

# Department of Chemical Engineering Newsletter

Fall 2013

## Letter from the Chair

### Keep an Eye on Us, We are on the Move!

What a busy year! With the hiring of three new Chemical Engineering faculty (Profs. Fenniri, Ekenseair, & Ebong), the hiring of two academic specialists (Profs. Shi and Landherr), the return of Dr. Satvat full time to Chemical Engineering from the Co-op Office, the appointment of a new Industrial Advisory Board Chair (Mr. Gary Broberg), the appointment of Prof. Ziemer as our first Associate Department Chair, continued plans for the new 180,000 square foot Interdisciplinary Science and Engineering Building to expand research and teaching capabilities, and the hosting of four conferences at Northeastern by Chemical Engineering faculty, saying that Chemical Engineering has been extremely active over the past year would be an understatement. But the excitement continues to grow exponentially as our graduate program increased its ranking by 17 positions on the U.S. News and World Report last Spring and our undergraduate class size is predicted to more than double when today's freshman become seniors. Not only are the numbers of Chemical Engineering students growing, but so are their credentials – for example, for incoming freshman into the College of Engineering, the average SAT scores and the average GPA are up. Our retention rate remains incredibly high as 94% of entering freshman will become engineering sophomores. We have also started numerous international activities with two Dialogue of Civilization courses (one in Taiwan and the other in Brazil), expansion of international co-op opportunities, and new relationships with the Nanyang Technological University in Singapore, The Universitat Rovira i Virgili in Spain, and the Universidad de Antioquia in Colombia, just to name a few. So, I hope you enjoy this issue hearing about all of the activities we are undertaking in Chemical Engineering, from our new faces to our faculty/student awards and ground breaking research.

Dr. Thomas J. Webster

Chair and Professor  
Department of Chemical Engineering



## Upcoming Conference Receptions

- BMES: Sheraton Kirkland Room, Seattle, WA, 9/28/13
- AIChE: Hilton Union Square, San Francisco, CA, 11/5/13
- MRS: Sheraton, Boston, MA, 12/5/13

Attendance is free and all are welcome to attend!

## New Faculty Spotlight: Dr. Hicham Fenniri



The Department of Chemical Engineering enthusiastically welcomed Dr. Hicham Fenniri as a new faculty member in the summer of 2013. After reviewing several research grants from Northeastern scientists, Dr. Fenniri was impressed with the quality and freshness of ideas emanating from the University. He also was drawn to the University's bold hiring and research initiatives, as well as its strategic location and traditions of openness and collaboration.

Dr. Fenniri was born and raised in Morocco and attended the University of Strasbourg, near the border between France and Germany. After obtaining his Ph.D., he worked at the Scripps Research Institute in California and then took on an academic appointment at Purdue University. Most recently, he has worked as a Professor at the University of Alberta while building Canada's National Institute for Nanotechnology (NINT).

Dr. Fenniri's group brings unique expertise to the Department in materials engineering, particularly supramolecular engineering, whereby synthetic molecules are engineered to undergo complex multi-step self-assembly and self-organization processes to generate functional materials for a variety of applications, such as nanomedicine, tissue engineering, theranostics, renewable energy and molecular electronics. For the next decade, Dr. Fenniri intends to take his knowledge of new materials from the lab to the clinic so that patients in need of an implant device, a more efficient drug with fewer side effects, or a diagnostic tool for monitoring health or diseases in remote areas can benefit. He also plans to further develop the application of his materials in energy harvesting and storage. Dr. Fenniri envisions much collaboration in co-advising and grant development within the department, and has previously collaborated with Professor Thomas Webster for over ten years. Due to his multicultural background, Dr. Fenniri would also like to contribute to Northeastern's international visibility through research and/or strategic partnerships.

Dr. Fenniri believes that teaching is an integral part of his academic engagement at Northeastern and plans to train graduate students, develop new curricula, and teach at both the undergraduate and graduate levels. He and his Northeastern collaborators have already recruited 14 new graduate students and intend to expand the group over the next few years. Dr. Fenniri has over 20 years of experience in teaching and can provide students with both a practical perspective on course material and a conceptual framework for solving more challenging problems. ■

### In this issue:

- Dr. Fenniri Spotlight
- Dr. Ebong Spotlight
- Dr. Ekenseair Spotlight
- Undergraduate Student Spotlight
- Graduate Student Spotlights
- Department News and Awards



# Northeastern

## New Faculty Spotlight: Dr. Eno Ebong

Dr. Eno Ebong joined the Department of Chemical Engineering in the summer of 2013 as an assistant professor. Both the university-wide support system for the faculty and students, and the innovative and collaborative spirit both on campus and with industry, are what attracted her to Northeastern.

