A New M.S. Program in Biomedical Engineering

The Biomedical Engineering program uses an integrated and interdisciplinary approach to advance the knowledge of its graduates on fundamental issues at the interface of engineering, biology, and medicine. Students learn about evolutionary processes, focusing on how living things function and how several branches of engineering and science are interconnected in these processes. Cross-disciplinary activities that integrate the engineering sciences with the biomedical sciences and clinical practice have the capacity to improve human health. The Biomedical Engineering program emphasizes the development of critical thinking skills needed for research and education in tissue regeneration, biomaterials, biologically inspired materials, tissue engineering, physiological measurements, bioelectronics, biomechanics, bioMEMS, wireless communication in cells, biosensing, biorobotics, biosignaling, ergonomics and several associated areas of man-machine interface.

Internship and Career Opportunities

Students have opportunities to pursue internships and independent projects that provide real world experience in the biomedical engineering professions, for the practical application of their course work, through supervised training in commercial, government or private laboratories and academia. The program’s interdisciplinary projects also allow the students to pursue Ph.D. level research in biomedical engineering topics through the School of Engineering’s Computer Science and Engineering department, which includes a Ph.D. program.

Faculty Preview

Dr. Prabir Patra, Assistant Professor of Mechanical Engineering and Program Director, Biomedical Engineering, received his Master’s and Ph.D. degrees from the Indian Institute of Technology (IIT) in Kharagpur, India. He did his postdoctoral research at the University of Massachusetts Dartmouth and Rice University.

UB’s Biomedical Engineering faculty comes from distinguished universities such as, but not limited to, MIT, University of Illinois, University of Pennsylvania, University of Texas, University of Michigan and Rice University. They have outstanding research credentials in specialty areas of interest and have published numerous peer-reviewed research articles, obtained patents, and served on academic journals and conferences that are published in print and online.

For more information about the Biomedical Engineering program, please contact: Dr. Prabir Patra, Program Director, at 203-576-4165 or via email at ppatra@bridgeport.edu.
The School of Engineering has provided more than 50 scholarships, totaling $2.4 million, to qualified students. A new scholarship program is making awards of $3,000, $4,000, and $5,000 per academic year to incoming domestic and international graduate students.

The University of Bridgeport School of Engineering is the fastest growing in the nation among the 300+ accredited engineering schools, with the largest enrollment in Connecticut.

The School of Engineering houses the only Ph.D. program in Computer Science and Engineering in New England. The program was launched in Fall 2006 and is the first engineering Ph.D. program to be licensed in the state in over 20 years. Areas of research include:

- Computer architecture; VLSI and FPG; design, modeling and simulation of embedded and integrated systems; electromechanical systems prototyping and optimization; robotics, automation, machine perception and sensing; software engineering; web development and computational sciences; systems and computer security and biometrics; wireless and mobile computing and networking.

The SOE is home to the fastest growing Electrical Engineering graduate program in the country. Enrollment has tripled over the last few years (with a current enrollment of 470 students). The M.S. in Technology Management is the largest program of its kind in New England.

The School of Engineering’s faculty ranks have doubled in the last three years to 21 full-time faculty members. Some of the brightest and most accomplished scholars and researchers in the nation have been attracted to join the faculty.

The School of Engineering has received software and hardware donations, discounts and gifts from industry to the tune of more than $8 million per year in the past two years to help support faculty and students in research and academic endeavors.

Over 400 faculty and student scholarly publications have been published in world-class academic conferences and journals in the last three years, an astounding number given the number of faculty (21) in the School of Engineering. This is a testimonial to the scholarly productivity of the School’s faculty.

The University of Bridgeport School of Engineering was nationally ranked in an article about Engineering E-Learning and On-Line Education in a U.S. World and News Report’s January 2008 issue.

The School of Engineering faculty has produced more than a dozen books in the past two years on topics varying from engineering education, computing sciences and software engineering, E-learning, instructional technology, algorithms and techniques in automation, robotics, industrial electronics, telecommunications and information technology.

