

## Steel Bridge Team Excels at 2013 Nationals

The Steel Bridge Team took **first place in stiffness** at the 2013 National Steel Bridge Building Contest, which is awarded to the bridge with the lowest deflection.

Deflection is the sag or stretch of a bridge under the weight of a load, which in this contest, was 2,500 pounds. The NJIT bridge deflected the least of all the bridges in the contest. It was the first time an NJIT team took first place in a category during the National Contest, which was held May 30 - June 1 at the University of Washington in Seattle.

The team placed 12th overall, which was also the highest ranking ever by the team. A total of 214 teams entered this year's regional competitions, with 49 teams competing at nationals.

"With this achievement, NJIT has earned a rightful place among the very top tier of civil engineering programs in the country," said John Schuring, a professor of civil engineering who for decades has advised the steel bridge teams.

The team's success is testimony to the excellence of its bridge design, which is a cantilevered, split-scissors deck truss with a haunched support, added Schuring.

He noted also that the team assembled the bridge at nationals in 8:47, which was the fastest time they recorded this year.

Usually when a team builds that fast, they accrue penalties for dropping bolts and other mishaps. But this team achieved that time with no penalties, another first for NJIT.

"Without a doubt our Steel Bridge Team continues an upward trajectory," said Schuring. "Our team members also had ample opportunity to meet hundreds of students from other top engineering schools across the U.S. In the end, just being invited to the national bridge contest is a reward in itself. It allowed our students to experience the most exciting civil engineering contest in the country."

**NJIT will host the 2014 Regional Competition on April 26th from 9am-6pm so we welcome alumni to come and cheer them on!**

*By Robert Florida, University Communications*



# CONCRETE CANOE WINS REGIONALS FOR SECOND YEAR IN A ROW – COMPETES AT NATIONALS IN ILLINOIS



design of the canoe, a presentation about their design, and a display of the canoe's mold. The races amounted to 25 points, with the three other categories accounting for 75 points.

In April, under a hot sun, NJIT's Concrete Canoe Team won first place in the regional contest held at Cook's Pond, in Denville which secured them a spot at nationals. In June they travelled to the University of Illinois at Urbana-Champaign to compete against all the regional winners.



would crack. So they designed a prototype canoe in fiber-glass, a light boat that was easy to transport and wouldn't crack. And for two months, on weekend days, the students strapped that canoe to a car and drove to Cook's pond, where they practiced rowing. They learned to negotiate turns, how to steady the canoe in the wind, and how to sprint. They became stronger rowers and they grew into something more than a team.

The team of 30 students is made up of lower and upper classmen, with upperclassmen mentoring the younger students. That's what gives the team continuity and success. Some of the seniors who mentored have graduated while the next set of Captains have planned next year's canoe to be stronger and lighter and faster than this year's.



Beginning in August 2012, the team designed, fabricated and built a 250-pound canoe. They used a mix of special mix concrete dictated by ASCE specifications. The trick was to build a boat that not only met specs and could stay afloat but was also fast. Each team had to race its canoe in five heats: NJIT took second place overall. They also took first in the men's sprint, second in the men's slalom, where they had to negotiate five buoys, and second in the women's slalom. The women also took third in the sprint. The races accounted for 25 percent of the judging. The other three categories were a research paper outlining their



"Our team worked to assure that our boat was fast and maneuverable in the water and that it was well engineered," said Eric Miranda, a co-captain of the team. "This is the day we've working toward, and waiting for; and to come out with a win is pure joy."

The team designed a semi-round bottom that gave the canoe speed without sacrificing stability. The canoe was also longer and sleeker. But what gave NJIT the edge was its dedication: The team couldn't practice rowing with the concrete canoe; there's always a risk it



At Nationals, the competition was intense and those students who attended immediately realized how fortunate they were to be a part of it. They placed 15th out of 23 teams.

This year's team has already poured their canoe for the 2014 competition and look forward to making it to the National Competition again, if all goes well at Regionals first!

