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North Texas Engineer

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Work Completed on New Lab

The completion of the Zero Energy Research Laboratory at the University of North Texas will give students and researchers the tools to study the next generations of sustainable and renewable energy technologies.

The lab is a state-of-the-art facility – the only one of its kind in Texas – designed specifically to test various energy technologies and systems in order to achieve a net-zero consumption of energy. A building is considered a “Net-Zero Energy” structure if the energy consumed from the power grid on an annual basis is compensated or balanced by the excess energy produced and sent back to the power grid by the building’s renewable energy systems.

Dr. Yong Tao, chair of the Department of Mechanical and Energy Engineering and the PACCAR Professor of Engineering, spearheaded the design and creation of the lab. Previously, Tao oversaw a similar project at Florida International University.

The structure has a number of advanced energy technologies integrated into its 1,200 square-foot space, including a geothermal heat pump, a radiant heated floor slab, solar panels, a building energy monitoring and control system and a rainwater collection system, to name a few. Outside, the facility has a residential-scale wind turbine and an electric vehicle charging station.

Construction on UNT’s new facility began in July 2011. A ribbon-cutting ceremony was held at UNT’s Discovery Park on April 20. For Dr. Tao, the ribbon-cutting ceremony marked not only the completion of the Zero Energy lab, but it also “signifies the theme of balance between education, research, and outreach.”



(Top) Dr. Yong Tao, UNT Chancellor Lee F. Jackson, and UNT President V. Lane Rawlins at the ribbon-cutting ceremony. (Bottom) View of the new lab.



UNT Students Win Big at International Wind Energy Competition

University of North Texas graduate students Joseph Koruth and Carlos Peña-Sanchez demonstrated the strength of UNT’s energy engineering program by defeating students from the world’s top schools at the Winnovation case competition in Aarhus, Denmark, on Feb. 3.

The students made the 14-hour journey home from Denmark as members of the first place and runner-up teams in the competition, which is sponsored by leading wind-energy company Vestas and challenges graduate students to develop out-of-the-box methods to reduce the cost of and to improve the quality of wind energy.

Peña-Sanchez (to the right in the photo) was part of the winning team and won a cash prize to be used on airfare for an



around-the-world trip, which he plans to use to fund his honeymoon later this spring. Koruth (to the left in the photo) was a member of the runner-up team.

Koruth and Peña-Sanchez pursued master’s degrees from the Department of Mechanical and Energy Engineering and graduated in May 2012. Both students were mentored by Drs. Kuruvilla John and Srinivasan Srivilliputhur. Dr. John is an associate dean of the College of Engineering and a faculty member in the Department of Mechanical and Energy Engineering, and Dr. Srivilliputhur is a professor in the Department of Materials Science and Engineering.

Dr. John said that their placement at the competition “is a testament to their hard work, creative abilities and solid technical training as they excelled over students from world-renowned institutions. I am very proud of their accomplishment.”

MESSAGE | *from the Dean*

Dear alumni and friends of the UNT College of Engineering:

Another academic year came to a close with the graduation ceremonies of May 11 and 12, and I had the pleasure to shake the hand of each one of our graduates as they walked across the stage in the Coliseum in front of their families, friends, and faculty.

Thirty five of these Spring 2012 graduates were from the Department of Mechanical and Energy Engineering (MEE), the largest graduating class of our newest Engineering department. In this newsletter you will read more news about MEE and the work MEE faculty and students do to combine traditional with renewable and sustainable energy sources. Our cover page highlights the ribbon cutting of the Zero Energy Research Laboratory, a unique, state-of-the-art facility that allows UNT students and faculty to study the net-zero consumption of energy in buildings. On the same page you will also find an article on the 1-2 finish of two MEE students in an international wind energy competition held in Denmark. On page 4, you can read about agreements we signed with a Chinese research institute to study green building technologies.

Another strength for UNT is in the area of cyber-security. The security courses of our Computer Science and Engineering (CSE) department have been certified by the federal Committee on National Security Systems, part of the National INFOSEC (Information Security) Education and Training Program administered by the U.S. National Security Agency (NSA). The Center For Information and Computer Security (CICS) under CSE is ranked by NSA as a National Center of Academic Excellence in Information Assurance Education (CAE-IAE) from 2003-2017 and has also been designated as a National Center for Academic Excellence in Information Assurance Research (CAE-R) for the academic years 2012 through 2017. You can read more about contributions to information security in this newsletter.

Engineering welcomed three new faculty in 2012: Dr. Barbieri, the new Chair of Engineering Technology, Dr. Shi, an Associate Professor in the MEE Department, and Mr. Agbor, a lecturer in the Electrical Engineering Department. You will find their brief bios on page 3.