Dr. Ebong obtained her M.S. and Ph.D. degrees in Biomedical Engineering from Rensselaer Polytechnic Institute (RPI), and an S.B. in Mechanical Engineering from the Massachusetts Institute of Technology (MIT). Before joining the department, she worked at the Albert Einstein College of Medicine, NY, as a research scientist. In her research, she used rapid cryopreservation and transmission electron microscopy techniques to define the structure and blood flow pattern induced reorganization of the endothelial cell sugar coat, called the glycocalyx, which sheds in vascular disease. She studied the mechanisms by which the glycocalyx participates in the conversion of blood fluid forces into endothelial cell functions and dysfunction associated with vascular health and disease, respectively. Her long-term career goal is to identify mechanically-regulated cellular and molecular targets and develop novel tools to prevent, diagnose, and treat diseases. She is enthusiastic and passionate about research, and is most interested in research that will integrate fluid mechanics with endothelial cell biology to study the sugar biology, or glycobiology, of vascular health and disease within the next few years.

Her future goals for the Department are to contribute to its health related research efforts, aid in improving its graduate program, and support the strength of experiential undergraduate education. She is interested in developing new interdisciplinary courses that reflect the dynamic and rapidly evolving nature of engineering and biomedicine. She also hopes to teach courses in cell biology for engineers and cardiovascular biomechanics, and looks forward to teaching fluid mechanics and transport and mechanics of materials. Dr. Ebong hopes to make an impact on students in laboratory research conducted in conjunction with formal courses for independent study or to fulfill thesis requirements for degree

completion, and influence students as a quality teacher as she teaches both undergraduate and graduate level courses.

Dr. Ebong is a strong believer in student-centered teaching and expects challenges when delivering well-organized courses, while adapting the courses to the students' input in real-time. She is eager to help undergraduates benefit in their academics and professional careers and her plan is to advise them on and connect them with diverse academic and professional career opportunities. With her academic experiences and affiliations, she can link them to opportunities at MIT, RPI, CUNY, CCNY, Albert Einstein College of Medicine, the National GEM Consortium, and other academic or non-academic institutions. As a collaborator with Temple University and Georgia Institute of Technology and through her analytical and medical device industry experience from Hewlett Packard, Agilent Technologies, and Philips, she can provide advice to students on careers paths in industry.

This academic year 2013, Dr. Ebong looks forward to recruiting undergraduate, graduate, and postdoctoral levels students as researchers, and expects them to work together with her as a team, be very engaged and productive, be willing to learn new techniques, and have an interest in interdisciplinary research. Her plan is to train engineering students to conduct biomedical research and no prior biological research experience will be required.

Although Dr. Ebong is very engaged in her research, in her free time she enjoys spending time with her immediate and extended family. Being of West African origin, she and her family pray, play sports, and party together. ■



## Graduate Spotlight: Daniel Hickey



Daniel was born and raised in Redlands, California, in the greater Los Angeles area. Before coming to Northeastern in the fall of 2012, he received a B.S. in Chemical Engineering at the University of California at Santa Barbara. Dan decided to attend Northeastern on a "hunch"-- both because it was such a change of pace from Southern California, and because of Northeastern's reputation as a top research university with connections to Boston's biotech industry.

As a Ph.D. student in Dr. Thomas Webster's laboratory, Dan is researching polymeric tissue engineering for improving the outcome of joint reconstruction surgery by enhancing the healthy regeneration of the tendon-to-bone insertion site (TBI). He has shown for the first time that magnesium oxide nanoparticles dispersed within poly(L-lactic acid) (PLLA) significantly increases the adhesion and proliferation of bone and ligament cells to the PLLA. Dan is currently writing a paper that will cover the progress he has made during his first year at Northeastern.

One of Dan's biggest accomplishments in graduate school was winning a prestigious, NSF sponsored Integrative Graduate Education and Research Traineeship (IGERT) fellowship. This fellowship entitles him to two years of research funding, and requires him to take two classes each semester that relate to nanomedicine.

Dan has attended the Northeast Bioengineering Conference in Syracuse and the Society of Biomaterials Conference in Boston, where he presented posters on his research. In April 2013, he won the student poster competition of the Boston Chapter of the International Society for Pharmaceutical Engineering (ISPE), granting him a free trip to compete in the student poster competition at the upcoming ISPE National Meeting in Washington D.C. in November 2013.

Dan's favorite core class in the graduate program was Transport Processes due to its wide range of applications. He enjoys graduate school because it allows him to research the things he finds most interesting, and for its "culture of never-ending education". He plays guitar and banjo, and on foggy Boston nights, likes to serenade passersby with his saxophone. He also loves skateboarding, soccer and badminton. ■



## New Faculty Spotlight: Dr. Adam Ekenseair



Dr. Adam Ekenseair joined the Department of Chemical Engineering faculty in the summer of 2013. He grew up in Northwest Arkansas and received his B.S. in Chemical Engineering at the University of Arkansas in 2005. He received his Ph.D. at the University of Texas at Austin, where he was both a National Science Foundation Graduate Research Fellow and a National Defense Science and Engineering Graduate Fellow. In graduate school, he studied non-Fickian penetrant transport

dynamics in glassy polymers, and went on to develop novel injectable, *in situ* forming, hydrogel-based scaffolds for the repair of craniofacial bone tissue defects as a postdoctoral fellow at Rice University in Houston, TX.