**2014 Regionals are being held of Sunday, April 27 at Cook's Pond.**

*By Robert Florida, University Communications*

## MESSAGE FROM OUR CHAIRMAN

**Taha F. Marhaba, PhD PE**



While our nation is facing unprecedented economic, technological, political, cultural and infrastructure challenges, the students, staff, faculty, alumni and advisory board members of the Civil Environmental Engineering Department have been busy refining and implementing strategic initiatives that are placing our department and NJIT on the world map.

Our department has been growing. We now have about 550 undergraduate students, about 280 graduate students, 25 tenured/tenure track faculty and 2 university lecturers. Our faculty and staff continue to refine civil and environmental engineering education practices, and are well ahead of the curve in implementing improvements in the engineering curriculum and instruction. One of the most important and urgent aspects of these improvements is embedding the latest technology in the curriculum and building the skills needed for the future diverse civil engineering leaders. We've seen our graduates succeed as planners, builders, innovators, political and community leaders, and managers. We are working hard to prepare our current students for these careers and maintain the level of success our alumni has accomplished in the past.

Our online MSCE program has been growing, expanding the number of offered specializations. It is also bringing increasing revenue which helps us advance our mission. Knowing that the global economy has increasingly been relying on technological innovation to drive the growth, our faculty and staff continue to make exciting and significant contributions to the three strategic interdisciplinary research and technological thrust areas: *Resilient Infrastructure Systems*, *Sustainable Environment Systems*, and *Intelligent Transportation Systems*. To this end, we expanded our academic, research and outreach programs on the national and international level. Through these programs we were able to increase scholarships to doctoral students, increase diversity, and enhance impactful research and innovation. Last year, we expanded our strategic partnerships and collaboration with neighboring universities and research centers, including Rutgers University and City College of New York. These partnerships will open new opportunities for our faculty and students to engage in research and scholarly activities. Through these partnerships, we were awarded membership in two federally-funded transportation research consortia, each receiving \$3.5 million grant: National University Transportation Center (lead by Rutgers University's Center for Advanced Infrastructure and Transportation (CAIT)), and Regional University Transportation Research Center at City College of New York (Region 2). Thanks to the hard work of our faculty, staff and students, I have seen external research funding increase by over 400% during my tenure as chairman, making all-time highs in research expenditure, and taking a larger share of the overall NCE and Institute research expenditures. We have every intention of continuing on this path by implementing our strategic and hiring plans and recruiting the best and brightest to join our ranks.

We have recently gone through another ABET reaccreditation visit in Fall 2013 and I am confidently expecting a full 6-year reaccreditation term once the commission meets this summer. Our continuous improvement is paying the dividends, making it more feasible to achieve our goals as a leading civil engineering department in the region.

We are very proud of our students and all of their activities in the ASCE, AWWA, EWB, ITS, WTS, ITE, Chi-Epsilon and SPE student chapters housed in our department. In 2013, our ASCE Steel Bridge Team, under the guidance of faculty advisor Prof. John Schuring, again ranked 1<sup>st</sup> in the regional competition. In this feat our team outperformed ten engineering schools including Columbia, Cooper Union, Rutgers, Rowan, NYU-Poly, Stevens, and the College of New Jersey. At the national competition, our Steel Bridge Team took 1<sup>st</sup> place in stiffness, and ranked 12<sup>th</sup> overall among 214 teams! Our Concrete Canoe Team, also under the guidance of faculty advisor Prof. John Schuring, ranked 1<sup>st</sup> in the regional competition. This year, we will be hosting the regional steel bridge competition on NJIT campus, on April 26<sup>th</sup> from 9am-6pm. I invite you all to attend the competition event and give support to student teams in their quest for the best steel bridge design.

We have recently honored an outstanding friend and supporter, John A. Reif, Jr. and renamed our department, the John A. Reif, Jr. Department of Civil and Environmental Engineering. John A. Reif, Jr. was a Newark native and a graduate of East Side High School. He earned a degree in civil engineering from NCE in 1952. He established a family endowed scholarship gift that will support NCE students graduating from a Newark high school or a New Jersey inner-city high school, and who demonstrated financial need. This and other endowments we have received to date are allowing us to help and recognize outstanding students in civil and environmental engineering.

As always, I sincerely appreciate and welcome your support of our Department's academic and community service programs and initiatives. I would also like to extend the invitation to all of you to attend our Department Graduation and Awards Ceremony, which will be held on May 20<sup>th</sup> at NJIT. Please RSVP to [cee@njit.edu](mailto:cee@njit.edu).