Our newsletter gives you more examples of the activities taking place within the College and of the exciting accomplishments of faculty, staff, and students. Also, you will get to know about the successful career of Nergis Soylemez-Sayed, one of our recent Electronics Engineering Technology graduates.

Finally, you'll learn about our supporters, whose donations help fund many of our projects and endeavors and about ways that you too can help support the College of Engineering.

The College of Engineering is rapidly growing in providing innovative research and educational opportunities while building on existing programs. We thank everyone who has helped and continues to help the College in its expansion.

*Costas Tsatsoulis
Dean*



Costas Tsatsoulis (third from the right) with members of the Recent Graduate Advisory Board (from the left) Christopher Lewton, Devin Joll, Nergis Soylemez, Beth Keswani, and Mark Zimmerer.

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College Welcomes New Engineering Technology Department Chair

Dr. Enrique Barbieri, newly-appointed Professor and Chair of Engineering Technology for the UNT College of Engineering, has a long history of leading departments and programs to greatness. He has led departments at both Tulane University and The University of Houston, where he improved enrollment and expanded research funding. Additionally, he has been the principal investigator (PI) or Co-PI of research grants, contracts, and fundraising projects from federal, state, and private agencies exceeding \$3.7 million and is the co-recipient of a U.S. patent on a 3-D ultrasonic ranging system with application to motion detection in flexible structures.

Dr. Barbieri hopes to create close relationships with other departments, allowing for synergistic sharing of ideas and resources. He is already working closely with faculty to plan courses and curriculum for the next three to five years. He believes strongly in reaching out, not only to students and faculty within the school, but also to high schools and local community colleges in order to show what the college actually does and to tell UNT's unique story of Engineering Technology. He also finds the new Zero Energy Research Laboratory to be an "exciting" opportunity. "You will see a lot of collaboration between different faculty from different departments," he said.

Dr. Barbieri is a member of the American Society for Engineering Education (ASEE) and a Senior Member of the Institute of Electrical and Electronic Engineers (IEEE) Control Systems Society. He was a Technical Associate Editor of IEEE Control Systems Magazine (1992-1995), and served at different times



in a variety of positions such as finance chair, exhibits chair, program co-chair, publicity chair and associate editor for national and international conferences. He co-directed the Texas Manufacturing Assistance Center-Gulf Coast (TMAC) during the 2005-2006 Center's transition to the College of Technology; was a member of the TMAC Executive Council (2006-2011); and served as chair of the Council (2007-2009). He was a board member (2005-2008) for the Engineering Technology Leadership Institute of the ASEE.

Dr. Barbieri is planning on teaching some classes this fall as well as continuing his research whenever time allows. His research interests are controls systems technology, flexible structures, and applications in biomedical engineering. He has published papers on the synthesis of sensing and control algorithms for heart arrhythmia and for electromechanical

systems and industrial processes such as redundant robots, flexible structures, automatic arc-welding (temperature field sensing and control), and rocket propulsion testing. His recently published work is on educational and human resource development, and he is scheduled to present to the American Society of Engineering Education in June.

He also plans to have events later this year to celebrate the 20th anniversary of the Engineering Technology Department. But more than anything, Dr. Barbieri wants to help students figure out what their abilities and aspirations are.

As he puts it, "The degree is Engineering Technology, but the career is Engineering."

New Faculty Added to Departments of Electrical Engineering, Mechanical and Energy Engineering

The **Department of Mechanical and Energy Engineering** welcomes Dr. Sheldon Shi, an associate professor who comes from Mississippi State University (MSU).

Dr. Shi's research interests are in natural fiber biocomposites and nanocomposites, adhesion and interfacial bonding, and engineered building products. He obtained his Ph.D. from Michigan Technological University (MTU) in 1997. After two years as a Post-Doctoral Research Associate at both MTU and the University of Maine, he joined APA - The Engineered Wood Association, Tacoma, Wash., in 1999 as an engineer conducting product evaluation and quality assurance of engineered wood-based building products. In 2004, he joined the faculty at MSU as an assistant professor.

Dr. Shi has experience in processing and evaluation of renewable biocomposite materials, including engineered wood-



based products and natural fiber composites. He has been serving as PI and Co-PI for different federal projects funded by the Department of Energy, the National Science Foundation, and the U.S. Department of Agriculture. Dr. Shi has also been actively serving the industry by working on many contractual projects. Dr. Shi received an Early Career Achievement Award at the College of Forest Resources, MSU, and a Research Award at Computational Manufacturing & Design, MSU. He is currently serving as the vice president for the Society of Wood Science and Technology. He also is the chair of the Markwardt Award Committee for the Forest Products Society and a participating member of ASTM International.