Dr. Ekenseair was impressed by Northeastern's commitment to the Department of Chemical Engineering and specifically to his area of research: Biomaterials for Tissue Engineering and Regenerative Medicine. The potential for collaborative research within the department, university, and surrounding research hospitals, medical schools, and academic institutions was also a huge draw. Dr. Ekenseair's research will fit into the Department's initiative to develop novel biomaterials for applications in drug delivery, tissue engineering, biological and cellular engineering, and regenerative medicine. He brings expertise in the creation of novel polymer-based biomaterials for use as drug delivery vehicles, scaffolds for tissue regeneration, and minimally invasive injectable therapies. He also carries knowledge of additive manufacturing to create 3D-printed biomaterial constructs to guide tissue regeneration in a spatiotemporal manner, and serve as novel environments in which to study cell-material interactions.

At Northeastern, Dr. Ekenseair sees himself contributing to both the encouragement of innovation through research and the advancement of generations of chemical engineers through teaching. He does not see research and teaching as mutually exclusive, but rather believes that the research laboratory can be "the ultimate teaching environment". He feels that educating and inspiring others greatly augments a researcher's impact on the world of science and engineering. Dr. Ekenseair has a strong background in involving undergraduates in research activities and hopes to take on 1-2 undergraduate students and 1-2 graduate students this academic year. He expects them to have a commitment to scientific discovery, to develop into independent researchers, and to communicate results through peer-reviewed publications and conference presentations.

Dr. Ekenseair is interested in teaching the fundamental chemical engineering courses as well as developing and teaching courses in polymer science, biomaterials, scaffolds for tissue engineering, advanced mass transport, and mass transport in polymers. He strives to make the subject matter exciting and accessible and to develop students' problem solving and communication skills through technical writing and presentation.

Aside from research and education, Dr. Ekenseair spends most of his free time with his family. He enjoys reading, playing racquetball, and visiting museums and historical sites. ■

### Stay Connected: Join Us On LinkedIn!

Did you know that Northeastern University Chemical Engineering alumni have a group on LinkedIn? Come join us to network and share information of interest with other ChE alumni, current undergraduate and graduate students, and faculty. ■

<http://www.linkedin.com/groups/Northeastern-University-Chemical-Engineers-5033014/about>

## Graduate Spotlight: Daniel Milano

Daniel Milano is a Chemical Engineering Ph.D. student starting his third year at Northeastern in Professor Anand Asthagiri's research group. Dan is from Reading, MA, located about 15 miles north of downtown Boston. He attended the University of New Hampshire and received a B.S. in Chemical Engineering. There, he completed a senior thesis related to designing fuel cell catalysts made from cheaper materials than are traditionally used. After graduating, Dan worked for two and a half years at Itaconix, a research and development company that produces bio-based, renewable polymers.

Dan's decision to attend Northeastern was influenced by his desire to return closer to home and to experience an urban campus. He also felt that research at Northeastern could offer an intersection between his previous polymer experience and his interest in tissue engineering and drug delivery. Additionally, he decided on Northeastern due to its location near biotechnology and pharmaceutical companies.

Of the core chemical engineering graduate classes, Dan enjoyed kinetics the most, because he feels it distinguishes chemical engineering from the other engineering disciplines and has many real-world applications. He also enjoyed his Cell & Tissue Engineering elective, which was more focused in his research area and emphasized quantitative techniques.

In his research, Dan uses microfabrication techniques to understand why cancer cells spread, and the differences between cancer cells and normal cells. His goal is to develop and use a platform to answer these questions and perhaps discover a therapeutic protein target for cancer treatment. Influenced by the death of his grandmother, Dan describes his ability to do cancer research as "a dream come true".



In August 2013, Dan will participate in the Pan-Mass Challenge (PMC) for the third time. PMC is a charity bike ride over two days and 192 miles, stretching from Sturbridge to Provincetown. Every dollar raised directly benefits the Jimmy Fund of the Dana-Farber Cancer Institute. As well as being an avid bike rider, Dan also enjoys fishing and snowboarding.

Dan successfully defended his dissertation proposal in March 2013. After graduate school, he is particularly interested in postdoctoral research at the Dana-Farber Cancer Institute's Center for Engineering and Medicine. More generally, he intends to pursue a career in the biotechnology or pharmaceutical industries. ■

## Undergraduate Spotlight: Sean Burns (2013)

Sean Burns, from Avon, CT, decided to join Northeastern for his B.S. in Chemical Engineering for the chance to co-op at top tier companies and hospitals. He was also attracted to Northeastern because the student body seemed outgoing, energetic, and ambitious. He feels that the alumni of Northeastern have "blazed an incredible trail across the country and the globe", increasing opportunities for current students. He was interested in chemical engineering because the principles can be applied to nearly everything, including petroleum, pharmaceuticals, nanomaterials, alternative energy, food and consumer goods.