Sincerely,

A handwritten signature in cursive script, reading "Taha Marhaba".

## Department Undergoes Name Change Thanks to a Generous Donation from the Reif Family Endowed Scholarship



The Department of Civil and Environmental Engineering has been renamed the John A. Reif, Jr. Department of Civil and Environmental Engineering.

John A. Reif, Jr. was a Newark native and a graduate of East Side High School who earned a bachelors degree in civil engineering from Newark College of Engineering in 1952. He had a long and successful career at Schering-Plough Corporation in Kenilworth, NJ, first as senior project manager and later as a principal project engineer.

He established a legacy at NJIT in the form of the Reif Family Endowed Scholarship in memory of Mr. and Mrs. John A. Reif, Charles W. Reif, and John A. Reif, Jr. The scholarship gift supports CEE students who are graduates of a Newark high school or a New Jersey inner-city high school who demonstrate financial need.

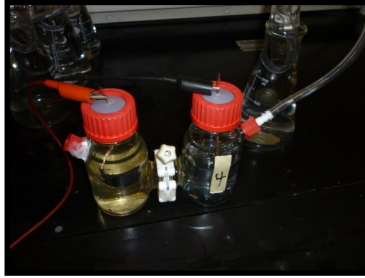
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## Asim Zaman Performs Undergraduate Research and Serves as Project Leader for EnSYR (Energy Supply for your Resource)

Today's energy is majorly dependent on nonrenewable resources such as coal, oil and natural gas, all of which have negative environmental and financial impacts on today's society.

Therefore, the need for alternative energy sources that can cleanly produce power, at no expense to the environment, is critical. By utilizing the emerging technology of Microbial Electrolysis cells, research is being conducted by Asim Zaman, an undergraduate student in the BSCE program supervised by Prof. Taha Marhaba, to utilize bacteria found in nature to harness hydrogen in industry specific waste water.

In this research waste water has been analyzed and prototype systems are being created to judge the power potential held within industrial effluent.



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## Masroor Khan Performed Undergraduate Research on Long-Term Maintenance of Culverts



Masroor Khan, an undergraduate student in the BSCE student, worked as a research assistant for Professor Jay Meegoda. The objective of her research, was to develop an approach to optimize time and allocate funds to rehabilitate or replace culvert pipes and to estimate the minimum annual budget. The Drainage Identification Analysis and Mapping System (DIAMS) program was developed to evaluate these underground infrastructures such as culvert pipes.

With this program, she was able to determine the financial aspects of this project which ranged from estimating costs of various underground pipe networks to user costs in order to determine the annual budget. Masroor presented her summer research at the 2013 Dana Knox Research Showcase in April 2013.

## COMPUTER LAB GIVEN A MUCH NEEDED UPGRADE



When students returned in September 2013, they were excited to see the many changes that occurred in the Department's Computer Lab. Not only did it receive a cosmetic makeover with a new floor, desks, chairs and red accent walls, but 100 new computers as well!

A new state of the art plotter was added to ease the burden of the current plotter during those busy times when projects are due. There were also three laser printers that are exclusively for lab use.

A new lounge area was also added where students could relax and socialize. We wanted to create a place where the students felt comfortable and knew it was designed for them. Many times in the semester, the lab is at full capacity when design projects are due and we wanted to provide a place where they could work and accomplish their projects with no worry. All the computers are imaged with all the programs that are utilized in the CEE undergraduate and graduate programs, and are a major improvement from the previous computers that the lab had.

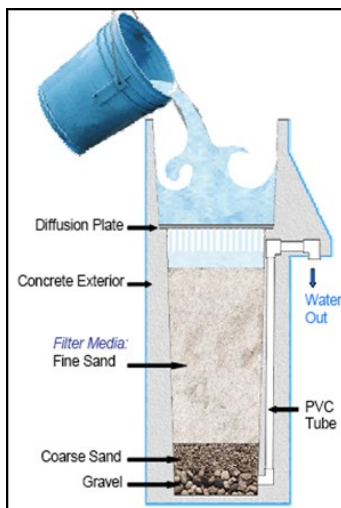


## OUTREACH GRANT AWARDED TO DESIGN AND BUILD BIO-SAND FILTERS IN THE VILLAGE OF MILOT, HAITI

Last year, as part of outreach activities, NJIT was awarded \$25,000 by the Aqua Fund to construct 570 bio-sand filters over a two year period in Milot, Haiti. Over the past year NJIT implemented the project. And in late May, the NJIT team, headed by EWB Student Chapter Advisor, Prof. Jay Meegoda, was able to visit Milot Haiti and has worked very hard to achieve substantial progress.