Joining the **Department of Electrical Engineering** faculty is Ikechukwu Agbor, a lecturer. Agbor's research interests are antenna design and electromagnetics. He received his M.S. from Southern Methodist University in 2011 and his B.S. from Prairie View A&M University.



Energy Efficiency Research Enhanced by Agreement With Chinese Firm

The University of North Texas has signed a memorandum of understanding with Future House Real Estate Co. Ltd. a research institution in Beijing, for research of and the promotion of green building technologies.

Dr. Warren Burggren, provost and vice president for academic affairs, signed the agreement in Beijing on Oct. 12, 2011. The partnership expands UNT's role as a leader in zero-net-energy and lays the foundation for future projects with Chinese partners.

UNT seeks to leverage the agreement in order to form a consortium known as the U.S. - China Network and Demonstration Partnership for Zero-Net-Energy Research. The consortium would bring together U.S. and Chinese partners from industry and academia to conduct research

in the area of zero-net energy. The agreement also extends UNT's involvement with the American House, previously known as the Future House USA. Dr. Yong Tao, chair of the Department of Mechanical and Energy Engineering, oversaw the design and construction of the house — a 3,200 square-foot zero-net-energy house that was built in Beijing and displayed during the 2008 Olympic Games. UNT hopes to use the American House as a research facility for both American and Chinese students.

Burggren said that the project "is a forward thinking U.S. - China research collaborative that takes advantage of UNT's strengths and pairs it with top institutions in China. It really reflects the quality of our faculty and their ideas."



From the left in the photo are Dr. Tao; Vish Prasad, vice president for Research and Economic Development; Dr. Burggren; and Yu Lin, president of American House.

Professor Named Young Engineer of the Year

ASME (the American Society of Mechanical Engineers) recently awarded Dr. Jaehyung Ju with the 2011-12 North Texas Young Engineer of the Year award.

"The award makes me feel humble and motivates me to make more significant contributions to the engineering society in my career," Dr. Ju said.

The award recognizes the accomplishments of mechanical engineers with less than 10 years of work experience in the field. In 2011, Dr. Ju organized ASME technical divisions, submitted four journal

articles, and co-authored eight technical papers for ASME. He is an assistant professor with the Department of Mechanical and Energy Engineering, currently working on studying compliant cellular materials and functional elastomers in both fundamental and application studies such as automotive engineering, bioengineering, and renewable energy.

"I believe UNT is a superb research institution," Dr. Ju said. "UNT has great resources of technical journals, equipment, and excellent students."



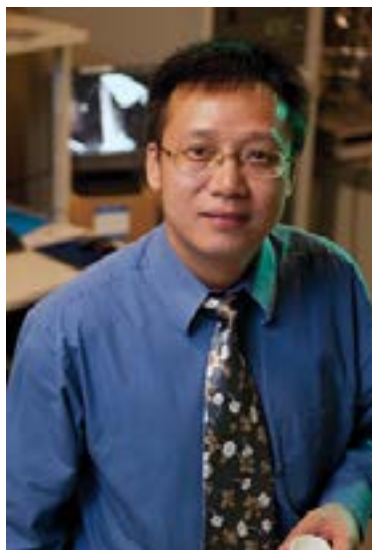
Researcher Working With Corporation To Improve Glass Materials

From car windshields to smartphone screens, consumers expect their glass products to be strong, durable and versatile. Achieving this combination of properties can be a challenge for manufacturers working with the naturally brittle material.

Dr. Jincheng Du, an assistant professor with the Department of Materials Science and Engineering, recently received a grant from the National Science Foundation to study methods to improve the properties of glass materials using sophisticated modeling techniques.

Dr. Du received a grant from NSF's Grant Opportunities for Academic Liaison with Industry (GOALI) program to work with Corning Inc., a fortune 500 company specializing in glass and ceramic materials. During the four-year project, Dr. Du will investigate how the mixed glass former effect in glasses alters the structure and properties of glass compositions.

In multicomponent glass materials, glass formers are compounds such as silicon dioxide, aluminum oxide and boron



oxide that form the backbone structures of the material. The UNT team will use sophisticated computer simulations to study how mixing these compounds changes the mechanical, electrical, thermal and other properties of glasses. The team also will study the structural origins of these changes. The simulations efforts at UNT will be correlated closely with experimental research carried out at Corning Inc.

