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Technovations in Transportation

In this issue:

Chang Receives SHRP2 Award

Dr Kevin Chang was recently awarded a Strategic Highway Research Program (SHRP2) Education Connection award from the Federal Highway Administration(FHWA). He received one of ten cooperative agreements that provide an opportunity to bring state-of-the-practice solutions into the classroom.

The University of Idaho is developing a set of products based on SHRP2's National Traffic Incident Management Responder Training (NTIMRT) Program that can be integrated by university professors as part of their lesson plan when teaching a transportation operations-related course. These products aim to promote and secure the role of SHRP2 in the classroom and carry out the USDOT/FHWA's goal of advancing innovations by promoting solutions that address current and emerging transportation issues.

Course materials and activities incorporating simulated real-world scenarios, along with test and student evaluation materials, will be developed for courses at both the graduate and undergraduate levels.

For more information on the SHRP2 program see **http://www.fhwa.dot.gov/goshrp2/**.

Lowry Selected to Serve on TRB Committee

Dr. Michael Lowry was invited to serve as a member of the Transportation Research Board (TRB) Panel 47-10 on "Resource Allocation of Available Funding to Programs of Work," which is being conducted under the Highway Cooperative Research Program (NCHRP) Synthesis Program. The main objective of projects under this program is to synthesize existing information on a topic of relevance to airport objectives.

New Transportation Faculty

Emad Kassem Ph.D., Assistant Professor, Department of Civil Engineering, College of Engineering

Dr. Emad Kassem joined the Department of Civil Engineering as an Assistant Professor. He received his M.S. and Ph.D. from Texas A&M University. Prior to joining the University of Idaho, Dr. Kassem was an Associate Research Scientist at the Texas A&M Transportation Institute and Adjunct Assistant Professor at Prairie View A&M University.

His research focuses on characterization of infrastructure materials, tire-pavement interaction, microstructure analysis of asphalt mixes and granular materials, non-destructive evaluation of pavements, multifunctional materials, and analytical and computational modeling of infrastructure materials. Sponsors of his research projects include the Federal Highway Administration, Texas Department of Transportation, Idaho Transportation Department, Southwest Region University Transportation Center, and Qatar National Research Fund.

Dr. Kassem has more than 60 technical publications, conference papers, and reports in the field of materials and pavements engineering. He serves as a reviewer of several technical journals and he actively participates in the activities of several committees of the Transportation Research Board. He received the Texas A&M Transportation Institute/Trinity New Researcher Award in 2011 for his research contributions.

Ahmed Ibrahim Ph.D., P.E., Assistant Professor, Department of Civil Engineering, College of Engineering

Dr. Ahmed Ibrahim joins the Civil Engineering Department as an Assistant Professor. Dr. Ibrahim's most recent academic appointments were at St. Louis University and King Fahd University of Petroleum and Minerals in Saudi Arabia. He received his Ph.D. degree in Civil/Structural Engineering from the University of Missouri–Columbia in 2010.

His research interests include non-linear behavior and modeling of reinforced and prestressed concrete elements, damage modeling of reinforced concrete elements under blast loading, experimental testing of reinforced concrete members under multi-hazard loading, and confinement of reinforced concrete bridge columns. His research has been funded from the US Department of Transportation and presented in several articles published in journals and conference proceedings.

Dr. Ibrahim is registered as a professional engineer in the state of Michigan and his experience includes more than ten years in the industry and academia in the US and overseas. He performed structural damage evaluations of many schools in Peru, South America for UNESCO. He is a voting member in many professional committees like ACI 555 "Concrete with Recycled Materials" and he is also a member of the "Impact, Shock, and Blast" committee in the American Society of Civil Engineers.

Faculty at a Glance

Tao Xing Ph.D., P.E., Assistant Professor, Department of Mechanical Engineering, College of Engineering

Dr. Tao Xing received his Ph.D. degree in Mechanical Engineering from Purdue University in 2002. He joined the Department of Mechanical Engineering in 2011.

His research focuses on computational fluid dynamics with applications to offshore wind turbine designs, ship hydrodynamics, boundary layer flows, and desalting. He developed the "Factor of Safety Method" for solution verification that was evaluated by others to be one of the most accurate uncertainty estimates for monotonically converged numerical solutions. He secured funding from NSF, the Murdock Foundation, and industry.

In 2014, he was invited to give a keynote lecture on verification and validation in the 13th National Congress on Hydrodynamics & 26th Conference on Hydrodynamics in China. He is the author or co-author of 26 peer-reviewed journal papers, 29 proceeding papers, and 2 book chapters. His research work has been cited 587 times. His Google Scholar h-index and i10-index are 16 and 21, respectively.

He graduated one Ph.D. and two M.S. students and is currently advising two M.S. students. He serves as a member of the Technical Program Committee and a Session Chair of The International Society of Offshore and Polar Engineers (ISOPE) annual conferences for 2015 and 2016. He won the "Alumni Award for Excellent Mentor" from the University of Idaho in 2013 and 2014. He also won the "Outstanding Young Faculty Award" from College of Engineering at University of Idaho in 2015. He is a licensed professional engineer in the State of Idaho.

Dr. Xing has just started working with NIATT on a PacTrans USDOT Region X project entitled "Aerodynamic Effects on Two-Lane Rural Highway Safety."

You can find more about Dr. Xing at **http://www.uidaho.edu/engr/me/faculty/taoxing**.

Jim Frenzel Ph.D., P.E., Associate Professor, Department of Electrical and Computer Engineering, College of Engineering

Dr. Jim Frenzel came to the University of Idaho in 1990 after working with IBM in North Carolina for nine years. As a faculty member in the Department of Electrical and Computer Engineering, he teaches a variety of courses on all aspects of digital system design. Over the past decade he has been involved in a number of NIATT research projects. His current project, funded through PacTrans entitled "Evaluation of Ultra-wideband Radio for Improved Pedestrian Safety at Signalized Intersections," involves the evaluation of ultrawide-band signaling for pedestrian localization. Our goal is to enable a "smart" intersection to track a special-needs pedestrian as they cross an intersection, providing increased safety through navigational assistance and interaction with the traffic controller.

You can find more about Dr. Frenzel at **http://www.uidaho.edu/engr/ece/faculty/frenzel_j**.

NIATT's ITE Student Chapter Attends District Meeting

The University of Idaho's Institute of Transportation Engineers (ITE) Student Chapter continues to actively pursue new learning opportunities. With sponsor support from both the Idaho ITE Chapter and the National Institute of Advanced Transportation Technology (NIATT), six students from the University of Idaho attended the 2015 ITE Western District Meeting from July 19th to 22nd in Las Vegas, Nevada.

At this year's meeting, the students participated in career development activities in which personal resumés were reviewed by industry professionals and a training session focusing on professional manners was provided. Students also attended sessions focused on, but not limited to: safety, planning and technology, traffic operations, congestion mitigation, and freeway traffic management system. A technical tour to Las Vegas' Freeway and Arterial System of Transportation, or FAST, Center, was also provided.

In addition to the technical activities, the University of Idaho participated in the ITE Traffic Bowl for the first time in many years, securing a 4th place finish among all of the participating Western District student chapters. The students have already set their sights on a podium finish in 2016. Three students pictured above during the competition, Marvin Ramirez, Ben Sonnen, and Nick Schlotthauer (not pictured Kushal Patel, Maged Mohammed, and Omar Salem).

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