As of today, a filter manufacturing facility was retrofitted to build the needed filters with the NJIT design. A total of 121 filters were fabricated to date. Out of those 121 filters, 90 were delivered to houses and 69 filters were installed, certified and are currently being used.

The remaining bio-sand filters for individual houses will be installed and certified for use shortly. Now that the team has developed a system to monitor the filter production, they are quite confident of the delivery of approximately 500 bio-sand filters to the village.



Seventy five percent of the Haitian population does not have running water and must get water from unsanitary locations. Poor quality drinking water is responsible for many avoidable cases of water borne illnesses ranging from upset stomachs, diarrhea, dysentery, cholera, and typhoid. The distribution of bio-sand water filtering systems financed by the Aqua Fund to families in Milot Haiti is alleviating the rate of such sickness.

NJIT's efforts are expected to lessen the impact of medical problems associated with waterborne diseases in Haiti. Further, such efforts provide valuable jobs for those who are making a living by providing sustainable water treatment technology to their neighbors. This also represents a financial savings for families, as they no longer need to buy water. The impacts of this technology are beginning to be felt by neighboring communities, as well.

# NJ DEPARTMENT OF ENVIRONMENTAL PROTECTION AWARDS GRANT TO CEE IN RESPONSE TO HURRICANE SANDY

*By Robert Florida, University Communications*



The New Jersey Department of Environmental Protection (NJDEP) has awarded NJIT, specifically the Civil and Environmental Engineering Department, a grant to investigate alternative measures for flood mitigation in the Hackensack/Moonachie/Little Ferry area. The effort will enhance rather than duplicate any on-going efforts by the US Army Corps of Engineers and other organizations. NJIT's newest center, the Flood Mitigation Engineering Resource Center will handle the work.

"This is an important preventative project for New Jersey," said co-principal investigator Taha Marhaba, PhD, P.E., chair of the Department of Civil and Environmental Engineering. "Our objective as a NJIT team of interdisciplinary experts is to help the State of New Jersey to develop the best

solutions to protect its citizens from future floods through innovative engineering measures that are doable, beneficial, resilient and sustainable."

Infrastructure engineer and co-principal investigator Fadi Karaa, PhD, noted that the area, which involves New Jersey's Meadowlands, which is less than two feet above sea level has always been on an environmental watch list in part due to its location and inherent vulnerability to flooding. Additionally, not unlike much of the nation's infrastructure, its flood protection structures and flood mitigation assets need significant improvement, rehabilitation and reconstruction, as part of a multi-hazard multi-faceted comprehensive strategy. This strategy, which aims to make the communities safer and more resilient, will be derived from evaluating exposure to all flood hazards, including historical storms and a possible dam break, and recommending the most cost-effective portfolio of flood mitigation measures.

The six-month project involves assessment of the flood impacts and evaluate a range of capital improvements, maintenance and operations and regulatory measures, including structural and non-structural engineering alternatives, zoning, code and system design and redundancy measures. The evaluation will also include hydraulic modeling, environmental, risk and socio-economic impacts, including estimated costs.

In its data collection, model development, infrastructure analysis and strategy development efforts, NJIT is interfacing with the US Army Corps of Engineers North Atlantic Division, and a range of state, regional and local organizations such as the Meadowlands Environmental Research Institute and local municipalities. As part of the storm modeling and hydraulic analysis, NJIT is partnering with the National Center for Computational Hydroscience and Engineering at the University of Mississippi, an internationally renowned center for flood simulation and hydrodynamics.

The NJIT team brings together a unique team to help solve the listed problems through best practices, new creative solutions and not reinventing the wheel, added Marhaba. "NJIT, the state's premier technological institution, is committed to the state's needs, and in protecting public and environmental health while fostering economic development.