The complicated structure of glasses has historically prevented a detailed understanding of the relationship between structure and properties. Through atomistic computer simulations paired with experimental validation, a more rational approach can be developed to design glass compositions for various technological applications. This approach should result in a more efficient, and subsequently less expensive, design and development process for the next generation of glass materials.

The project will involve several undergraduate and graduate students who will have the opportunity to work closely with scientists and engineers at Corning Inc.

Professor Receives NSF Innovation Corps Award for Safer Roads Program

You are zipping along on the interstate when, all of a sudden, traffic comes to a dramatic halt. We've all experienced that familiar frustration, but a University of North Texas professor is working to make these dangerous driving situations a thing of the past.

Dr. Ram Dantu, professor in the Department of Computer Science and Engineering, recently received an Innovation Corps (I-Corps) award from the National Science Foundation to develop his Mobile Life Guard program for a commercial audience.

Dr. Dantu's program would allow drivers to integrate their smartphones with their cars' on-board computers. Through the integration, the smartphone would be able to analyze driver behavior and road conditions, and then send alerts to the driver or other drivers in the area. For instance, the program could alert drivers of construction delays ahead, poor weather



conditions, or that a driver ahead of them is braking for a speed bump.

The I-Corps program will give Dantu and his team access to guidance from private- and public-sector experts, a specially designed training curriculum and \$50,000 of seed money. Dantu is the only professor in Texas to receive one of the inaugural I-Corps awards, and one of only 21 awardees in the country.

Dr. Dantu's team will include a student entrepreneur and a mentor. Brandon Gadzick, a student in the Department of Computer Science and Engineering, will fulfill the student role, and Alan Kushner, former chief technology advisor for the National Transportation Safety Board, will serve as the team mentor.

The I-Corps program selects up to 25 teams on a quarterly basis to assess the commercial viability of their previously supported basic research.

UNT Security Center Helps Denton Rank Among Top Data Security Cities

In a recent nationwide study conducted by the New Jersey-based The Boyd Company, Inc., Denton, Texas, was found to be one of the top 10 sites for operating highly secure, low-cost data security centers in the country. One of the major factors The Boyd Company cites as a benefit for companies considering Denton for a secure data center is UNT's robust computer security program.

Headed by Dr. Ram Dantu, UNT's Center for Information and Computer Security (CICS) represents one of the few institutions to be accredited by the National Security Agency (NSA) as a National Center of Academic Excellence in Information Assurance Education. CICS (<http://www.cics.unt.edu>) is an interdisciplinary center, bringing together individuals and organizations with an interest in the areas of information security, computer security, information assurance, and cybercrime.

In its report, titled "Banking & Financial Services: A Comparative Cost Analysis for Information Assurance Operations," The Boyd Company emphasizes the importance of information assurance in recent years, particularly for post-Debt Crisis financial institutions. The report mentions several recent examples of serious damage inflicted on both national governments and major companies caused by poor cyber security.

In addition to UNT's accredited education program, The Boyd Company also cited Denton's robust bandwidth, telecommunications and power infrastructures, favorable operating cost structures and secure location insulated from natural disasters. Thanks in large part to UNT's information security program, the report's recommendation will likely bring many companies to the Denton area that would have never previously considered the site.

CSE Hosts Security Workshop

The Department of Computer Science and Engineering (CSE), in collaboration with the Convergence Technology Center at Collin College, hosted an April 9 workshop on security issues related to mobile device platforms and applications, social media and cloud computing and storage.

The event, Workshop: Security on the Move and in the Clouds, was intended for community college and university faculty members and students as well as industry professionals interested in discussing security-related issues related to the workshop's target topics. The program included presentations such as "Embedded Systems Security," "Securing Home Networks," and "Privacy of Social Networks." The conference co-chairs (and two of the speakers) were Dr. Ram Dantu (in photo on the left) and Dr. Mahadevan Gomathisankaran (in photo on the right), assistant professor and director of the Trusted Secure Systems Laboratory.



Graduate Students Receive Recognition at Entrepreneurship Competition

Engineering graduate students Yiwen Wan (left in photo) and Samu Chakki (right in photo) received 2nd prize as a team in a competition in which UNT student teams presented their mobile/iPad app ideas to Dallas-Fort Worth business and technology leaders.

The event, “The Innovation Challenge,” was held on Nov. 19, 2011, at the Alcatel-Lucent Gravity Center in Plano, Texas. UNT and Alcatel-Lucent sponsored the competition for which around 15 teams were originally entered. Each team was required to describe an innovative idea for a mobile/iPad app, a product based on the idea, a marketing plan, and a business model that supported it.