For his first two co-ops, Sean worked as a medicinal chemist at Millennium Pharmaceuticals, a company focused on discovering cancer drugs. He created and characterized new drug molecules in a high-throughput chemistry lab. Sean's last



co-op was at Dana-Farber Cancer Institute where he shadowed physicians in the Jimmy Fund, synthesized drug molecules targeted against a specific protein that is often mutated in lymphoma, and analyzed the effectiveness of new cancer drugs with a variety of biological tests.

Sean's favorite undergraduate class was elementary Italian language. He lived in Rome, Italy, for five weeks as part

of one of Northeastern's Dialogues of Civilization. Along with a group of twenty other students, he studied Italian and conducted sociological observations on Roman culture. He enjoyed this course and experience abroad because the language was challenging and much different from his engineering coursework, and the food was "absolutely unforgettable".

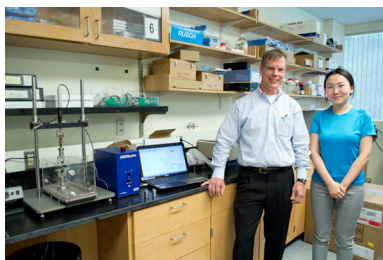
At Northeastern, Sean was president of the NU Downhillers Ski and Snowboard Club. He also volunteered at Squashbusters, Brigham and Women's Hospital, and the MSPCA Animal Shelter in Jamaica Plain. Sean enjoys cooking and playing guitar. In the fall, Sean will be attending Boston University School of Medicine with hopes of one day becoming an oncologist. He also hopes to continue to research drug development and epigenetics in cancer. ■

## New Academic Specialists

**Dr. Lucas Landherr** joined the Department of Chemical Engineering in September 2012 as an Assistant Academic Specialist. He received his B.S. in Chemical Engineering from Lafayette College in 2005 and completed his Ph.D. at Cornell University in 2010. He has taught several courses for the department in fall '12 and spring '13, semesters, including thermodynamics and transport labs. He is conducting education research on new STEM experiments for K-12 curricula.

In the fall of 2013, **Dr. Shiaoming Shi** was appointed as an Assistant Academic Specialist in the Department of Chemical Engineering to teach Biotechnology, a chemical engineering graduate elective course. Dr. Shi graduated from the University of Science and Technology, China, in 1991, with a B.S. in Chemical Engineering. Then, in 1998, he received his Ph.D. from the University of Pittsburgh where he worked on developing systems to detect and analyze HIV drug resistance. While working at a Carnegie Mellon University spin-off biotechnology company developing cancer detection and drug discovery technologies for ten years, he enrolled into the business school MBA program and graduated with University Honors in 2003. His future plan is to set up a teaching lab in the fields of biotechnology and bioengineering. ■

## Department Receives Equipment Donation



Pictured: Richard Gedney with graduate student Linlin Sun, setting up the new equipment.

Richard Gedney, a 1986 graduate of Northeastern University Department of Mechanical Engineering, is the CEO and founder of ADMET, a materials testing system manufacturer. He visited the Department of Chemical Engineering this April to donate, set up, and install a micro tester valued at \$28,500. Mr. Gedney has been actively involved with the department and its faculty to learn about the needs of the department and has been very generous in providing other equipment to the department as well. ■

## Students Visit Brazil for Energy Dialogue

This summer, Professor Courtney Pfluger and a group of students participated in a Dialogue of Civilizations to Sao Paulo, Brazil, where they learned about the different types of alternative energy technologies in the country that sources over 80% of its electricity by renewable technologies. They visited alternative energy sites, spoke to leaders who pioneered these energy technologies, and immersed themselves in Brazilian culture and language. The group was featured on the Sao Paulo Governmental Energy website after a visit with the Secretary of Energy for the state of Sao Paulo. Read more about their trip at [saopaulodialogue.blogspot.com](http://saopaulodialogue.blogspot.com). ■



Pictured: Professor Courtney Pfluger with Dialogue of Civilization participants

## Professor Kate Ziemer Named First Associate Chair of Chemical Engineering



Professor Kate Ziemer has been a faculty member in Chemical Engineering at Northeastern University for 13 years. She earned her B.S. in Chemical Engineering from Virginia Tech University in 1989, and her Ph.D. in Chemical Engineering from West Virginia University in 2001. Additionally, Dr. Ziemer brings 7 years of industrial experience as a chemical engineer with DuPont.

