

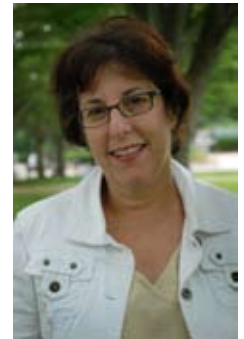
EXECUTIVE DIRECTOR'S REPORT

The first half of 2008 was a busy time for the URITC. As is always true in winter and spring, we are planning a host of activities, many of which are highlighted in this issue of the URITC News.

Our first call for research proposals will soon be evaluated. We have received many exciting project proposals and look forward to announcing our next round of funded research projects shortly. We expect more projects to achieve recognition, such as Arijit Bose's, which is highlighted in this issue.

On the education front, we have had several outstanding educational projects reach conclusion. The continuation of our exchange program with University of Puerto Rico-Mayagüez is described in this issue. Richard Sheridan and his student Benjamin Morton have had a second paper accepted for presentation as a result of the URITC grant which supported a transportation initiative in Professor Sheridan's design studio course. Richard and Ben will be making a presentation at the annual meeting of Council of Educators in Landscape Architecture. The title of their talk is "Transcending Public Workshops and the Traditional Service Learning Mode: Collaborative Teaching Methodology for Large Scale Projects Involving Landscape Architecture Students, Faculty and Professionals."

In the College of Business Administration, the new supply chain management major has had its first graduates and they are off on stellar career trajectories. Though still few in number, these graduates have taken jobs with organizations such as Raytheon, CVS/Caremark and Natick Labs, all at extremely competitive salaries.



Deborah Rosen,
Executive Director

In outreach, our staff continues to shine. In partnership with the Rhode Island Department of Transportation, our staff, led by Jeffrey Cathcart and URI faculty Vinka Craver and James Kroes, are developing new workforce development efforts. These summer offerings are described in this issue.

Finally, our annual transportation breakfast, was a resounding success as you will read in one of the articles. These events would not be possible without the incredible support of the URITC staff, particularly Jerri Paquin, Tory Perrotta, Nancy Murphy, Neil Nachbar and John Peterson. All of their behind the scenes efforts pay off in seamlessly run events.



A group of middle school students make their final preparations before competing in URITC's Robotics Challenge, held in May at URI. See story and photos on page 4.

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RESEARCHER PROFILE

DR. CHRISTOPHER HUNTER

Assistant Professor
Department of Civil and Environmental Engineering

As a scholar, teacher, advisor, mentor and friend, Dr. Chris Hunter has been instrumental in recruiting minorities into the fields of science, technology and engineering. He also serves as a faculty advisor and mentor to the National Society of Black Engineers in an effort to ensure that those who are recruited are retained and graduated.



Dr. Hunter is a member of the Association of Faculty and Staff of Color, which works to ensure that the voices of faculty and staff of color are heard and respected regarding policies and initiatives important to the university.

Dr. Hunter is the co-chair of the Annual Black Scholar's Award Program, which rewards the achievements of outstanding Black Scholar's in academics, leadership and service to the community.

Dr. Hunter's URITC research projects include:

- Transportation System Research Program Development (initiated in 2007)
- Determining the Effectiveness of New Technology Data Collection Devices for Real-Time Transportation System Management (initiated in 2002)
- Investigation of Potential for Intermodalizing Paratransit in Rhode Island (initiated in 2001)

RESEARCHER AWARD

Dr. Arijit Bose and his doctoral student Jayashri Sarkar were recognized by URI on April 21 for the intellectual property "Highly Ordered TiO₂ & Pt/TiO₂ Nanocomposites for Advanced Catalytic Applications."

The property was a result of the research done on the "Synthesis of Nanocatalyst-Support Composites for Transportation Applications," which was initiated in 2005. The research was sponsored by the URITC and the Honda Research Institute.



Bose is a professor and the department chair of URI's chemical engineering in the College of Engineering,

GLOBAL U8 CONSORTIUM CONFERENCE

The URITC sponsored a conference held by the Global University Consortium, known as the GU8, from March 12 - 15. The conference was held at the University of Hawaii at Manoa. The GU8 is made up of 10 coastal universities. The four areas of focus for the GU8 are marine affairs, logistics, business administration and advanced technologies.

The theme of the conference was "Best Practices in Global Logistics, Security and IT Usage."