Chakki said, “Innovation Challenge gave me a whole new perspective of how start-ups are born. As an engineer, I always focused on ideas; here I learned that building the idea is just the foundation. I am thankful for getting a chance to participate in this competition.”

In addition to Wan (a research assistant in Computer Science and Engineering) and Chakki (an M.S. student in Electrical



Engineering), the team included Michael Wang (center in the photo), a senior at the Texas Academy of Math and Science. The product proposed by the team is called funNECT, a mobile app that connects people with family and friends across the world through a long distance virtual PhotoBooth and real-time interactive fun using photos, video and other media.

“I feel that the competition was a great learning experience, I have never participated in such an event before, but it was a very enjoyable challenge,” Wang said.

The competition started with an idea pitching and team-up session. Both Wan and Chakki pitched ideas in the starting session. Wang worked with Chakki and Wan in the team-up session. Afterwards, they brainstormed and agreed on the funNECT idea. Then, the team worked together on idea polishing, the business plan and the presentation.

Wan stated, “It is a very wonderful opportunity to get involved in The Innovation Challenge. I am happy that I am part of it and have experienced a whole process of delivering a new product.”

Navy Accepts Student for Nuclear Propulsion Officer Candidate Program

Mechanical and Energy Engineering (MEE) student Nicholas Poulides has been accepted into the Navy Nuclear Propulsion Officer Candidate program (NUPOC), which will provide him with a variety of benefits while in school and a position as a Naval Officer after he graduates.

The program offers Poulides the opportunity to apply his engineering knowledge to two career pursuits that interest him: the military and teaching. “I’ve always loved teaching, so I thought (the program) would be great,” Poulides said. “This program guarantees you a specific job, which is really nice.”

As a student at UNT in the Navy’s NUPOC program, he will take advantage of financial support of up to \$155,000 and will start receiving this funding up to 30 months prior to graduation.

The Navy Nuclear Program is a door leading to industry leadership, lifelong learning, groundbreaking research, and high-level civilian collaborations.

Dr. Yong Tao, chair of the Mechanical and Energy Engineering Department, said that Poulides’ acceptance into the program “validates again the quality of the students the Mechanical and Energy Engineering program at UNT is able to attract and the opportunity they can have for their academic as well as career developments. As one of the fastest growing engineering programs in Texas, we are very pleased to see the success of our students and will provide our best supports for their learning experience at UNT MEE.”

Although majors like mathematics, engineering, physics or chemistry are preferred, the minimum academic eligibility requirements of the NUPOC program are the completion of one year of calculus and one year of calculus-based physics. Additionally, applicants must be U.S. citizens.

Poulides was accepted into the program following a rigorous application process that included a day of interviews in Washing-



ton, D.C. Additionally, the potential candidate is interviewed by an admiral, who handpicks every person who enters the program. According to Poulides, he found out that he was accepted shortly after his one-on-one interview on Feb. 23. “I walked outside the admiral’s office and one of the commanding officers came up and said, “Congratulations.””

A student who successfully applies for a NUPOC position has a choice from four jobs. There are two support jobs that are available at the nuclear Navy’s research, development, and oversight headquarters in Washington, D.C., and two positions are available at the training/schoolhouse facility in Charleston, S.C. Poulides will be a nuclear engineering instructor after graduating in 2014.

CENG Students Celebrate Launch of Two New Organization Chapters

Two additional student chapters that offer College of Engineering students leadership, networking and career exploration opportunities are now available.

Faculty, students and industry guests welcomed the new student chapters of IEEE-Eta Kappa Nu and the Association of Energy Engineers (AEE) during events held in December 2011 and February 2012, respectively. Both student groups already have started to make their mark as AEE members attended the Zero Energy Research Laboratory ribbon-cutting ceremony, and the honor society members are making plans to add a monument to the UNT Discovery Park's Garden of Honor.

IEEE-Eta Kappa Nu (HKN) is the student honor society of IEEE and is dedicated to encouraging and recognizing excellence in the IEEE-designated fields of interest (i.e. electrical and computer engineering). Members consist of students, alumni, and other professionals who have demonstrated exceptional academic and professional accomplishments. Student members are selected on the basis of scholastic standing, character, and leadership.

On Dec. 1, 2011, HKN National President Steven Goodnick visited UNT to deliver the charter for the Lambda Zeta Chapter and to induct the charter officers. Students, staff, distinguished guests and faculty from the College of Engineering, including the Departments of Electrical Engineering and Computer Science and Engineering, attended this event. Later that month, the Lambda Zeta chapter of HKN hosted its first induction ceremony in which the student officers inducted the charter members.