In her time at Northeastern, Dr. Ziemer has served as chair of the Undergraduate Education Committee (UEC), Graduate

Coordinator, ABET Coordinator, and on many other department and college committees. She has led 2 NSF educational grants in addition to numerous other research grants. Dr. Ziemer has over 60 refereed publications and 80 presentations on various educational and research topics. She is currently a member of the Board of Directors of AIChE, the global home of chemical engineers. She

has been actively involved in K-12 educational outreach for most of her career, particularly through AIChE, and is currently working with Undergraduate Safety Education efforts through AIChE. Dr. Ziemer's research group studies fundamental mechanisms of the growth and processing of thin films and nanostructures, literally at the atomic scale, with the aim to create the next-generation of electronic devices based on multifunctional materials to address the challenges of renewable and sustainable energy, medical diagnostics and treatments, and environmental monitoring and protection.

As the Associate Department Chair of Chemical Engineering, Dr. Ziemer responsibilities will include all issues related to undergraduate education, including providing and implementing a vision for improving all aspects of the undergraduate curriculum and educational experience. ■

## Dr. Behrooz (Barry) Satvat Appointed ChE Distinguished Professor of Practice

The Department is excited to announce that Dr. Behrooz (Barry) Satvat will transition from his current position as the Director of the Graduate Cooperative Education Program in the College of Engineering to become the Distinguished Professor of Practice in Chemical Engineering. Building off of his success serving as the Director of the Graduate Cooperative Education Program, Dr. Satvat will continue to establish educational and research collaborations for the College with industry while teaching courses in Chemical Engineering.

With over twenty years of previous industrial and academic experience, Dr. Satvat joined

NEU in 1996. Prior to this, he held senior positions in research, engineering and management across multiple industries and spearheaded multi-million-dollar projects.

In his role as Director of the Graduate Cooperative Education Program, Dr. Satvat's primary focus was to develop a well-organized and successful program for engineering graduate students. During the past five years, Dr. Satvat has developed over 200 new co-op opportunities for engineering graduate students and has increased the number of graduate engineering student placements from six (in the 2007-2008 academic year) to over 250 (in the 2012-

2013 academic year). In recognition of his service to the Cooperative Education Program, he has received the "Outstanding Cooperative Education Award" in the College of Engineering.

Over the course of his tenure, Dr. Satvat has taught both undergraduate and graduate-level courses, and has regularly garnered leading evaluations from his students. Additionally, he has received the "Outstanding Teaching Award" multiple times in both the Department of Chemical Engineering and the College of Engineering. Please join us in congratulating Dr. Satvat on his new position! ■

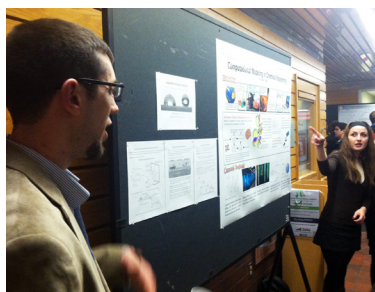
## Events

### AIChE

The Northeastern Student Chapter of the American Institute of Chemical Engineers (AIChE) held several events during the 2012-2013 year. The student group hosted a reception at the annual AIChE National Meeting in Pittsburgh, PA, in October 2012.

In February 2013, AIChE and the Department of Chemical Engineering hosted a joint research mixer for undergraduates looking to get involved in research and faculty seeking motivated student assistants. The informal event featured about a dozen faculty and graduate students with posters on research to spark conversation and match interests with students.

Also this spring, AIChE held a co-op student panel featuring previous co-ops from



Professor Lucas Landherr and graduate student Fariba Seyedzadeh-Khanshan explain their research at the AIChE Research Mixer

Genzyme, A123 Systems, Dow Chemical, and Arsenal Medical. The students gave brief presentations on their experiences, with the majority of the event being open to questions and answers from the audience. ■

### BMES

Five undergraduates founded a Northeastern Chapter of the Biomedical Engineering Society, co-advised by Professor Edgar Goluch (CHE) and Professor Mark Niedre (ECE). The chapter hosted a reception at the 2012 Annual Biomedical Engineering Society Conference on Wednesday, October 24, 2012. ■

### SFB

Graduate students Benjamin Geilich, Daniel Hickey, and George Aninwene II, advised by Professor Thomas Webster, founded a student chapter of the Society For Biomaterials at Northeastern last spring. The chapter assisted the Society in preparing for the Annual Meeting, which was held in Boston on April 10-13, 2013. ■



## Department News and Awards

### Faculty

**Professor Anand Asthagiri's** research in determining the dynamics of how cells organize into multicellular communities or aggregates was featured in PLOS ONE. He is also one of twenty young investigators selected to attend the 2013 Frontiers in Bioengineering workshop at the Georgia Institute of Technology, Atlanta, GA.