"Many people are not aware of this, but NJIT is responsible for generating a quarter of the professional engineers in the State of New Jersey. NJIT's Newark College of Engineering (NCE) has been one of the early innovators in engineering education and research and has gained a national reputation for graduating pioneers and leaders in various engineering fields.

The majority of the faculty members in the department of civil and environmental engineering, the largest department of its kind in the state, are licensed professional engineers by the State of New Jersey and collectively have had a leadership role in numerous projects funded by the National Science Foundation, US Department of Transportation, US Environmental Protection Agency, NJ Department of Transportation (NJDOT), and NJDEP among others.

Continued on next page

Their expertise in design and engineering is well known, and encompasses structural, geotechnical, environmental, hydrologic, hydraulic, transportation, critical infrastructure systems, and geographical information systems (GIS)/remote sensing. Many have worked with the local communities to service and advance their well-being. The NJIT team is committed to working with the NJDEP to provide the optimal solutions in support of the state's strategic plan.

The Center for Natural Resources Development and Protection, here at NJIT, also received funding from the DEP to review all of the proposed engineering solutions to flooding to assure that the solutions don't harm natural resources such as wetlands, mudflats, sea grass meadows, shell-fish beds and other habitats.

"We will help the state create solutions that balance ecology and economy," says Michel Boufadel, a professor of civil and environmental engineering who directs the center. "We'll also prepare ecosystem inventories for the state and recommend the use of green infrastructure to protect natural resources."

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## **NEW FACULTY HIRE—JOYOUNG LEE**

Dr. Joyoung Lee was hired this academic year as an Assistant Professor. Before he joined NJIT, he served as laboratory manager in the Federal Highway Administration (FHWA) Saxton Transportation Operations Laboratory (STOL) at the Turner-Fairbank Highway Research Center.

Dr. Lee received his Doctoral degree from the University of Virginia in 2010. Dr. Lee's major research interest lies in Connected Vehicle (CV) and its applications to (1) traffic management, i.e. CV-based route guidance system; (2) traffic signal controls, i.e., CV-based real-time intersection control; and (3) cooperative vehicle intersection control (CVIC) for autonomous cars.



Dr. Lee has authored and co-authored 30 peer-reviewed journal and conference proceeding papers since 2008. Dr. Lee received the best paper awards at the 14th and 10th PTV VISSIM/VISSUM User Group Meetings in 2012 and 2008 and Excellence in Research Award from the Department of Civil and Environmental Engineering at University of Virginia in 2011. We welcome him to the Department!

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## **DEPARTMENT OVERHAULS CE 260— CIVIL ENGINEERING METHODS**

The Civil Engineering Methods course (CE 260) has undergone a complete overhaul in 2013, led by our newest University Lecturer, Prof. Stephanie Santos.

In keeping up with the demands of our student's employers and the industry standards, the Department decided to incorporate Building Information Modeling (BIM) into the curriculum. CE 260 introduces students to BIM by exposing them to Autodesk AutoCAD Civil 3D, and Revit. These two programs allow students to explore the world of design in a 3D environment. As a midterm project, students are required to design their "dream home" in Revit while following basic requirements and guidelines. The rest is their imagination and the course has produced some very unique and creative end results.

Revit also allows students to explore with different materials of structural design with concrete, steel, and reinforcement. Through AutoCAD Civil 3D, land development is explored with roadway and pipe network design. As a way to bring social media into the classroom, students have been asked to use Instagram to upload pictures of construction activities they see in their everyday lives with a caption of #njitbim which allows these images to be searchable.

During class they discuss the pictures recently uploaded which provide a unique forum for students to be able to ask questions and learn concepts unfamiliar to them. The new CE 260 exposes students to design programs that will be used in their future careers and gives them the upper hand in competing for internships by having a background in BIM.

## PhD Transportation Graduate Named Student of the Year by Center for Advanced Infrastructure and Transportation *Patricia Di Joseph*



Patricia Di Joseph, who recently earned a Ph.D. in transportation from NJIT, was named Student of the Year by the Center for Advanced Infrastructure and Transportation, a research center supported by the U.S. Department of Transportation.