Our graduate and undergraduate students have been consistently winning national and regional awards, more than any other college of engineering in New England, including awards from:

- ASEE (American Society for Engineering Education), ACM (Association for Computing Machinery), IEEE (Institute of Electrical and Electronics Engineers), CT Venture Group, Phi Kappa Phi, Sigma Xi, and many more.

Most, if not all, of the School of Engineering students at both the undergraduate and graduate levels participate in co-ops and internships. More than 400 companies and industries in the U.S. have offered co-ops and internships to our students and many companies retain these students after they graduate.

The School of Engineering currently has more than 75 full and part-time faculty members combined. Additional renovations are being considered to accommodate more faculty, staff and Ph.D. students. New laboratories and space are needed for the exciting and new academic areas, as well as concentrations and inter-disciplinary programs in nanotechnologies, biomedical engineering, computer information and security, intellectual property management, service engineering and management, robotics and automation, supply chain management, wireless and mobile communications, information technology, project management, and several other areas.

The School of Engineering has a very active Industry Advisory Board. These local industry leaders are involved with the School, advising the engineering programs and employing some of the School’s top graduates. UB engineering students are sought after by local, regional and multinational companies.

The School of Engineering has provided more than 50 scholarships, totaling $2.4 million, to qualified students. A new scholarship program is making awards of $3,000, $4,000, and $5,000 per academic year to incoming domestic and international graduate students.
UB ENGINEERING STUDENTS CAPTURE TOP AWARDS AT ASEE CONFERENCE


In summary, the conference was a phenomenal success!

The conference was record-breaking in all aspects — the number of submissions, number of regular participants, number of students, sponsors and exhibitors, guest satisfaction — let alone the academic accomplishments of our faculty and students. The ASEE has organized the U.S. and Canada’s 370 or so schools of engineering into four geographical zones, each with approximately 100 schools. Zone One represents all the schools of engineering in the following states/regions: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Washington, D.C, and Canada (postal codes beginning with A, B, C, E, G, H, J, K, L, M and N). The Northeast Region includes close to 90 schools of engineering.

The conference received a record number of submissions, totaling approximately 500: 230 regular research papers, 110 student poster submissions, and 160 student paper submissions. All represented new records for an annual conference. The final conference program included approximately 120 accepted regular research papers, 90 accepted student posters, and 80 accepted student papers. Conference attendance totaled around 350, with approximately 170 regular attendees, 130 student attendees, 50 industry partners/collaborators as guests, and 30 volunteers. Again, all were attendance records for the NE ASEE conference, and, in light of the current economic circumstances, testify to the quality of the conference and the organizational skills of the various committees. The conference had a total of 15 industry sponsors/exhibitors, again, a gratifying record.

In addition to the paper and poster tracks, the conference program included two keynote speeches by world-class experts and a record total number of 11 workshops, tutorials and panels, most of them industry-sponsored and conducted by our faculty in collaboration with our industry partners, other universities and the Bridgeport School District.

Conference participant feedback was excellent. Most were very impressed with all the aspects of the conference, its technical program, social program, speakers and UB as the hosting site. Most of them - including our ASEE partners and committees - expressed to us, future hosts, and the attendees that this year’s conference will be a very tough act to follow.

From an academic achievement point of view, the University of Bridgeport had the largest contingent of participants, with 16 full-time faculty members, 10 adjunct faculty members, seven staff members and more than 90 student participants and volunteers.

The conference annually conducts three tracks; two are student competition tracks. The third track, which was conducted on Saturday, April 4, was the regular faculty research paper presentation track.

The two competition tracks are:

- The Student Research Poster Competition
- The Student Research Paper Presentation and Competition

UB had approximately 60 student research project posters that were accepted and presented in the poster competition on Friday, and 40 student research papers that were accepted and presented on Saturday. In addition, 20 faculty research papers were presented on Saturday.

"The University of Bridgeport School of Engineering took the First and Second Place prizes in the Student Research Poster Competition."
Each poster/paper in the competition was judged and scored by a minimum of five judges from Zone One.

University of Bridgeport School of Engineering students took the First and Second Place prizes in the Student Research Poster Competition from among 90 conference posters.