**Professor Rebecca Carrier** has been featured in the Society for Biomaterials Members Spotlight Video.

**Professor Paul DiMilla** won the Omega Chi Epsilon Faculty Member of the Year award.

**Professor Edgar Goluch** gave a plenary talk at ITNANO 2013 on July 26-28, 2013. In March 2013, he was interviewed in Fast Company Magazine about his research on smart bandages. Together with Professors Veronica Godoy-Carter and Yunrong Chai (Biology), his lab group received funding from Northeastern University for a Tier 1 Interdisciplinary Seed Project entitled "Exploring the Link Between Bacterial DNA Damage Response and Biofilm Disassembly." His research on detecting pathogenic bacteria using nanoscale electrochemical sensors was recently featured in the journal Lab-on-a-Chip.

**Professor Carolyn Lee-Parsons** is re-engineering the way a Madagascar periwinkle plant grows so that it can boost the production of the anti-cancer drugs that it creates. This year, she won the College of Engineering Outstanding Faculty Teaching Award.

**Professor Laura H. Lewis** was one of 16 international invited participants in the Royal Society International Scientific Seminar on Magnetoelastic Coupling in

Functional Materials, held February 18-19, 2013. Additionally, she was featured by NewScientist on October 30, 2012 for her research in creating a non-rare earth magnet that are increasingly needed in green technologies.

**Professor Elizabeth Podlaha-Murphy** received a gift and a certificate from AIChE for being a member for 25 years in July 2013. She was awarded a grant of \$75,000 from the National Association of Surface Finishing (NASF). She is currently serving as vice-chairman of the Electrodeposition Division of The Electrochemical Society in Pennington, NJ.

**Professor Thomas Webster** co-organized the first international translational nanomedicine conference, ITNano 2013, at Northeastern University from July 26-28, 2013. Speakers from over 20 countries were featured, including some from the Boston area. He has been elected as a Fellow of the Biomedical Engineering Society (BMES), the largest society dedicated to biomedical engineering in the U.S. He is the 2013 recipient of the Dove Press Outstanding Editor's Award. He was the Donald M. Mattox Tutorial speaker at the SVC TechCon 2013 Biomedical Symposium on Coatings and Surface Treatments for Medical Applications on April 22, 2013, and was honored with the conference's service award. On Tuesday, March 12, he gave the keynote address at the National Science Foundation Sponsored Colombia-U.S. Workshop on Nanotechnology for Energy and Medical Applications. Professor Webster was inducted as a fellow of the American Institute of Medical and Biological Engineering (AIMBE) on February 17,

2013.

**Professor Thomas Webster** hosted the "Biofilm Innovations 2013" Conference in collaboration with Richard Longland, Arthroplasty Patient Foundation, on January 30, 2013.

**Professor Thomas Webster** started Parios, a privately held company located in Concord, MA that is focused on the growing market of skin tissue regeneration.

**Professor Thomas Webster** is working to develop an injectable, conductive nano-material to help regenerate heart tissue following a heart attack or cardiac disease.

In December 2012, **Professor Thomas Webster** participated in the first ever Virtual Conference hosted by Materials Today, presenting on the topic "Nanomedicine: From Increasing Tissue Growth to Toxicity Concerns".

**Professor Richard West** hosted the 31st Regional Meeting on Kinetics and Dynamics on January 26, 2013.

**Professor Ron Willey** is the recipient of the Norton H. Walton/ Russell L. Miller Award in Safety/Loss Prevention which is the highest honor from the Safety and Health Division of AIChE.

### New Affiliated Faculty

The Department of Chemical Engineering has taken on four new affiliated faculty in the 2012/2013 academic year. They are Dr. Mansoor M. Amiji and Dr. Heather A. Clark of the Pharmaceutical Sciences; Dr. Barry L. Karger of Analytical Chemistry; Dr. Srinivas Sridhar of the Physics Department; and Dr. Shashi Murthy as center director.

### Graduate

**Nina Bordeaux**, advised by Professor Laura Lewis, won a Best Poster Award at the 12th Joint MMM-Intermag Conference in January 2013.

**Dr. Fulden Buyukozturk**, a recent graduate of Professor Rebecca Carrier's lab, received the Outstanding Paper Award at the ASME Nanoengineering for Medicine and Biology Congress.

**Christopher Cogswell**, a graduate student in Professor Sunho Choi's group, was selected for a 2013 College of Engineering Excellence in Teaching Award.

**Selena DiMaio**, a graduate student in Professor Rebecca Carrier's lab, won the American Institute of Chemists Award

for exceptional academic excellence in chemical engineering.

**Benjamin Geilich**, a graduate student in Professor Thomas Webster's lab, won a STAR (Student Travel Achievement Recognition) Award from the Society for Biomaterials in May 2013.

**Adam Hatch**, advised by Professor Shashi Murthy, has been selected as a recipient for the 2013 Excellence in Research Award for Graduate Students in the Northeastern University College of Engineering.