GU8 member institutions include:

- University of Rhode Island
- University of Haifa, Israel
- University of Washington
- INHA University, Korea

- University of Hawaii
- University of Le Havre, France
- University of Hull, England
- Xiamen University, China
- Meiji University, Japan
- RMIT University, Australia

Two of the presentations at the conference were given by URI professors. Professor Douglas Hales spoke about "Asia's Coastal Competitive Arc: Implications for Global Supply Chains." Professor Christopher Anderson gave his presentation on "Economic Tools for Understanding Port and Shipper Behavior."

The Chairman of the Council of Presidents of the GU8 is Dr. Robert Carothers, president of the University of Rhode Island.

NATIONAL TRANSPORTATION WEEK BREAKFAST

As part of National Transportation Week, the URITC sponsored the 8th annual National Transportation Week breakfast on May 15 at the Radisson Airport Hotel in Warwick. The topic of the breakfast was "Commuting in America – Transportation Matters."

This year's event attracted 124 members of the Rhode Island transportation community including leaders from the federal and state transportation agencies and transportation practitioners and engineers from private industries.

URI President, Dr. Robert Carothers, welcomed the group. Phillip Kydd, assistant director of the Rhode Island Department of Transportation (RIDOT), served as the master of ceremonies, and Michael Lewis, RIDOT director, highlighted the "State of Transportation" in Rhode Island. Deborah Rosen, Executive Director of the URI Transportation Center, gave the audience an update on URITC research and outreach conducted during the year.

The keynote speaker was Alan E. Pisarski, author of *Commuting in America III*. Pisarski spoke about the challenges



From left: Phillip Kydd, Assistant Director of the Rhode Island Department of Transportation; Barbara Petrarca, winner of the Innovators Award; and Robert Weygand, Vice President for Administration at the University of Rhode Island.

America will face with regards to commuting to work as our population and traffic flow increases, especially in urban areas. Among the challenges, according to Pisarski, will be maintaining and repairing aging highways and bridges.

The event concluded with the presentation of the 2007 FHWA Awards. The following is a list of winners.

Highway Safety Award

Colonel Richard Sullivan (Ret.)

Excellence Award

William Campos

Pioneering Award

Aetna Bridge Company

Pioneering Award

Gordon R. Archibald, Inc.

Pioneering Award

Rhamat Noorparvar, P.E.

Pioneering Award

Lambri Zerva, P.E.

Pioneering Award

William Carcieri, Jr.

Innovators Award

Barbara A. Petrarca



Keynote speaker author Alan E. Pisarski gave a very informative speech and fielded questions.



Colonel Richard Sullivan (Ret.)

LTAP REGIONAL MEETING

On April 8 & 9, the URITC hosted the 2008 Region One Local Technical Assistance Programs (LTAP) meeting at the Whispering Pines Conference Center on URI's W. Alton Jones campus.

Thirty people attended the meeting from Rhode Island, Massachusetts, Connecticut, New Hampshire, Vermont, Maine, New Jersey, New York, Virginia, Maryland and Washington D.C.

The following topics were discussed at the meeting:

Why We Do What We Do

- Baystate Roads Program customer needs survey

Where We Get Help to Do What We Do

- NLTAPA update
- LTAP Clearinghouse update

Feedback on What We Do

- FHWA update

Reporting on What We Do

- PAR & CAR data



Attendees of the 2008 Region One LTAP meeting held at URI's W. Alton Jones campus.

What Are You Doing?

- Centers reported on the good, bad and ugly of the last 12 months
- Break-out sessions

RHODE ISLAND CONSTRUCTION CAREER DAYS

For two days during National Transportation Week in mid-May the Rhode Island Department of Transportation's (RIDOT)

Coventry facility hosted Construction Career Days (CCD). The event was sponsored by RIDOT and the Federal Highway Administration.



Three students learn about pipefitting.

The eighth annual event welcomed more than 730 students from 45 Rhode Island high schools. After receiving a duffel bag with a CCD t-shirt, hardhat, work gloves, safety glasses and career information, students took turns operating construction equipment such as backhoes, excavators, pavers, jackhammers and bucket trucks. Inside the facility, there were a variety of booths and tables to showcase welding, plumbing, electrical, landscaping and other disciplines.

The goal of Construction Career Days is to expose high school students to the transportation trades industry, with the hope of attracting them to jobs in the field. Annually, there is a national need to fill 250,000 job openings in the construction industry.