First prize

Student name: Ying-ju Chen, Wisam Yasen, Dongha Lee, Yongho Kim  
University: University of Bridgeport  
Advisor: Dr. Jeongkyu Lee  
Title: Smart View: Wireless Capsule Endoscopy Event Automatic Classification

Second prize

Student name: Yang Yang  
University: University of Bridgeport  
Advisor: Dr. Xingguo Xiong  
Title: Gated Clock Technique for Low Power VLSI Design

In addition, UB received seven of the 12 Honorable Mentions for posters that placed 4th to 15th.

In the student research paper competition, the University of Bridgeport School of Engineering took the Third Place prize from among 80 conference student papers. In addition, UB received one of two Honorable Mentions for student papers that placed 4th to 5th. Following are the awardees and their Faculty advisors:

Third Place:

Akshat C. Patel, Miral P. Vaghela  
University: University of Bridgeport  
Advisors: Dr. Hassan Bajwa & Dr. Prabir Patra  
Title: Energy Harvesting for Wireless Sensors using Patch Array

In addition to the student poster project and research paper competitions, UB faculty and their graduate students presented their regular research papers on Saturday in the regular research paper track. The Conference awards one best research paper award, in addition to three honorable mentions. Of the 120 conference research papers, the University of Bridgeport School of Engineering received one of four Honorable Mentions for research papers that placed 2nd to 5th:

In addition to all of the exceptional accomplishments listed above, many of our faculty members served as judges for the student competitions and several participated and served as session chairs or in other capacities such as paper reviewing, conference organization and chairing the tracks.

Two other events/awards were the "icing on the cake".

Professor Xingguo Xiong was named Engineering Professor of the Year in the Northeast. This honor was announced by the governing board of Region 1 of the American Society of Engineering Education at the Conference Annual Award Banquet on Friday night. We are proud of his contributions to engineering and to his students, and the honor he has brought to the University of Bridgeport.

Professor Navarun Gupta, the ASEE 2009 conference co-chair, was elected by the governing board as the Chair-Elect of the ASEE Northeast Zone, to assume his duties as Chair in 2010. Congratulations to Prof. Gupta and we look forward to his leadership in the ASEE.

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Vishal Joshi  
University of Bridgeport  
Dr. Junling Hu  
Surge Protection Through Restrictor Plate

Farmin Hirani & Vasudev Suhagiya  
University of Bridgeport  
Dr. Buct Barkana  
Speaker Identification System

Jalpa Bani  
University of Bridgeport  
Dr. Jeongkyu Lee  
BASIL: Near-Duplicate Image Detection Using Biological Gene Sequence Alignment

Gowrilakshmi Ponuratinanam & Bhumika Patel  
University of Bridgeport  
Syed Rizvi  
Improvement in the Spread Spectrum System

Swapnil Patil & Kiran Thorat  
University of Bridgeport  
Dr. Navarun Gupta  
Using Bio Signals to Measure the Effect of Gayatri Mantra on Human Body

Anuj Gautam  
University of Bridgeport  
Dr. Jani Pallis  
Sun Tracking Solar Home Power System

Vignesh Veerapandian  
University of Bridgeport  
Dr. Xingguo Xiong  
Design of Efficient SOC-Based Multi-Core System Using NOC

Brandon Stark  
University of Bridgeport  
Dr. Jeongkyu Lee  
Dual Architecture Implementation of Acoustic Echo Cancellation
CISSE 2009 is the fifth conference of the CISSE series of E-conferences. According to Dr. Khaled Elleithy and Dr. Tarek Sobh, conference co-chairs, "CISSE is the World's first Engineering/Computing and Systems Research E-Conference. CISSE 2005 was the first high-caliber research conference in the world to be completely conducted online in real-time via the Internet."

According to Dr. Elleithy, "The final program of CISSE 2009 included 220 papers that were published in two books by Springer." A complete list of papers can be accessed at conference.cisse2009.org/proceedings.aspx. The two books published by Springer are:


"The faculty and the students of the School of Engineering have contributed significantly to the conference. A number of School of Engineering faculty are members of the technical committees and have reviewed many of the conference papers. Furthermore, the final program of the conference contained 14 papers authored by faculty and students from the School of Engineering," Elleithy said.