**Daniel Hickey**, advised by Professor Thomas Webster, has been chosen by the ISPE-Boston Chapter to represent the Graduate Division for his poster at the

Annual Meeting on November 2, 2013.

He also won an Integrative Graduate Education and Research Traineeship (IGERT) fellowship from the NSF. His research was featured in the EBERS Tissue Engineering Newsletter in July 2013.

Quad Technologies, LLC, founded by graduate students **Sean Kevlahan** and **Adam Hatch** and ChE alumnus **Brian Plouffe**, along with **Professor Shashi Murthy**, has been selected as a finalist in MassChallenge. MassChallenge is the world's largest startup accelerator and competition. Sean and Adam also received first place in the Shark Tank Round of the Rice Business Plan Competition on April 11-13, 2013.

## Graduate

*(Continued from previous)*

**Noreen Rizvi**, advised by Professor Carolyn Lee-Parsons, won a 2013 Intel Corporation scholarship from the Society of Women Engineers for her outstanding academic achievement as well as strong engineering potential.

**Shaopeng Sun**, a graduate student in Professor Elizabeth Podlaha-Murphy's group, received a National/International -level award to attend the 223rd Electrochemical Society Meeting in Toronto, Canada.

**Qi (Gavin) Wang**, a bioengineering student in Professor Thomas Webster's lab, won

the best presentation award at the AIChE National Meeting in October 2012.

**Hasan Yildiz**, a graduate student in Professor Rebecca Carrier's lab, received a STAR (Student Travel Achievement Recognition) Honorable Mention from the Society for Biomaterials.

### **Best TA Assisting the Graduating Class in Chemical Engineering**

Dinara Andirova  
Thaddaeus Webster

### **Recognition of a First-Author Publication in 2012**

Tetiana Bairachna

Adam Hatch  
Felix Jimenez-Villacorta  
Hana Kim  
Melissa Loving  
Brian Plouffe  
Shaopeng Sun  
Thaddaeus Webster  
Mehdi Zamanpour

### **Completion of Dissertation Proposal Defense**

Emily Gong  
Daniel Milano  
Shaopeng Sun  
Thaddaeus A. Webster  
Hasan Yildiz

## Undergraduate

**Kassi Stein** and **Miglia Cornejo** have been chosen by ISPE-Boston to represent the Undergraduate Division with a poster at the society's annual meeting in November 2013.

### **A. Orman Fisher Scholarships**

Tyler Brown  
Melinda Covert  
Robert E. Jones  
Sean P. Ogden

**AIChE Service Recognition Awards**  
Alexander Colville, Officer Recognition

**AIChE Outstanding Senior Award**  
Allison Foster

**American Institute of Chemists Award**  
Taylor M. Dickman

**Calvin S. Cronan Award for Excellence in Communication**  
Sean P. Burns

**Department Outstanding Undergraduate Research Awards**

Roger Filanino  
Danielle Pesko  
Matthew E. Silva  
Kristen J. Talbot  
Bradley West

**Donald F. & Mildred Topp Othmer Scholarship**  
Taylor M. Dickman

### **Engineering for the Greater Good Spring 2013 Winners**

Jeffrey Kent, Ameya Mehendair and graduate student Esfandiar Kaikhosrowzadeh for designing a smart toothbrush that detects plaque on teeth.

### **Hodgkinson Award Nominees**

Sean P. Burns  
Taylor M. Dickman  
Sean P. Ogden  
Kassi T. Stein

### **Jeffrey R. Pierce Award for Outstanding AIChE Service**

Taylor M. Dickman

### **Nabil Morris Award**

Devin R. Hersey

### **Northeast Bioengineering Conference Senior Capstone Design Competition Winners**

Robert E. Jones, Thomas Khoury and Richard Salvucci for using spider silk to create improved body armor.

### **Omega Chi Epsilon Student of the Year Award**

Robert E. Jones

### **Outstanding Newcomer Awards**

Justin Oliver, Sophomore Class  
Alyssa Travitz, Freshman Class

### **Provost Undergraduate Research Award 2012/2013**

Erica Bortoff

### **Ralph A. Buonopane Awards**

William Langhauser  
Sylvia R. Talbott

### **Sears B. Condit Awards**

Kristen B. Coletti  
Taylor M. Dickman  
Kassi T. Stein

### **The Huntington 100 Award Nominees**

Sean P. Burns  
Melinda Covert  
Kristen B. Coletti  
Taylor M. Dickman  
Allison J. Foster  
Daniel R. Hunt  
Robert E. Jones  
Victor R. Lambert  
William Langhauser  
Christian Mantilla  
Anthony D. Moffa  
Sean P. Ogden  
Sylvia R. Talbott  
Bradley West