STUDENT RESEARCH EXCHANGE INTERNSHIPS

Three students participated in internships at the University of Rhode Island this summer as part of a collaborative effort between the Dwight David Eisenhower Transportation Fellowship Program, the University of Puerto Rico-Mayagüez (UPRM) and the URITC.

Alvin Nieves, Adilson Alfaro and Juan Balbuena lived on the URI campus and worked directly for URI faculty members conducting URITC-sponsored research. The internships allowed the students to gain meaningful experience in ongoing transportation research programs and in RIDOT projects. The students also met federal and state transportation professionals.

Nieves' project was titled, "Studying the Vehicle Headway Issue and Its Impact on the Slowdown Effect." Alfaro's report was titled, "Analysis and Evaluation of Weight in Motion Data in Rhode Island." Balbuena analyzed "Multi-Sensor Vehicle Tracking."

The students thoroughly enjoyed their internships and their stay in Rhode Island.

"My experience at URI was excellent," said Nieves. "The people at URI helped us with all the things that we needed. I want to thank all the people that contributed to making our stay at URI a very pleasant and wonderful experience."

At the conclusion of the internships, the students presented their projects to representatives of the Rhode Island Department of Transportation, Federal Highway Administration, the Dwight David Eisenhower Transportation Fellowship Program, URI and the URITC.



From left: Alvin Nieves, Juan Balbuena and Adilson Alfaro following their presentations at URI.

The URI faculty, who served as mentors, were impressed with the work that was done by the UPRM students.

"I found Adilson to be determined, hard-working, and thorough with his work and analysis," said Mayrai Gindy, Ph.D., assistant professor of Civil and Environmental Engineering. "He grasped the overall concept of the project rather quickly and ran with the project tasks."

NATIONAL HIGHWAY INSTITUTE

The National Highway Institute (NHI) is a part of the Office of Professional and Corporate Development (OPCD) within the Federal Highway Administration (FHWA).

NHI's goals are to:

- Train the current and future transportation workforce
- Transfer knowledge quickly and effectively to and among transportation professionals
- Provide training that addresses the full life cycle of the highway transportation system

Because of the unique relationship the URI Transportation Center (URITC) has with the FHWA and the NHI, the URITC offered five professional development training sessions in the first half of 2008, at which more than 100 people

attended. The URITC/FHWA/NHI partnership is an important regional asset, affording quality continuing education to public and private transportation practitioners.

2008 NHI Training Sessions

Date	Workshop	Attendees
Feb. 12-14	LRFD for Highway Bridge Superstructures – Steel	23
March 4-7	LRFD for Highway Bridge Superstructures & Earth R.S.	21
March 26-27	Road Safety Audits/Assessments	24
May 1	Low Cost Safety Improvements Workshop	23
May 5-7	Managing Highway Contract Claims: Analysis and Avoidance	25

WORKFORCE DEVELOPMENT INITIATIVES

MIDDLE SCHOOL ROBOTICS CHALLENGE

On May 12, 15 teams from 12 Rhode Island middle schools competed in the 4th annual Robotics Challenge at URI, sponsored by the Rhode Island Department of Transportation (RIDOT), the Federal Highway Administration and the URITC.

Robots built by the student teams completed a challenge course consisting of commuting-themed transportation missions, such as moving disabled vehicles to a garage, delivering food to an airplane and picking up passengers at a bus stop. Teams were also required to enter a poster contest, in which they depicted transportation-related careers.



"Competitions such as these are great for getting young minds thinking about math, science and engineering," RIDOT Director Michael Lewis said. "These children represent our future and opportunities for hands-on learning are incredibly valuable."

Students were required to belong to an after-school robotics club. They used robotic kits based on Lego building bricks.

Participating robotics teams included:

- Alan Shawn Feinstein Middle School of Coventry;
- Archie Cole Middle School and our Lady of Mercy School, East Greenwich;



URI Ocean Engineering Professor Robert Tyce (right) points out the objectives of the Robotics Challenge to URI President Dr. Robert Carothers. Tyce served as the head judge.

- Barrington Middle School, Barrington;
- Birchwood Middle School and Ricci Middle School, North Providence;
- John F. Deering Middle School, West Warwick
- Martin Middle School and Riverside Middle School, East Providence;
- Parkview Middle School and Bain Middle School, Cranston;
- Perry Middle School, Providence; and
- Winman Junior High School, Warwick

SMILE MIDDLE SCHOOL ENGINEERING CHALLENGE

Middle school students involved in the Science and Math Investigative Learning Experiences (SMILE) from Central Falls, East Providence, South Kingstown, West Warwick and Woonsocket came to the URI campus in March to compete in SMILE's annual Engineering Challenge.