The concept and format of CISSE is very exciting and ground-breaking. The PowerPoint presentations, final paper manuscripts and time schedule for live presentations over the web had been available for weeks prior to the start of the conference for all registrants, so that the participants could choose the presentations they wanted to attend and think about questions that they might want to ask. The live audio presentations were also recorded and are part of the permanent CISSE archive, which also includes all the papers, PowerPoint and audio presentations.

The CISSE conference audio room provides superb audio and video, even over low speed Internet connections, the ability to display PowerPoint presentations, and cross-platform compatibility (the conferencing software runs on Windows, Mac, and any other operating system that supports Java). In addition, the conferencing system allows for an unlimited number of participants, which in turn grants the opportunity to allow all CISSE participants to attend all presentations, as opposed to limiting the number of available seats for each session.
Governor M. Jodi Rell recently announced a new initiative to spur the development of high-tech start-ups, fostering additional economic development and stimulating job creation in greater Bridgeport and Fairfield County.

The "CTech IncUBator" is a partnership between Connecticut Innovations (CI), the state's quasi-public authority for technology investing and innovation development, and the University of Bridgeport (UB). The CTech IncUBator will be Fairfield County's first and only university-based incubator for high-tech start-ups.

"Small businesses account for eight out of 10 of our state's new jobs every year," Governor Rell said. "In these economic times, it is more important than ever to cultivate entrepreneurial, start-up businesses - our primary engine of job creation. There is strong evidence showing businesses that participate in incubators like CTech tend to do better over the long haul, so we expect this initiative to go a long way toward ensuring the success of the next generation of high-tech leaders in our state.

"New businesses will benefit from a full range of resources provided by the University and CI," the Governor said. "That includes access to mentors, UB research facilities and faculty, student interns and pro bono or discounted business advice from partner sponsors. The IncUBator will be a one-stop answer shop for entrepreneurs."

CTech IncUBator offices will be located on the UB campus at 250 Myrtle Avenue in Bridgeport and are scheduled to be ready for occupancy by early summer.

"It is very appropriate to have a technology incubator on this campus, given the well-known history of the University of Bridgeport in developing high-technology, innovative interdisciplinary-research projects, and cutting-edge products and services," said Dr. Tarek Sobh, Dean of the UB School of Engineering and Vice President for Graduate Studies and Research. "The University is home to the largest graduate engineering school in the state of Connecticut. Its faculty and students are involved in major research endeavors, including the development of the U.S. Army's next generation of unmanned aerial vehicles and sponsored projects in the areas of biomedical engineering, nanotechnology, and wireless computing. UB is a partner with the Connecticut Center for Advanced Technologies (CCAT) and is home to CCAT's Center for Robotic Simulation, which was founded at UB in 2008."

The incubator will initially focus on attracting participants from several key industry sectors: information technology, digital media, advanced materials and clean technologies. Businesses in the STEM classifications (science, technology, engineering and mathematics) will eventually be considered.

While priority will be given to projects launched by UB students, alumni or faculty as well as companies supported by CI initiatives, the CTech IncUBator also will welcome businesses that are developed independently.

"We are delighted to collaborate with the University of Bridgeport on this important project," said Joan McDonald, chair of CI. "This latest CTech initiative strengthens CI's support for very early-stage companies and will help generate prospective pre-seed and seed funding opportunities for CI."

Entrepreneurs or start-up ventures interested in obtaining more information about the incubator or applying to participate may contact Dr. Gad Selig, Associate Dean of Business Development and Outreach in the Graduate Studies and Research Division of the University of Bridgeport, at (203) 576-4870 or gadselig@bridgeport.edu; or Charles Moret, Managing Director, Business Development at Connecticut Innovations, at (860) 257-2333 or charlie.moret@ctinnovations.com.

German engineering students visited UB

Students and faculty from the University of South Westphalia of Applied Sciences in Germany visited the University of Bridgeport School of Engineering on September 2, 2009.

The tour was designed to help the international students familiarize themselves with graduate-school opportunities in the United States, and it marked the third time representatives from the German school have visited UB in the past year.