The Department of Civil and Environmental Engineering nominated Di Joseph for the award, given her high academic stranding – she graduated this past summer with a 4.0 grade point average – and her research in designing intelligent transportation systems.

Di Joseph's research focused on providing real-time travel data to freeway users. State transportation agencies embed vehicle-detection sensors on the shoulders of many freeways. These sensors gather travel-time data and can also detect traffic congestion. The data are then disseminated to vehicles approaching the freeway so that their occupants can make informed travel decisions. The accuracy of the information, however, is dependent on the traffic conditions as well as the number of sensors placed on the freeway. Di Joseph developed a mathematical model of the relationship between the accuracy of the data and the variables affecting it.

As a result of her research, departments of transportation and other policy makers can perform cost-benefit analyses on the optimal number of sensors to deploy.

This is not the first time that Di Joseph has won a major award. Earlier this year, she received the 2013 Doctoral Excellence Award from the Civil and Environmental Engineering Department at NJIT. And in 2011, she won the Louis J. Pignataro Transportation Engineering Education Award from the Institute of Transportation Engineers Metropolitan Section of New York and New Jersey.

She is now working as a research physical scientist for the United States Army Corps of Engineers. "I intend to continue my research while working for the Army Corps, which I'm really excited about since they work on major infrastructure and transportation projects all over America," said Di Joseph. "And I never would have gotten this great job without NJIT and the Interdisciplinary Program in Transportation, whose great professors guided me in fulfilling my potential."

*By Robert Florida, University Communications*



## MSCE ONLINE Introduces Third Specialization in Structural Design and Construction

Three years ago the CEE Department launched the **MS Civil Engineering Online Program**. As the program grew and we received feedback from current and potential students, we realized that we needed to develop a specialization in the Structures area. We launched the **Structural Design and Construction** program this summer with the first offering of **Prestressed Concrete Design and Stability of Structures** in Fall 2013. **Short Span Bridge Design** is the third structural course in the program and will run in Spring 2014. This specialization was created as a way for civil engineers to gain a greater knowledge of construction and structural engineering, including the planning and management of infrastructure projects. As more courses are able to be converted to an online format, the options for coursework will grow as well.

While we have many students in our online program from all around the United States, we do have many local students who are NJIT graduates. They find with their busy work schedules and travel, taking an online masters program is a great option for them to still earn a degree while not needing to come to Newark for face to face courses.

For more information go to: <http://civilengineeringmasters.njit.edu/>

# **SALUTE TO ENGINEERING EXCELLENCE AWARDEES**

## **2013 AWARDS**

**CEE Department Outstanding Senior and  
Overall NCE Outstanding Senior Award:**  
*William Pennock*

**NCE Outstanding Graduate Student Award:**  
*Yazdan Majdi*

**Saul K. Fenster Innovation in  
Engineering Design Award:**  
*CE Design II Team— Use of REVIT*  
*Ricardo Esteves, Lewis Maldonado, Michael  
Rovinsky, Daniel Snyder*

**Saul K. Fenster Innovation in Engineering  
Education Award:**  
*Geraldine Milano*

## **2014 AWARDS**

**CEE Department Outstanding Senior and  
Overall NCE Outstanding Senior Award:**  
*Pedro Santos*

**Excellence in Teaching Award:**  
*Fadi Karaa*

**Outstanding Support Staff Award:**  
*Dallas Link*

**Outstanding Student Organization Award:**  
*American Society of  
Civil Engineers (ASCE)*

## **2013 GRADUATE WINS SCHOLARSHIP TO CORNELL UNIVERSITY**

William Pennock visited Milot, Haiti several times as a member of Engineers Without Borders. He's helping Milot get clean drinking water and sanitary toilets. The students in the campus club designed a biofilter that removes pathogens from drinking water; they also designed eco-latrines that keep waste out of the ground water. They have visited Milot often to help the locals install the filters and latrines.

William, who graduated in May 2013, at the top of his class, intends to dedicate his life to help other communities in developing countries improve their water treatment systems. Last summer, he worked as a community development intern in Quito, Ecuador, where he upgraded the city's water systems. He also helped design and build a piping system in an Ecuadorian village outside of Quito, allowing the locals to get water from the Andes Mountains.



