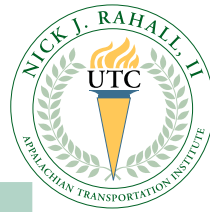


RTI

TRANSPORTATION

Building Jobs through Transportation **FOCUS**

News and Information from the Rahall Transportation Institute



Conferences/Transportation Seminar Series/Technology Transfer Activities

- August 1-4, 2010** National Rural ITS Conference, Huntington, W.Va.
- August 3-5, 2010** Geohazards Impacting Transportation in the Appalachian Region, Columbus, Ohio
- August 26-27, 2010** National Off-Highway Vehicle Conservation Council Annual Meeting, Great Falls, MT
- September 8-9, 2010** West Virginia Brownfields Conference, Charleston, WV
- September 2010** ESRI Seminar, Charleston, WV
- May 1-4, 2011** ITED (Transportation Economic Development Conference), Charleston, WV

K-12/Community Outreach Events

- September 11, 2010** FitFest '10 5K Run/Walk, Kids' Races and Community Wellness Event for the Paul Ambrose Trail for Health, Ritter Park, Huntington, WV
- September 14, 2010** West Virginia Operation Lifesaver Farm Safety Days, 4-H Camp, Barboursville, WV

Register online at www.njrati.org or call Sandra Jones at (304) 696-7098.

Nick J. Rahall, II
Appalachian Transportation Institute

P.O. Box 5425
Huntington, WV 25703-0425
1-800-284-9853
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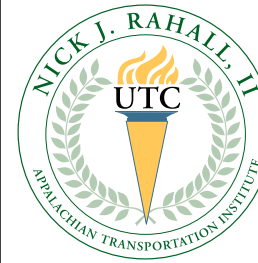
Year 11 Vol.2 (8/10)

Nick J. Rahall, II Appalachian Transportation Institute at Marshall University

TRANSPORTATION

Building Jobs through Transportation **FOCUS** Year 11 Vol. 2 (8/10)

News and Information from the Rahall Transportation Institute



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Partner Schools:



Chi, Long, Nichols and Zatar Appointed to Seven Transportation Research Board Committees



Dr. J. Chi **Dr. D. Long** **Dr. A. Nichols** **Dr. W. Zatar**

Four local transportation professionals from RTI have been appointed by the National Transportation Research board to a total of seven national committees.

"RTI is very fortunate to have the expertise of Dr. Junwook Chi, Dr. Diana Long, Dr. Andrew Nichols and Dr. Wael Zatar, as part of our team of transportation researchers," Bob Plymale, RTI director & CEO, said. "Each of them brings a unique perspective and valuable contribution to the body of transportation research, and we are very honored to see them recognized on a national level."

CONT. P3: TRB

Motion Induced Electrical Generator (MIEG) Receives Patent Notice of Allowance from USPTO

The United States Patent and Trademark Office (USPTO) has awarded RTI a notice of allowance in its U.S. Patent Application for the "Motion Induced Electrical Generator." The notice is the USPTO's official communication that an examination of the patent application has been successfully completed and a patent will be issued.

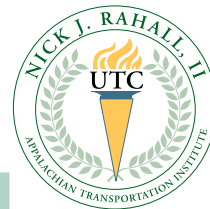
"This represents another major milestone for RTI as we continue to successfully develop transportation-related technology," Bob Plymale, RTI director and CEO, said. "It demonstrates our commitment and pursuit of innovative ways to enhance economic development through regional and global transportation."

CONT. P3: MIEG

Year 11 Vol.2 (8/10)

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Nichols Emphasizes the Role of Environments in Fostering Effective Critical Thinking (Effects) at Transportation Education Conference

On June 20, 2009, Dr. Andrew Nichols, presented "Environments For Fostering Effective Critical Thinking (Effects)" to Transportation Education Conference attendees on the campus of Portland State University, Portland, Oregon.

The purpose of the three-day program was to: learn about the latest ideas in transportation engineering education; address three important questions to help instructors improve how they deliver transportation engineering education; and learn how to improve their teaching skills.

The questions considered were: how to map the learning domain for transportation engineering; how to create active learning environments for undergraduate transportation engineering students, and how to develop collaborative tools for sharing transportation engineering curricular materials.

Given needs in both workforce and academia, there is both a need and opportunity to bring together university faculty and transportation professionals to focus on the undergraduate transportation engineering program and to identify ways in which it can be collectively improved.

WV 511 Survey Winner Receives iPod

In June 2010, RTI conducted an online survey to estimate system usage and gauge public interest in using a West Virginia 511 Travel System. The WV 511 could potentially provide information about weather-related issues and traffic incidents that affect travel on the Interstate system.