The half-day visit included meetings with Gad Selig, associate dean for business development and professors Khaled Elleithy, Neil Lewis, Jani Pallis, and Dean Tarek Sobh who spoke with the group about research and study opportunities at UB.
How can engineering and technology address the demands of online learning and distance research? What’s new for tomorrow’s virtual laboratories? How can remote engineering be used by researchers, academics, and professionals working oceans apart from one another?

Michael Auer, professor of electrical engineering at Carinthia Tech Institute in Vienna, Austria, and editor-in-chief of the Journal of Online Engineering, addressed a special session on distance learning at the REV Conference, held at UB from June 22 to 25.

Those challenges drew more than 100 engineers from around the world to the University of Bridgeport from June 22 to 25 for the Sixth Annual International Conference on Remote Engineering, the world’s premier consortium on distance technology. Known as the REV Conference (for Remote Engineering and Virtual instrumentation), the four-day meeting brought together engineering researchers, educators, and professionals to explore the fundamentals, future, and application of remote engineering in both industry and academia. Participants delivered papers, presented demonstrations and research posters, and shared experiences in virtual engineering.

“These individuals are the leaders of the online community around the world,” said Dr. Tarek Sobh, Dean of the School of Engineering and co-chairman of the scientific advisory board of the International Association of Online Engineering (IAOE), which sponsored the conference.

“One of the biggest paradigms now in virtual engineering is education. It’s easy if we’re talking about something like an online MBA program. But what if you teach robotics?” Sobh said. “One of the things that is happening and, we’re doing it here at UB too, is we’re putting lots of our machinery online so students can move equipment and work with it and understand it from across the world. It’s very cool.”

Based in Austria, the IAOE was founded to encourage the wider development, distribution, and application of online engineering technologies in education and research. The REV Conference is held annually, at different institutions around the world, and this year’s meeting at the University of Bridgeport marks the first time it has been held in the United States.

Michael Auer, professor of electrical engineering at Carinthia Tech Institute in Vienna, Austria, and editor-in-chief of the Journal of Online Engineering, addresses a special session on distance learning at the REV Conference.

Jani Macari Pallis appointed Chair of the Department of Technology Management

The University of Bridgeport has appointed Dr. Jani Macari Pallis as Chair of the Department of Technology Management in the School of Engineering, the first time the school has appointed a woman to serve as chair of any of its divisions.

A former investigator with NASA, Dr. Pallis brings expertise in fluid dynamics to the job, with an emphasis on air, space, and marine vehicles, sports equipment, and the relationship between athletic injuries and equipment.

“We are very proud to have appointed Dr. Pallis as Chair of the Department of Technology Management. Given her exceptional interdisciplinary engineering background, we are looking forward to an immense scholarly and academic impact, not only in the Technology Management Department, but in the School of Engineering and the Graduate Studies and Research Division of UB,” said Tarek Sobh, Dean of the School of Engineering and the Vice President for Graduate Studies and Research.

Dr. Pallis joined the University in 2008 as an associate professor with a background in biomedical, industrial, mechanical, and aeronautical engineering. Her current research focuses on the management of biotechnology and sustainability practices in sports manufacturing and aircraft maintenance.

Prior to coming to UB, Dr. Pallis served as the principal investigator for several collaborations with NASA. She is a senior member of the American Institute of Aeronautics and Astronautics and the Society of Women Engineers, and a member of the American Society for Engineering Education and International Sports Engineering Association.

Dr. Pallis received both her B.S. and M.S. degrees from the Georgia Institute of Technology, an M.S. in mechanical engineering from the University of California, Berkeley, and a Ph.D. in mechanical and aeronautical engineering from the University of California, Davis.
The Wireless and Communications Laboratory organized a series of seminars for Ph.D. students in Fall 2009. The series included five lectures given by Ph.D. students. The presentations were attended by an average of 10 M.S. students who are working on their projects and independent studies with Prof. Elleithy. According to Dr. Elleithy, "These series have introduced new search avenues for M.S. students. The series introduces the M.S. students to new topics that are currently under investigation by Ph.D. students working under my supervision." The series included the following lectures:

1. Multiuser Communications in Cellular networks by Syed Rizvi
2. Security of Wireless Ad Hoc networks by Mohammed Abuhelalah
3. Wireless Ad hoc networks by Thabet Mismar
4. Printable antennas by Ali Elrashedi
5. Wi-Max by Manal Albozzor

Dr. Khaled Elleithy’s M.S. students made their final presentations in the WMC lab for their Masters Projects/Thesis and Independent Studies. Three graduate students (Rashid Sidiqui, Majid Ali, and M. Rizwan) presented their Master projects while three graduate students (M.A. Khan, Q. Asif, and M. Imran) presented their final independent study work.