The Association of Energy Engineers offers members information and networking in the dynamic fields of energy engineering and energy management, renewable and alternative energy, power generation, energy services, sustainability, and related areas. The organization consists of more than 16,000 professionals with 82 local and international chapters committed to helping their firms or clients increase energy efficiency, utilize innovative energy service options, enhance environmental management programs, upgrade facility operations, and improve equipment performance.

AEE and UNT hosted a kick-off event to launch the student chapter on Feb. 22, 2012. The student chapter is officially recognized by the national AEE.

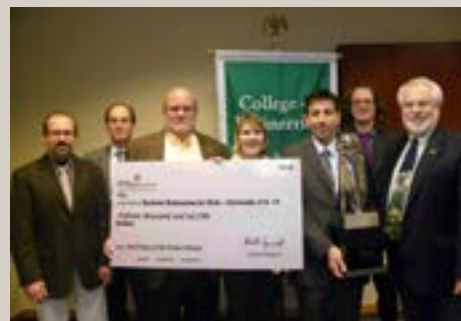


(From the top) New Lambda Zeta Chapter officers with faculty; new AEE student members with faculty and guests; Lambda Zeta Chapter officers; and AEE members and guests tour the Zero Energy Research Laboratory.



Career Fairs

The Engineering and Computer Science Internship & Career Fair on Feb. 23 drew the highest turnout of employers to Discovery Park. The career fair is held in the spring and fall.



Check for Robocamp

The Metroplex Technology Business Council (MTBC) presented a check for \$15,000 to the UNT College of Engineering's Robocamp for Girls on Oct. 28, 2011, for the Tech Titans award in 2010.



Engineers Week

College of Engineering students celebrated National Engineers Week on Feb. 19-25 with competitions, a facility tour, a school outreach project, speakers, and a recycled gift build (in photo).

On Feb. 2, more than 40 high school students from the North Texas area participated in the regional competition for the 2012 North American Computational Linguistics Olympiad (NACLO), hosted by the Department of Computer Science and Engineering (CSE) at the University of North Texas.

NACLO is an educational competition in Computational Linguistics, the science of designing computer algorithms to solve linguistic problems. It challenges students to develop strategies for tackling problems in fascinating real languages and formal symbolic systems.

Dr. Rada Mihalcea, CSE associate professor, and Genevieve Murphy, CSE staff, supervised this event, along with the following graduate students: Bharath Dandala (CSE), Chris Hokamp (Linguistics), Ben Leong (CSE), Vanessa Loza (CSE), and Veronica Perez-Rosas (CSE).

Schools represented at the competition included R.L. Turner High School (Carrollton), Denton High School, and R.L. Paschal High School (Fort Worth). The students from these schools were inspired to enter the competition by their instructors. However, the teachers said that students who want to enter NACLO did not need to know a second language to compete. The teachers noted that during the month before the competition, the students were meeting before and after school to work on practice problems and to coach themselves.

Additionally, the teachers were glad that the university hosted

UNT Hosts Regional Competition for Linguistics Olympiad



the Olympiad because by preparing for the competition, the students were learning a different way of thinking. One of the teachers commented that the competition allowed the students to put their problem-solving skills to the test in a way that is not normally represented outside of the classroom.

Engineering Technology Student Receives Two Prestigious Scholarships

The Associated General Contractors of America (AGC) has honored Engineering Technology student Yasir Abdelrazig with a 2012 AGC Education and Research Foundation Scholarship. Abdelrazig, who received \$2,500, is one of four students from Texas selected for an award. The award, which is renewable should Abdelrazig continue his studies, was announced at the AGC's 93rd Annual Convention in Honolulu last March.

"I was really so excited," said Abdelrazig, "That brings the total to three scholarships since I got one last year."

In order to qualify for the scholarship, students must be enrolled in ABET or ACCE-accredited construction management or construction-related engineering programs. After being initially accepted, the student must interview with a contractor who is a member of the AGC. Abdelrazig hopes to go into Construction Management after he graduates in 2013.



In addition to this national honor, Abdelrazig also recently received a \$1,000 scholarship from the TEXO Education and Research Foundation. TEXO only distributes a relatively small number of scholarships annually. The foundation requires a panel of interviewers to evaluate eligible candidates and to choose recipients based on a variety of factors. "It was tough," commented Abdelrazig. At the TEXO Region V Student Competition Awards dinner, he was the only student from UNT to win such an award.

