CESTiCC at the 2015 TRB Annual Meeting

CESTiCC Researchers Presiding and Presenting at TRB
The Transportation Research Board annual meeting is one of the most important and widely attended venues for transportation researchers and practitioners. This January, nearly 12,000 transportation professionals from all over the world gathered to share innovative research and discuss new ideas culminating in over 5,000 program presentations at the 94th TRB annual meeting held in Washington, D.C. CESTiCC highly valued this opportunity to exchange research information and share technology transfer stories.

CESTiCC researchers hosted over 20 presentations covering a wide range of topics in environmentally sustainable transportation infrastructure. For example, Dr. Jenny Liu’s presentation on Performance of Paving Fabric Reinforced Asphalt Mixture and Dr.
Sheng Zhao’s presentation on *Quantitative Characterization of Binder Blending: How Much RAP/RAS Binder is Mobilized during Mixing?*, summarized findings on applying environmentally conscious materials and effective solutions to infrastructure needs. Dr. Liv Haselbach discussed *Pervious Concrete in Pullman and Carbon Sequestration in Old and New Portland Cement Concrete Pavements* from her research efforts on managing stormwater runoff in cold climates and environmental impact assessment. Drs. Xianming Shi and Na Cui highlighted advanced innovations in roadway winter operations in their presentations *Effectiveness of Liquid Agricultural Byproducts and Solid Complex Chlorides for Snow and Ice Control, Improved User Experience and Scientific Understanding of Anti-icing and Prewetting for Winter Maintenance in North America*, and *Fixed Automated Spray Technology: Current Practices and Case Study*. Drs. Tom Jobson and Serena Chung’s presentation on *Loss of Nitrogen Oxide and Formation of Nitrous Acid in Photoactive Roadway Materials Using a Continuously Stirred Tank Reactor* explored their research efforts on assessment of vehicle emissions.
In addition, CESTiCC students had the opportunity to showcase their research at the TRB meeting. UAF Ph.D students Chuang Lin and Lin Li presented on the Development of Innovative Antifreeze Grout Mortar for Anchor Application in Cold Regions, and A Photogrammetry-based Method to Measure Unsaturated Soil Deformation during Triaxle Testing. Lastly, WSU Ph.D students Quinn Landfitt and Gang Xu presented on Coupled Oil Analysis Trending and Life-Cycle Cost Analysis for Vessel Oil Change Interval Decisions, and Environmentally Friendly Mortars with Coal Fly Ashes as Cementitious Binder. Some of the students' papers were recommended for publications in the Transportation Research Record as well.

CESTiCC researchers’ leadership in the field of sustainable transportation engineering
was also demonstrated through their active conference participation serving as chairs, organizing committee members, and moderators of various events. On January 11, Dr. Jenny Liu chaired the ASCE Bituminous Materials Committee (BMC) annual meeting in conjunction with the TRB annual meeting. Laura Fay and Dr. Sheng Zhao presided over TRB sessions on The Effects of Weather on Mobility and Roadway Conditions and Aging of Asphalt Binders. Drs. Xianming Shi and Ning Xie served as the moderators of two technical sessions at the Innovation and Advancement in Transportation Infrastructure Technologies workshop.

CESTiCC 2014 Student of the Year
Congratulations, Quinn Langfitt for receiving the CESTiCC 2014 Student of the Year award! On January 10, 2015 Quinn accepted his award in Washington, D.C. at the 2015 Annual CUTC Winter Awards Banquet. The Student of the Year is chosen based on his/her academic performance, professionalism, leadership and research. As a recipient of the award the student receives $1,000 plus the cost of attendance to the annual Transportation Research Board Meeting along with two free registrations to the CUTC Banquet.

CESTiCC Reception at Annual TRB Meeting
Thank you to everyone who joined us for the CESTiCC reception at the 94th TRB annual meeting. On Monday, January 12, 2015 CESTiCC along with PacTrans and its consortium universities, and National Institute for Advanced Transportation Technology
hosted a reception for TRB attendees at the Walter E. Washington Convention Center in Washington, D.C. The event was well attended and a great chance for people to meet and greet.

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CESTiCC in the News

With winter continuing on, CESTiCC researchers' efforts on green road winter operations continues to gain media coverage all over the nation.
CESTiCC Supports UAF Concrete Canoe Team

Many would hesitate if asked to paddle away in a concrete canoe. Brave UAF undergraduates decided to take on this challenge for the first time in 2014. The Concrete Canoe Competition organized by the American Society of Civil Engineers (ASCE) challenges the students' knowledge, creativity and stamina, while showcasing the versatility and durability of concrete as a building material. It's much more challenging for Alaskan students because of materials, geographic and climatic constraints and considerations in designing and constructing a concrete canoe. They are eager to become fast-paced competitors with experience gained from the first competition, and skills built up from the classroom and practices. Using lightweight recycled glass beads as a sustainable aggregate, and smart canoe designs, UAF's engineers are breaking ground with their new 2015 design. CESTiCC is proud to sponsor this team and their efforts to design an environmentally sustainable concrete canoe.
Upcoming Events

- **STEM Night at Pearl Creek Elementary**: February 5, 2015 5:30pm-7:30pm. CESTiCC will be participating in a STEM night at Pearl Creek Elementary here in Fairbanks, Alaska. We will be having fun with levers, pulleys and fractions!

- **ASCE CI Summit Meeting**: February 11-13, 2015. Jenny Liu, Chair of ASCE Bituminous Materials Committee, has been invited to give a presentation on "Advances and Challenges in Asphalt Paving."

- **Engineering Open House**: February 28, 2015 11:00am-3:00pm. UAF College of Engineering and Mines will be hosting an open house for the Fairbanks community to discover, engage and most importantly ENJOY all things engineering! CESTiCC will host a Hot Wheels RC Derby. Tracks will be built to simulate transportation roadway systems with different geometric designs. This will be a fun hands-on activity for kids to learn fundamentals of geometric and road design.

- **Summer Transportation Institute**: June 8-12, 2015. CESTiCC and Alaska Tribal Technical Assistance Program Center will be hosting a Summer Transportation Institute. The 5-day training workshop will engage you in lectures, lab tours, and field trips with various topics on materials selection, design, construction and operations, and preservation of transportation infrastructure in a
rural and cold environment. This program is free of charge to participants.

- **International Symposium on Systematic Approaches to Environmental Sustainability in Transportation**: August 2-5, 2015. The symposium aims to provide a forum for professionals to discuss environmental challenges associated with design, construction, and maintenance of multimode transportation systems. It will also serve as a showcase of recent development, practices, and advances to maximize environmental sustainability. We look forward to your participation!

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