Drs. Sobh, Elleithy, and Lee tested a prototype of transformable Unmanned Aerial Vehicle (UAV) Design funded project in spring and summer 2009

Dr. Sobh, Elleithy, and Lee tested a prototype of the transformable Unmanned Aerial Vehicle (UAV) Design, a project funded in the spring and summer of 2009.

The project was awarded close to $60,000 by the U.S. Army Armament, Research, Development & Engineering Center (ARDEC) to develop a prototype for a transformable Unmanned Aerial Vehicle (UAV). The project included a number of tasks:

- Task 1: Investigation of wireless transmitters and receivers; investigate wireless components, transmitter, receiver, and antenna.
- Task 2: System implementation; design and integrate wireless components with UAV Control.
- Task 3: Wireless camera component; install the video camera on the UAV and display on a PC.
- Task 4: Demonstrations; demonstrate the wireless link and camera components of the transformable UAV system.

The test of the prototype was performed in the School of Engineering’s Mobile and Wireless Communications Laboratory as well as in Bridgeport’s Seaside Park.

The picture shows the prototype and an experimentation carried by Ph.D. student Ali Alrashedi. According to Ali, "Working on such a high tech funded project has provided me a priceless opportunity where I had to design the control circuitry of the motors of the UAV." The picture shows Ali, working with a dummy projectile that was hanging on a string, to capture a video using a wireless camera mounted inside the tube. The video signal is sent to a base station, using a transmitter integrated with a camera. In the base station, a video receiver acquires the wireless video signal, and then sends the signal to a PC via a video converter. In the base station (PC), the software for the video component displays the captured video, and processes it to generate a control signal. Finally, the generated control signal is transmitted from the transmitter to a receiver, using the wireless link component.

According to Dr. Elleithy, "The successful implementation of the prototype helped the University of Bridgeport, University of Hartford, UConn, and other Connecticut industries to receive a $2.4 million grant to complete the detailed design of this project."
Dr. Aymen Lpzra works as a planning engineer for United Illuminating (UI) Power Company. He is also an adjunct professor in Electrical Engineering (EE) at the University of Bridgeport, specializing in power-related courses.

On Thursday April 29, 2010, Dr. Lpzra took EE Profs. Hmurcik, Zhang, and Toporovsky and 12 students to visit the Singer Substation, which is a switching (transmission) substation at the corner of Henry and Main Streets located near the UB campus (just two blocks from Bodine Hall).

The substation is the largest 345kV transmission facility and the most advanced Gas Insulated Substation (GIS) in America. It handles 345,000 volts (phase-to-phase) and sends out four different three-phase lines, two to Norwalk and two to Stamford.

UB students viewed the circuit breakers (with special sulfur-hexafluoride stabilizing gas), the large capacitor banks, and the inductive reactors, all of which are necessary for proper power routing.

The power facility is fully automated and controlled using a microprocessor-based protection system and fiber optic links to provide fault-free communications. This protection system is redundant and fed from a large battery bank (1600 amp-hours), which provides backup power to maintain protection system functioning in case of AC-system failure.

Earlier that day, Dr. Zhang visited the Trap Falls distribution substation in Shelton with students. This substation’s two transformers are fed by two 115kV transmission lines, and it outputs many feeders at 13.8kVolts. A UI engineer explained the functionality of the station’s equipment.