To encourage drivers to complete the survey, participants were entered to win a 32G, 3rd Generation iPod Touch. Darla Garren of Hurricane, W.Va., who is an employee of St. Mary's Medical Center, won the iPod.



Zatar Receives 2009 Young Educator Achievement Award

Research Associate Dr. Wael Zatar was honored by the Precast/Prestressed Concrete Institute (PCI) as its Young Educator Achievement Award in April 2009.

This award recognizes one distinguished and young educator in the fields of engineering, architecture, and construction technology who has made significant contributions to the precast/prestressed concrete industry.

Nominees are evaluated based on their academic career achievements, rather than a onetime recognition. Tenure-track and tenured faculty members at all ranks in engineering, construction and architectural programs are eligible for the award.

The Precast/Prestressed Concrete Institute (PCI) is a professional organization for engineers, producers, suppliers, architects, researchers, and professors. The PCI professional members guide the Institute's efforts in product innovation, new technology adaptation, design methods development, training, and quality assurance.

As the world's largest organization in the field of precast and prestressed concrete, the PCI is dedicated to fostering greater understanding of the design and use of infrastructures. It utilizes one of the leading edge technologies of the North American sustainable construction Industry.

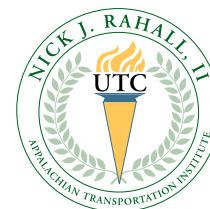
The PCI is composed of more than 1400 members striving to improve the quality, economy and innovation of the construction industry by establishing new levels of design and engineering.

Plymale Induced into Labor Hall of Fame

On June 5, 2010, RTI Director and CEO Robert Plymale became an Honorary Inductee into the Southwestern District Labor Council, AFL-CIO's Labor Hall of Fame, at the organization's annual banquet.

The purpose of the event was to honor individuals who have respected working families throughout their careers.

"This year's inductees are exemplary of integrity character and seeing the value of fairness to all working families," Matthew McComas, Secretary Treasurer, said.



Aspiring Engineers Converge for 2010 West Point Bridge Design Contest



Twenty teams of aspiring engineers from middle and high schools throughout West Virginia converged May 14-15, 2010, at Marshall University's Huntington campus to compete in the West Point Bridge Design Contest finals.

The West Point Bridge Design Contest is a high-energy, mentoring and training program that provides middle and high school students with a realistic, hands-on, engaging introduction to engineering, bridges and transportation design concepts.

"This is an exceptional program for West Virginia's youth," U.S. Rep. Nick Rahall (D-W.Va.) said. "This group effort will help our students get a look at the challenges that today's engineering provides and give them an inside look at how demanding and rewarding an engineering program can be."

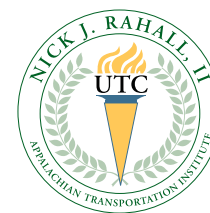
For the third consecutive year, overall winners were Anthony Chen and Peter Chen of University High School, Morgantown, W.Va. The "Papan Beatles," which were represented by David Buch and Matthew Koh of St. Frances de Sales Middle School won the middle school division. West Virginia Division of Highways Commissioner Paul Mattox, P.E., presented the recipients of the "Young Engineer to Be" Awards to Anthony Chen, Summer McElwain, Emily McElwain and Matt Bartney.

After receiving approximately six months of classroom visits by volunteer engineers, the contest culminated Saturday with the final competition and awards luncheon. Teams designed virtual bridges while considering factors such as cost, terrain, time constraints and environmental impact. The virtual bridges are designed with free software provided by West Point. Volunteer instructors and sponsors include RTI, American Society of Civil Engineers WV Younger Member Forum, West Virginia Department of Transportation and Marshall University College of Information Technology and Engineering.

Highlights from the competition included "The Amazing Engineering Race," which was modeled after the television show. During the "Race," students used critical thinking and problem-solving skills to complete fun, hands-on, engineering activities throughout Marshall University's Huntington campus.

Jonathan Gensler, a West Point Graduate in Nuclear Engineering and 2011 Harvard and MIT Graduate Candidate, served as keynote speaker for the awards luncheon.





EASTERN COAL REGIONAL ROUNDTABLE RECEIVES GIS TRAINING

RTI Training Specialist, Amy Blankenship, designed and taught a two-day course in Geographic Information Systems (GIS) for Eastern Coal Regional Roundtable employees and volunteers who are interested in learning mapping skills. The course was appropriate for groups deciding whether to invest in a system as well as those who already use a GIS and want to know more.

Eleven students participated in the training on July 30-31, 2010 at Concord University. Student evaluations indicated they experienced a high level of new learning and they believe they can apply the skills immediately to their job or volunteer experiences.

According to Dvon Duncan, Executive Director of ECRR, "Those who attended the workshop have had glowing remarks about Amy's professionalism and her knowledge about GIS.