Excellence is a word that aptly describes William. Academically he ranked first in his senior class with a 4.0 GPA. He recently received a full scholarship to do an MS/Ph.D. at Cornell University's School of Environmental Engineering. He'll focus aptly on water quality, and be part of Cornell's prestigious Agua Clara program, in which students and professors design clean water systems for communities in developing countries.

*By Robert Florida, University Communications*

## **2014 GRADUATE WINS OVERALL NCE AWARD AT SALUTE**



Pedro Santos is not innately intelligent, he says. Rather, he considers himself a hard worker. If any one characteristic sets him apart from his peers it's hard work, an ethic he inherited from his parents. "My parents immigrated from Portugal and both worked hard in America to buy a nice house in a nice suburb," says Pedro, a senior who is soft-spoken, humble and quick to smile. "My father is a diesel mechanic and my mother works cleaning houses. We are a really close family. I saw how hard they worked and knew I had to work just as hard on my studies."

Pedro's studiousness is beginning to bear fruit. NCE recently named him the Outstanding Senior of the Year, as well as the Outstanding Senior in Civil and Environmental Engineering. Academically, he has a 4.0 GPA and is ranked first in his class. He holds seven scholarships and belongs to four honor societies. He attends the Albert Dorman Honors College and worked as an NJIT tutor for two years, where he helped hundreds of students improve in chemistry, physics and statistics.

Though he majors in engineering, he has a minor in business, and belongs to a student team that competed in a recent Global Investment Research Challenge. The team had to develop a report for a stock recommendation and present it before a panel of Wall Street experts. He was the only engineering student chosen by the School of Management to participate in the contest. This past summer, he also worked as a summer intern at Langan Engineering and Environmental Services.

*By Robert Florida, University Communications*

## 2013 CEE EXCELLENCE AWARD RECIPIENTS

The CEE Department held its Fourth Annual Graduation Celebration and Awards Ceremony on May 20, 2013. We honored all the 2013 department graduates and presented the Annual CEE Awards to students and alumni. This year's recipients were:

### FIRST YEAR STUDENT

#### EXCELLENCE AWARD:

**Andrew Margiotta**



### SOPHOMORE

#### EXCELLENCE AWARD:

**Anthony Calvano**



### JUNIOR

#### EXCELLENCE AWARD:

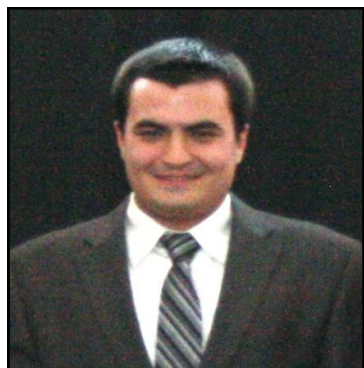
**Pedro Santos**



### SENIOR

#### EXCELLENCE AWARD:

**Christopher Vander Fliet**



### MASTERS

#### EXCELLENCE AWARD:

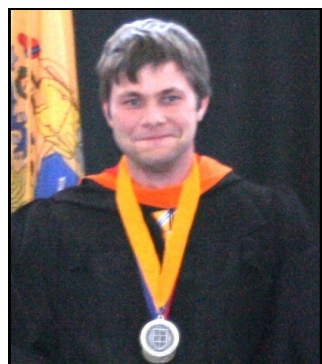
**Jesse Horsford**



### DOCTORAL

#### EXCELLENCE AWARD:

**Patricia DiJoseph**



#### OVERALL EXCELLENCE:

**William Pennock**



#### STUDENT LEADERSHIP AWARDS:

**Tom Woloszyn**

**Eric Miranda**

**John Lynch**

## DISTINGUISHED ALUMNI AWARD—DENNIS MOTIANI



Dennis Motiani was awarded the Distinguished Alumni Award at our Annual Excellence Awards. He is the Assistant Commissioner, Transportation Systems Management for NJDOT. Dennis is responsible for ensuring safe and reliable travel for people and goods on New Jersey's highway system through the oversight and management of a 24/7 statewide operation broken down into two sections - the Division of Traffic Operations and the Bureau of Mobility and Systems Engineering. In cooperation with the New Jersey State Police, Dennis oversees the Statewide Incident Management Program and traffic coordination for special events such as the upcoming 2014 Super Bowl and Formula One Race.