Applying their knowledge of bridge designs and the compression and tension forces that act on a bridge, the middle school students worked with college students in science and engineering and other majors to construct the strongest and most efficient model bridge they could build.



The students were taught how to use the West Point Bridge De-

signer software to design and test a truss bridge. Afterwards, they drew a full size template of their bridge, with the correct geometry, component lengths, and distance of the joints. Given a budget and cost of materials, students determined the cost of their bridge and modified their design to meet specifications if necessary.

Construction equipment included bamboo chopsticks, glue guns, cardboard, straws and ratchet action pruning shears. They kept track of expenditures for additional supplies and their returns on the inventory list. An accurate account of team expenses was handed in at the end of the Challenge.

Once the model was built, students weighed their bridge and then attached it to a testing mechanism: a bucket attached to a bolt inserted in a wood plank sitting on the road bed. Weights were added to the bucket until the bridge collapsed. The students determined the bridge efficiency, the mathematical ratio of the weight held by the bridge to its own weight. The greatest load a bridge held was 77 pounds.

WORKFORCE DEVELOPMENT INITIATIVES

ENGINEERING CAREER DAY

On May 13, the field of Transportation Engineering was introduced to 95 students from nine Rhode Island high school programs at Engineering Career Day.

Hosted by the University of Rhode Island's College of Engineering, the students listened to presentations and participated in hands-on activities conducted by URI professors and industry professionals.

Career Day consisted of four learning labs: bridge and geotechnical engineering; highway and traffic engineering; surveys and geographic information systems (GIS); and storm water management, hazardous materials, environmental planning.

Engineering Career Day was sponsored by the URITC, the Rhode Island Department of Transportation (RIDOT), the Rhode Island Consulting Engineers (RICE), University of Rhode Island, College of Engineering and the Federal Highway Administration (FHWA).

The students came from Cranston East High School, Central



Brad Nicoll of The Maguire Group teaches a student how to use engineering software that is utilized to design bridges.

Falls High School, East Bay Met School, E-Cubed Academy High School, GAP Program/Talent Development, The College Crusade of Rhode Island, The Met Center and Times 2 Academy. Fifteen teachers accompanied the students.

UPCOMING SUMMER WORKFORCE DEVELOPMENT INITIATIVES

Summer Transportation Institute

Middle school students will interact with transportation professionals via classroom instruction, guest speakers, field trips and hands-on projects. Activities will include:

- introduction to bridges by a R.I. Department of Transportation bridge engineer
- introduction to engineering careers by a City of Providence and a RIDOT engineer
- computer bridge building contest
- balsa wood bridge building contest
- safety sessions at the Historic Kingston Railway Station
- writing in daily journals
- work zone safety sessions
- tour of T.F. Green Airfield
- tour of Narragansett Bay

Construction Academy

The curriculum for high school juniors and seniors will include:

- OSHA 10-hour certification
- flag person certification
- work zone safety
- hands-on activities at the Operating Engineers Center
- blueprint reading

- estimating
- construction math
- surveying and layout

Engineering Academy

High school freshmen, sophomores and juniors will learn about:

- highway design
- bridge design
- traffic engineering
- water resources
- environmental engineering
- geographic information systems
- geotechnical engineering
- reading a scale
- blueprint reading
- preparing an estimate
- surveying and layout

Business Academy

High school freshmen, sophomores and juniors will get a taste of managing a company's supply chain, including planning, purchasing, production, transportation, storage and distribution and customer service.

EXECUTIVE BOARD

The URITC Executive Board is composed of the principal University and public sector stakeholders.

The group provides advice to the President of the University of Rhode Island and to the URITC Executive Director in terms of the goals and overall objectives of the Center's programs.

Robert Weygand, Chair

URI Vice President, Administration

Michael Lewis

Director, Rhode Island Department of Transportation

Peter Osborn

Division Administrator, Rhode Island Div. FHWA

Mark M. Higgins

Dean, URI College of Business Administration

Phillip Kydd

Assistant Director, R.I. Department of Transportation

Raymond Wright

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Jared Rhodes

Chief, Rhode Island Statewide Planning Program

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