### **University Co-op Award**

Sean P. Burns  
Roger Filannino

# Congratulations to our 2012/2013 ChE Degree Recipients

## Bachelor of Science

### *Graduating Summa Cum Laude*

Louis Buchbinder  
Sean Burns  
Melinda Covert  
Taylor Dickman  
Daniel Gonzalez  
Robert Jones  
Brian LeJeune  
Sean Ogden  
Gregory Passa  
Ravi Patel  
Danielle Pesko

### *Graduating Magna Cum Laude*

Marcello Auriti  
Michael Farragher  
Peteris Griffiths  
Kevin McLarnon  
Matthew Pelletier

Connor Raymes  
Daniel Tam  
Tyler Underhill  
Bradley West

### *Graduating Cum Laude*

Josef Bober  
Lisa Chan  
Peter Drivas  
Brian Eller  
Andrew Grube  
Charles Hewitt  
Thomas Khoury  
Daniel Kramar  
Christian Mantilla  
Dylan Nichols  
Lauren Pallister  
Nicholas Rao  
Richard Salvucci  
Cassandra Shaw

### *Graduating*

Dalal AlHamad  
Hatem Alshammari  
Michael Burke  
Gregory Dube  
Roger Filannino  
Christine Garey  
Daniel Gribbin  
Taher Hasanali  
Leon Hendee  
Ugonna Ibe  
Benjamin Leathers  
Francis Rocco  
Jason Schaub  
Matthew Silva  
Stephen Summerhayes  
Jordan Turgeon

## Doctor of Philosophy

Hana Kim  
Dwayne Vickers

## Master of Science

Valeria Casas  
Andrew Dikan  
Allison Foster (BS/MS)  
Nihal Issari  
Joshua Marion  
Mohamed Sbeih  
Kristen Talbot (BS/MS)  
Sean Troiano (BS/MS)  
Yuhao Wang  
Jingxin Yu

## Gary Broberg Becomes New IAB Chair

The Department is pleased to announce that Gary Broberg, P.E. and CEO of Practical Applications, Inc., will be the next Industry Advisory Board (IAB) Chair. Mr. Broberg received his B.S. in ChE from Northeastern in 1989, and has more than twenty years of experience in industrial water treatment and environmental regulatory compliance. In addition, he has provided custom designed water and wastewater treatment systems for a wide variety of industries including hospitals, universities, biotechnology laboratories, and pharmaceutical companies worldwide. Mr. Broberg regularly conducts water and wastewater training courses to a wide audience of engineers and system operators. He is a member of the American Institute of Chemical Engineers, the American Society of Plumbing Engineers, and the Massachusetts Water Pollution Control Association.

Mr. Brobart replaces Don Wood (B.S., ChE 1968), who has held the position of IAB Chair for over 10 years. Mr. Wood was instrumental in advancing the Department in numerous ways, including implementing the current and successful Senior Design course which pairs students with alumni to enhance their education and help establish a lifelong Northeastern alumni relationship. ■

## Supporting the Department

This is an opportunity to make a lasting contribution to the future of the Department of Chemical Engineering and Northeastern University.

Your support is essential to furthering our mission to provide our students with education and experiences that will help transform their lives. It will also provide scholarships to students, develop new chemical engineering programs, and contribute to new facilities and equipment.

A planned gift to Northeastern can support the College of Engineering. For more information please visit [www.northeastern.edu/giftplanning](http://www.northeastern.edu/giftplanning) or email [giftplanning@neu.edu](mailto:giftplanning@neu.edu).

For more information on ways to give, please contact Mae Lynn Patten, Director of Development and Alumni Affairs, by telephone at (617) 373-4845.

**\*Gifts by Mail:** To mail in a gift, please make your check payable to Northeastern University and send it to:

Development and Alumni Affairs  
College of Engineering  
Snell Engineering Center, Room 147  
Northeastern University  
360 Huntington Avenue, Boston, MA 02115  
Please indicate Department of Chemical Engineering on the memo line to designate your gift.

**\*Online Gifts:** [www.neu.edu/giving/](http://www.neu.edu/giving/)  
You will have an opportunity to designate your gift to the College of Engineering.

**\*Gifts By Telephone:** To make a gift by telephone, please call (617) 373-5520 during regular University business hours of 8:30 a.m. to 4:30 p.m., Monday through Friday. Be sure to designate your gift in support of the Department of Chemical Engineering.

## Stay Connected, Stay Informed!

Our goal is to keep you connected and informed.

Tell us about your own professional accomplishments or personal updates. Please send news to us and we will include it in an Alumni Updates column.

Do you have any suggestions for articles for upcoming issues?

Do you know of an alumnus who is not receiving our newsletter but would like to be on our mailing list?

Contact Us:

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360 Huntington Avenue, Boston, MA 02115

Office: (617) 373-2989

Web: [www.northeastern.edu/che/](http://www.northeastern.edu/che/)

Designed by:

Belinda Slakman, ChE Ph.D. Student

Benjamin Geilich, BioE Ph.D. Student