"The one thing all those remarks had in common was that Amy was able to help each student at their individual levels of expertise - whether beginner,

intermediate, or advanced. She was willing to continue working with workshop members through Sunday morning as well - something they all appreciated, and above our (ECRR's) expectations."

The Eastern Coal Regional Roundtable (ECRR) purpose is to provide a unified voice for coal country watershed interests. They serve mine scarred watersheds through training, capacity building and a platform for the collective voice. Dr. Diana Long, Workforce Development Director, said RTI was in the unique position to help those watershed groups by offering training in GIS (Geospatial Information Systems).

For more information on customized training for your organization, contact Dr. Diana Long, Director of Workforce Development, dlong@njrati.org. For more information on ECRR contact Dvon Duncan, Executive Director at director@easterncoal.org or visit their website <http://www.easterncoal.org/>.

2009 Mid-Atlantic SBIR/STTR Conference Takes Place in Morgantown

RTI Research Associate John Ball, PE, and Technology Transfer Specialist Dr. Pam Hamilton attended the 2009 Mid-Atlantic SBIR/STTR Conference at the Waterfront Place Hotel in Morgantown, WV, Nov. 30-Dec. 2.

The conference brought together key technology and acquisition personnel from government and industry in several states to enable the transition of SBIR- and /STTR-funded research and development into products for government and private sector commercial markets.

First District Congressman Alan B. Mollohan welcomed participants to and emphasized the significance of the first West Virginia conference that focused on the two nationally competitive U.S. Small Business Administration (SBA) programs--Small Business Innovative Research (SBIR) and Small Business Technology Transfer (STTR). Governor Joe Manchin, III stressed the importance of education and the growth of the technology sector to the state's future, "If you want to share wealth, you have to create wealth. If you want to create wealth, you have to attract investment."

SBIR and STTR programs award more than \$2.5 billion to small, high-tech businesses. Eleven federal agencies participate in the SBIR program, while five federal agencies participate in the STTR program. INNOVA Commercialization Group, an initiative of the West Virginia High Technology Consortium (WVHTC) Foundation, and the West Virginia Development Office hosted the event.

Facilitating connections between parties stimulates innovation. Attendees from several states networked with small businesses, entrepreneurs, federal agencies, academia, recipients and/or seekers of SBIR and STTR funds, venture capitalists, and technology transfer specialists among others. Additional benefits were receiving instruction by subject experts, exploring future collaborations by attendees, and identifying opportunities to match innovative projects with appropriate resources to obtain federal research and technology transfer funds. Twenty-two percent of key innovations in the world come from SBIR awards companies and eight percent from universities.

FROM PG 1: TRB

non-intrusive), installation materials and techniques, signal processing algorithms, analysis and reporting techniques, and comprehensive monitoring programs. The committee is also concerned with highway monitoring standards to ensure the applicability and quality of traffic data in all its applications.

The Expert Task Group (ETG) on LTPP Traffic Data Collection and Analysis is a subsidiary committee of the TRB Long-Term Pavement Performance Committee. Its purpose is to advise the TRB Long-Term Pavement Performance Committee on matters related to collection, processing, uploading into the LTPP database, and analysis of traffic data collected at LTPP test sites throughout North America. The ETG provides comments and advice intended to help solve operational problems encountered in these activities. The work of the ETG is intended to facilitate the accumulation in the LTPP database of high-quality traffic data in quantities sufficient to support LTPP analysis projects. These projects are designed to produce outcomes that lead to products addressing the high-priority pavement-related needs of state highway departments. The work of the ETG also includes reviewing those parts of the plans, activities, and progress of LTPP's data analysis and product development activities that pertain to the use of LTPP traffic data, and reporting its findings and suggestions to the TRB Long-Term Pavement Performance Committee.

Dr. Zatar, RTI principle investigator and professor of engineering at MU, has been appointed to three committees: Structural Fiber Reinforced Polymers Committee, Properties of Concrete Committee and the SHRP 2 Technical Expert Task Group on Nondestructive Testing Techniques for Mapping Voids, Bonding, and Moisture Behind or Within Tunnel Linings (Project R06-G).

Zatar was selected to serve as Communications Coordinator for the Structural Fiber Reinforced Polymers Committee. This committee is concerned with all aspects of the development and use of structural applications of fiber-reinforced polymer (FRP) composites for transportation related structures; including bridges, maintenance buildings, pipes, sign and luminaire support poles, guide rails, and guard rails. The committee provides a forum for gathering, synthesizing, and disseminating information on research and development and on the design, fabrication, serviceability, inspection and repair of fiber-reinforced polymer transportation structures. Activities of this committee help develop an awareness of the potential impacts of using composites for a wide range of structural applications and provide information for development and conduct of academic courses on FRP composites for civil engineers.