"We are very thankful to the AGC and TEXO for recognizing our best and brightest students with scholarships," said Dr. Enrique Barbieri, professor and chair of the Department of Engineering Technology, who congratulated Abdelrazig and encouraged him to "keep up the good work!"

Summing up his recent accomplishments, Abdelrazig said, "It helped encourage me for more success."

Two UNT Students Named 2012 Barry M. Goldwater Scholars

Two students in the Texas Academy of Mathematics and Science at the University of North Texas were named 2012 Barry M. Goldwater Scholars, and a third academy student received an honorable mention in the prestigious research competition.

Goldwaters are considered to be among the country's most prestigious scholarships awarded to students planning careers in mathematics, science and engineering. The scholarships provide a maximum of \$7,500 each year for one or two years to cover tuition, fees, books, and room and board.

Favyen Bastani, of Plano, and Amanda Quay, of Austin, were among the 12 Texas students awarded scholarships this year. A highly advanced undergraduate computer scientist, Bastani has worked extensively in two major research environments and has co-authored an article (in press) for IEEE Transactions on Services Computing.

As attested by Dr. Hui Ma of Cisco Systems — with whom Bastani worked on algorithms to solve complex optimization problems — Bastani is at the forefront of making significant contributions to artificial-intelligence-based heuristic optimization. Bastani has also worked in the UNT Computer Science laboratory of Dr. Yan Huang.

Alumna Spotlight

Nergis Soylemez-Sayed

Nergis Soylemez-Sayed, a 2006 Electronics Engineering Technology alumna, was recently among 40 quality professionals from throughout the world to be named to Quality Progress magazine's inaugural "40 New Voices of Quality" list.

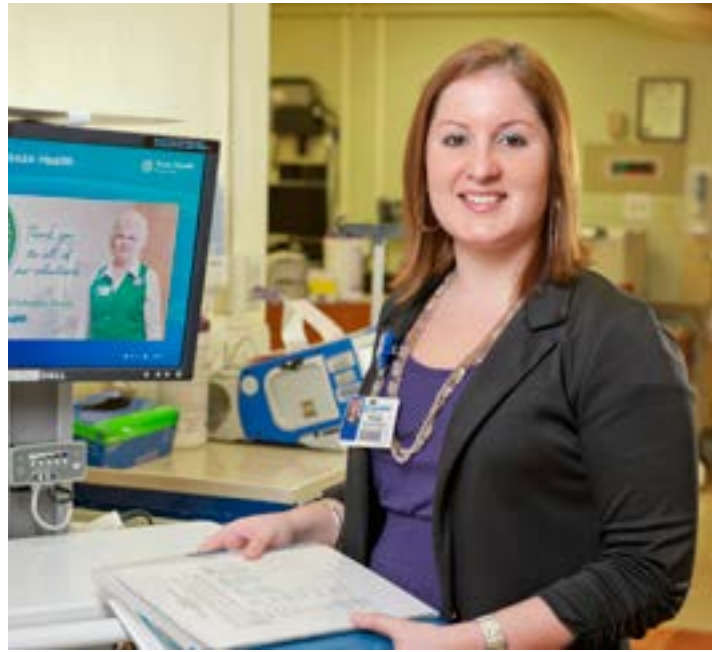
The "40 New Voices of Quality" list, which recognizes individuals under 40 who are making a difference in their organizations, can be found in the November issue of Quality Progress, published by the American Society for Quality (ASQ). Soylemez-Sayed said that it was such an honor to be recognized by a prestigious organization such as ASQ.

The list was compiled by Quality Progress editors and vetted by ASQ's Young Professionals Network. Quality Progress collected nominations that were scored by the Young Professionals Network based on personal achievements, community impact, and personal information, including whether the nominee is honest and impartial in serving their employer, customers, clients, and the general public.

The "40 New Voices of Quality" list coincides with World Quality Month, a celebration every November of quality and how it makes a difference in the world.

Soylemez-Sayed, who works at Presbyterian Hospital-Texas Health Resources, joined a list of talented quality professionals that includes engineers, professors, company presidents, and physicians. Soylemez-Sayed is an ASQ-certified quality engineer, Six Sigma Black Belt, and lean bronze-level certified. She is a member of ASQ's Influential Voices where she blogs regularly on topics related to quality and continuous improvement.

"I have a lot of passion for what I do, and in order for me to advance in the field, I thought it was absolutely necessary to get certified and expand my knowledge and skills and to be part of organizations like ASQ and the International Society of Six Sigma Professionals," she said.



