Development of Durable Green Concrete Exposed to Deicing Chemicals via Synergistic Use of Locally Available Recycled Materials and Multi-Scale Modifiers (CESTiCC, Nevada DOT)
- Life-cycle Sustainability Assessment of Highway Winter Maintenance Operations (CESTiCC)

Help with a current project...

- North American Contracting for Snow and Ice Response (Clear Roads, MnDOT)
 - Considering taking a survey:

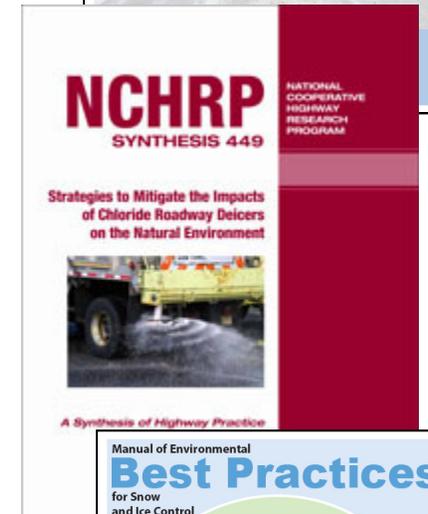
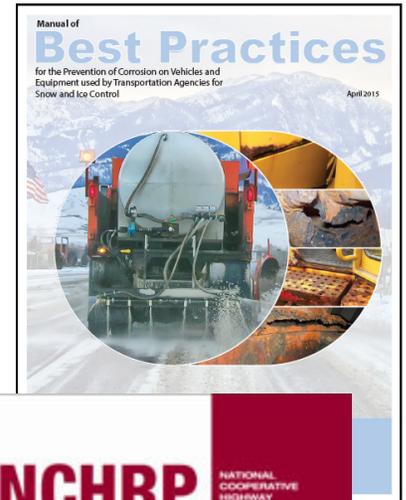
<https://www.surveymonkey.com/r/NACONTRACT>



Winter Focused Research

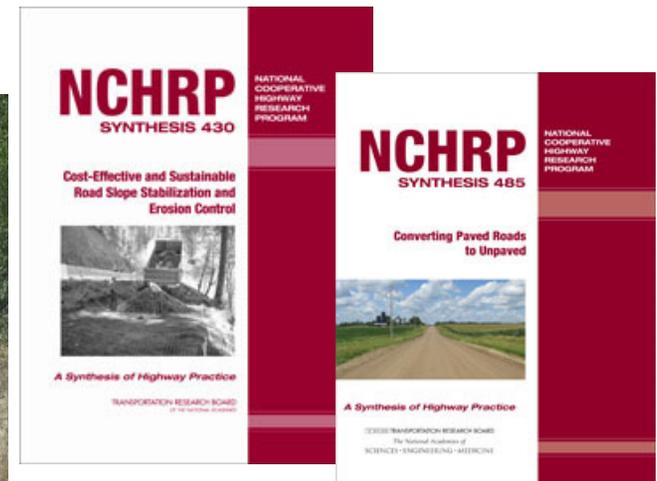
Past Work

- Manual of Best Practices for the Prevention of Corrosion on Vehicles and Equipment by Transportation Agencies for Snow and Ice Control
- Effectiveness of Non-Chloride Liquid Agricultural By-Products and Solid Complex Chloride/Mineral Products
- Snow and Ice Control Environmental Best Management Practices Manual
- Cost-Benefit of Winter Maintenance Strategies
- Snowplow Equipment Lighting Synthesis
- Comparing the Direct Costs and Infrastructure Implications of Anti-icing Strategies
- NCHRP Synthesis 449 Strategies to Mitigate the Impacts of Chloride Roadway Deicers on the Natural Environment



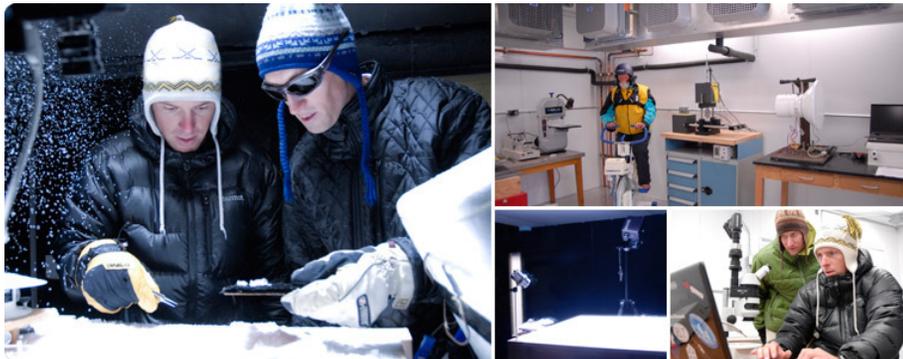
Low Volume Roads Projects

- NCHRP Synthesis 485 Converting Paved Roads to Unpaved (NCHRP)
- Capacity Building for MEGD Staff in Relation to Biodiversity and Conservation in the Southern Gobi Desert (The Nature Conservancy)
- NCHRP Synthesis 430 Cost-Effective and Sustainable Road Slope Stabilization and Erosion Control (NCHRP)
- National Scan of Best Practices for Chemical Treatments on Unpaved Roads (FHWA-CFL)
- Culvert Asset Management System: Best Practices/Pilot Project (New Mexico DOT)

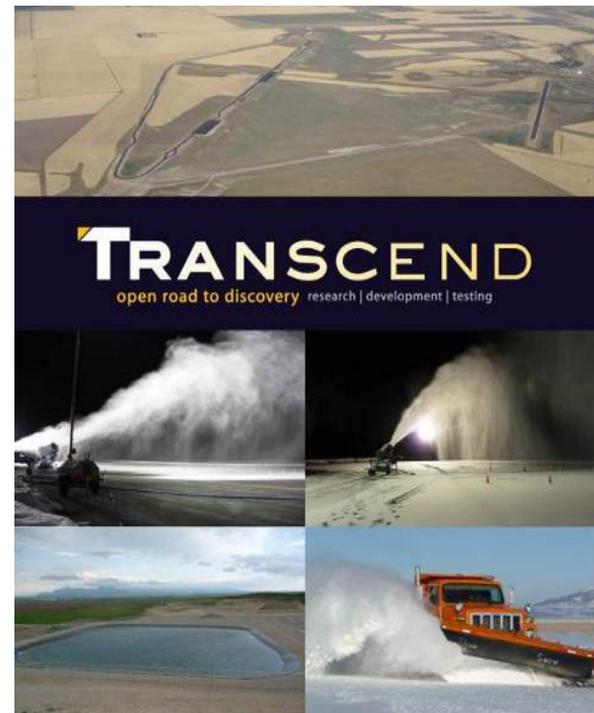


Labs

- Corrosion and Sustainable Infrastructure Lab
- Subzero Science and Engineering Research Facility



- TRANSCEND field testing facility



Call or email anytime

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