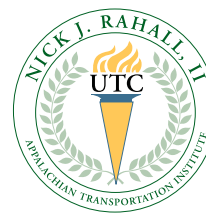
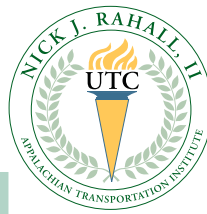
The Properties of Concrete Committee is concerned with the properties of conventional and high-performance concretes. The committee is also concerned with test methods and procedures for measuring the properties of concrete, including non-destructive testing, and procedures for concrete quality control and quality assurance. The SHRP 2 Technical Expert Task Group on Nondestructive Testing Techniques for Mapping Voids, Bonding, and Moisture Behind or Within Tunnel Linings (Project R06-G) will advise SHRP 2 staff on the technical progress of Project R06-G, so that the outcome of the project will meet the research objectives set forth in the general plan of contract research established by the SHRP 2 Technical Coordinating Committee on Renewal Research and the scope of work included in the request for proposals.

FROM PG 1: MEIG

The Motion Induced Electrical Generator captures power produced during travel of a vehicle or mobile conveyance. RTI initially developed the technology to assist the rail industry expand its use of "smart car" technologies but it can be applied to other forms of transportation.

"By harnessing energy created during any mode of mobile conveyance, you can generate the electricity required to operate a data delivery system such as GPS," Richard Begley, Ph.D., director of research at RTI and one of the inventors said. "It eliminates the need for expensive mobile communication systems."





Partner School News: Eight Civil Engineering Students from WVU Tech Earn RTI Scholarships

Five freshman and three junior civil engineering students from WVU Institute of Technology received the Nick J. Rahall, II Appalachian Transportation Institute Scholarship for the 2009-2010 academic year.

This scholarship is awarded to incoming freshman students who are entering a baccalaureate level civil engineering program and have an interest in pursuing careers in the transportation field. Criteria for selection include students having scored at least a 25 (540 SAT) in the math section of the ACT test, or have a composite ACT score of at least 25 (1080 SAT). These scholarships are renewable provided sufficient funds are available after all eligible freshmen have received scholarships for a given year. The scholarships are in the amount of \$1000 per semester per student for the academic year.

The 2009-2010 recipients are:

- David Bennett, junior majoring in Civil Engineering, graduated with honors from Richwood High School. This is David's third year to receive the RTI Scholarship.
- Joseph Christian, freshman majoring in Civil Engineering.
- Joshua Cook, freshman majoring in Civil Engineering, graduated from Scott High School in 2008. Upon graduation, he plans to work as an environmental consultant upon graduation.
- Michael Hansford, freshman majoring in Civil Engineering.
- Michael Ramey, junior majoring in Civil Engineering, graduated valedictorian from Tolsia High School. This is his third year to receive RTI Scholarship.
- Tyler Shamblin, freshman majoring in Civil Engineering, graduated from Sissonville High School and is the son of Scott and Cindy Shamblin, who obtained their B.S. degrees in Civil Engineering from WVU Tech.
- David Webster, a freshman majoring in Civil engineering, graduated with high honors from St. Albans High School and was ranked sixth in his class.
- Joshua Smith, junior majoring in Civil Engineering, is the first person in his family to attend college. He attended Parkersburg High School where he graduated with honors.

From top to bottom:
Bennett, Ramey, Cook, Smith, Webster



Partner School News: Engineering Students Attend 2010 ASCE Virginia's Conference



Left: Students Conducting the Concrete Canoe "Swamp Test."
Above: Joseph Neely, 2nd Place Winner in the Marr Technical Paper Competition

Article Submitted by Dr. Steve Leftwich, Partner School Contact

"Many activities of the American Society of Civil Engineers (ASCE) Student Chapter at WVU Institute of Technology (WVU Tech) are either partially or fully supported by RTI. One of the most popular events to the ASCE Student Chapter is the preparing and participating in the Virginias' Conference. Held annually and hosted by one of the participating schools, the Virginias' Conference is where engineering schools compete in various events that include the Concrete Canoe Competition, Surveying Competition, AutoCAD Competition, Concrete Bowling Ball Competition, Mystery Design Competition, Marr Technical Paper Competition and Hardy Cross Oral Presentation.

"This year's conference took place April 8-10, 2010 at The Catholic University of America in Washington, D.C. Eighteen students and two faculty advisors, Jason Hill and Moayyad AlNasra, from West Virginia participated.

"The WVU Tech surveying team took first place in the surveying competition. Joseph Neely won second place in the Marr Technical Paper Competition for this paper, "Vortex Shedding and Its Effects."

"Overall, the conference was a great experience for our students. Many of the younger members had not attended previously, and they left with a renewed energy to improve our results next year!"