While having a busy professional life, she continues to be active with UNT, which she says has been a big part of her life during and after college. She met her husband, Harris Sayed, while she was in school, and both of them have attended recent alumni events. As an alumna, she has helped one of the professors in business administration with his operations management class. She also agreed to serve as the chair of the College of Engineering Recent Graduate Advisory Board. The purpose of the advisory board is to have recent graduates assist the dean in achieving excellence in education and research as well as providing a new perspective on future directions for the college curricula to better serve the students, and technology trends for the college faculty to better meet industry needs. Soylemez-Sayed is very excited about the opportunity to give back to the college and to help engineering students grow academically and professionally.

College of Engineering Advisory Board

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| Larry Eckersley | Freese and Nichols, Inc. |
| Mario Garza, Jr. | AT&T |
| James Gibson | L-3 Communications |
| Lettie K. Haynes* | BNSF Railway Company |
| Bill Lawrence | B. Lawrence Consulting, LLC |
| Finley Ledbetter | Group CBS, Inc. |
| Casey Litaker | Triumph Aerostructures
- Vought Commercial Division |
| Sean McMenamain | Peerless Mfg Co. |
| Cesar Moncada | Verizon |
| Don Moody | NUCONSTEEL |
| Edward Moorehead | Victor Corporation (Retired) |
| Chris Pearce* | Cisco Systems |
| Michael Severson | Bell Helicopter |
| Jeannie Shackelford | Lockheed Martin
Aeronautics Company |



Electrical Engineering student Jennifer Williams (right) talks to board members (from left) James Warden, Rick Haws, Rick Beutter, Jeannie Shackelford, Etta Clark and Sean McMenamain during poster presentations after the Nov. 18, 2011, board meeting.

- | | |
|----------------|----------------------|
| Landon Sproull | Peterbilt Motors Co. |
| John Turner | Weber Aircraft, LLC |
| James Warden | Research In Motion |
| Jim Womack | Research In Motion |
- *College of Engineering alumni*

Homecoming 2011



(TOP LEFT) Copelton Wright (Class of 2008) and father ; (BOTTOM LEFT) Reginald Grant, Nergis Soylemez-Sayed (Class of 2006), and Harris Sayed (Class of 2003); (TOP RIGHT) Carl Singleton (Class of 1992) . (BOTTOM RIGHT) CSE Department Chair Barrett Bryant and Bridgitte Birze (Class of 1991).

Development Officer's Report

Hello. Have we met?

You may have received birthday wishes, congratulations on your promotion, a link to news about your company, a note about the department from which you earned your degree, or have been invited to meet our newest faculty member. My name is Reginald Grant, and I am the Development Officer for the College of Engineering. I connect alumni to the Dean, faculty, and staff in order to update you on our current efforts to add value to your diploma.

Whether you graduated in 1959 or 2009, we'd like to hear from you. We want to know where you are. If you are in the Golden Triangle area between Denton, Dallas and Fort Worth, we have alumni receptions to connect you with classmates and faculty and to inform you about the latest College news. Have you visited us at Discovery Park yet? We moved out of the General Academic Building nearly 10 years ago, and if you haven't come to see us, I would love to visit with you and chat over coffee, lunch, or dinner. Your success could provide valuable insight for current students' career planning and in advancing faculty research. Your company could provide cooperative studies opportunities, internships, or scholarships to current students. In turn, our faculty could provide cutting-edge research in critical areas of your growing enterprise.

Development helps the College of Engineering and the University of North Texas grow. If we have not already said so, thank you for increasing the quantity and level of gifts in support of your department whether it's Computer Science and Engineering, Electrical Engineering, Engineering Technology (formerly known as Industrial Arts or Industrial Technology), Material Science and Engineering, our newest and rapidly growing department of Mechanical and Energy Engineering, or the College of Engineering itself. For example, gifts from Schneider Electric, NUCONSTEEL, Axium Solar, H2Options, Blue Scope, Benchmark Precision Buildings, and Acme Brick helped in construction of the Zero Energy Research Laboratory, which opened spring 2012 (see page 1).

And finally, as parents, our lives are hectic and complicated. If you have children or younger relatives, it is never too late or too early to take them to your alma mater and see where you earned your degree. Please know that they are welcome to explore one of our camps, or our Science, Technology, Engineering, or Math (STEM) initiatives, all of which are intended to attract and develop bright minds.

I look forward to meeting you on a tour of Discovery Park, at your company, or at the next alumni event.

*With Green Pride,
Reginald*

College of Engineering Is Expanding

New Zero Energy Research Laboratory
from Start to Completion:



Groundbreaking



In Progress



Tour of New Lab

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