Dennis also continues to lead New Jersey into the forefront of technology nationwide through the administration of programs such as advanced traffic signal systems, active traffic management systems and other systems operations strategies that enhance mobility throughout the state.

Dennis began his career with NJDOT in 1990 as a Traffic Engineer for the Bureau of Traffic Engineering and Investigations. Prior to joining NJDOT, he worked for the New York City's Transit Authority in Brooklyn.

In addition to being selected as a member of the Strategic Highway Research Program's Technical Coordinating Committee for Reliability, Dennis is also a member of the Transportation Research Board's Work Zone Traffic Control Committee, the American Association of State Highway and Transportation Officials Subcommittee on Systems Operation and Management and the Intelligent Transportation Society (ITS) of America's Policy and Business Council. He also represents NJDOT as Chairman of ITS-NJ.

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## FACULTY RETIREMENTS



Professor **Raj Khara** retired in July 2013 after 47 years of service. In 2005, Khara received the Saul K. Fenster Innovation in Engineering Education Award, which is given to a professor whose creative teaching has had a positive, life-long impact on students. Because of his theoretical background and his expertise in applied engineering projects, Khara has stayed well ahead of the curve. His progressive thinking is demonstrated in his textbook, and in his ability to develop and teach new courses based upon state-of-the-art theory and practical experience in geotechnical engineering, and in his early and continued use in his classes of computer applications. Upon his retirement, the honorary title of Professor Emeritus was bestowed upon Prof. Khara, a designation of a distinguished career at NJIT.



Professor **Dorairaja Raghu** retired in December 2013 after 36 years of service. He has had extensive professional, consulting, academic, and experience. His areas of research have been in geotechnical and geotechnical engineering, having obtained several research grants and had several publications to his credit. He was declared "Engineer of the Year" in 1990 by the North Jersey Branch of the ASCE. Recently he won the Robert Van Houten Award for Teaching Excellence at NJIT. He has been a licensed Professional Engineer in the State of New Jersey since 1979 and has been very active with the National Society of Professional Engineers. Upon his retirement, the honorary title of Professor Emeritus was bestowed upon Prof. Raghu, a designation of a distinguished career at NJIT.



Professor **Harold Deutschman** retired in December 2013 after 45 years of service. During his tenure, Dr. Deutschman did research in the area of transportation systems. He also was a part of the pre-college programs here at NJIT, mentoring students to enter college and pursue STEM careers. In 1999 he received the prestigious White House Award for Mentoring Minorities to Careers in Engineering, presented by President Clinton.

## CEE STUDENTS AWARDED CIF AND MOLES SCHOLARSHIPS

***Concrete Industry Foundation  
The Gustav Erlemann Scholarship***

Pedro Santos

***The MOLES Scholarship***

Pedro Santos  
Silvia Santos

***MOLES Arline F. Gallagher  
Memorial Scholarship***

Stan Agradnov  
Edwin Puma

***MOLES Student Award***

William Zimmermann



## 2013 NJIT ENDOWED SCHOLARSHIP RECIPIENTS

***Donald R. Hunter Memorial  
Scholarship***

Ara Ghariban

***Jenny Endowed Scholarship***

Sally Peterson

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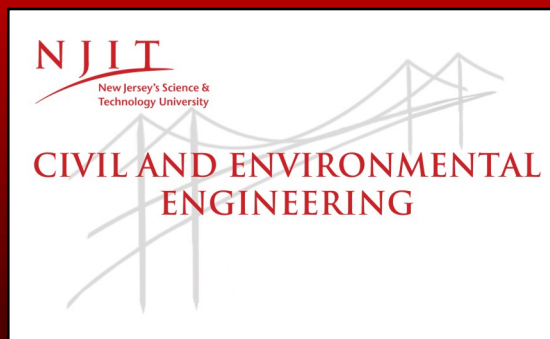
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## HIGHLIGHTS FROM 2013 COMMENCEMENT...



## ... AND THE 2013 CEE AWARDS CELEBRATION HELD IN THE ATRIUM



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