Dr. Lpzra welcomed Dr. Zhang and the students to the UI Working Center in Shelton where they had the chance to visit the Control (Dispatch) Room and understand the concept of grid interconnections. The students were impressed with the large display, which reflects the real-time state of all the power switches and equipment on the grid, including that portion of the grid under UI control and the connection to other grids that are not under UI control. Real-time power flow and power factors in the grid are updated and displayed continuously.

The students also enjoyed visiting the equipment stack area at UI (the so-called “bone yard” where equipment that is not in use is stored). They had the chance to see and touch the network transformers that are usually installed underground. Also, they saw many other diverse pieces of equipment that one only sees from a distance on telephone poles and power towers.
Electrical Engineering Prof. Lawrence V. Hmurcik recently consulted on a case involving an electronic monitor tied to a cow. This monitor uses state-of-the-art spread spectrum hopping to send out a radio signal every 4 hours to the many computer lab, located in the cow barn many miles away. Aside from the normal parameters of location and heart rate, the main purpose of the collected data is to tell if the cow is in estrus, and hence is ready for artificial insemination. Prof. Hmurcik’s interests were in the battery that provided the monitor’s power and the antenna used to transmit and receive. Both required redesign.

Dr. Tarek Sobh, Vice President for Graduate Studies and Research and Dean of the School of Engineering, and a dual citizen of Egypt and the U.S., has been elected a Fellow of the African Academy of Sciences (AAS). Modeled after the American National Academy of Sciences, the AAS was founded in 1985 and selects Fellows from among distinguished scientists whose origins are in an African country. Dr. Sobh joins 14 other Egyptian-origin scientists in the AAS.

Electrical Engineering professors Buket Barkana, Paul Garbarino, and Lawrence Hmurcik are working on a major patent infringement case. Light Emitting Diodes (LED’s) are used in many flat panel displays (for example in cell phones). Most colors of LED’s are easy to make, except for the color BLUE. This color is patent protected in the U.S. Ten companies in Asia are making Blue LED’s without paying royalties to the patent holder (Dr. Gertrude Rothschild). Barkana et. al. will make a case for patent infringement, which will prevent the 10 companies from importing their goods to America until they pay licensing fees.

Dr. Tarek Sobh was appointed Associate Editor-in-Chief of the International Journal of Engineering - Computer Science Journals, in November 2009.

Dr. Jeremy Li attended the 2010 ASME Annual Conference held at Pittsburgh, PA, from June 4-9, 2010.

Dr. Gad Selig presented a keynote conference paper presentation on, "The Integration and Alignment of Business and IT Governance with Project Management for More Effective and Accountable Enterprise Management" at the Third Annual International Project Management and Engineering Conference held in Sao Paulo, Brazil on December 2, 2009.

Dr. Hmurcik recently worked for Caterpillar Tractor Co., Griffin, Georgia. He consulted on phase-to-phase and phase-to-ground relations for a variety of voltages being used at 50 cycles per second in their electric motors; these are motors made in America for service in other countries.

Dr. Sobh has been invited to present a workshop for the Jordanian Ministry of Higher Education and Scientific Research in June 2010, in Amman, Jordan. The workshop is for the National Conference for the Development of Study Plans, Teaching, Learning and Scientific Research.

Dr. Hmurcik was recently hired to recreate an accident. An electrician was changing a light fixture in a warehouse in Florida, 15 feet off the ground. He fell and died from wounds sustained in the fall. The question was why he fell. Dr. Hmurcik was able to answer this based on police records, coroner’s records, and EMT transcripts. Dr. Hmurcik had been able to prove that the victim was shocked by a wire that was still live but which was supposed to be dead.

Dr. Tarek Sobh was appointed Associate Editor-in-Chief of the International Journal of Engineering - Computer Science Journals, in November 2009.

Dr. Tarek Sobh was an invited Keynote Speaker at the Sixth International Conference on E-Learning Applications, which was held at the American University in Cairo, Egypt in January 2009. Dr. Tarek Sobh was Technical Program Committee Member of Robocomm 2009, the International Conference on Robot Communication and Coordination held in Odense, Denmark in March 2009.

Dr. Tarek Sobh served as a Technical Committee Member of the IEEE International Conference on Computer, Control and Communication (IEEE-IC4, 2009). The National University of Sciences and Technology (NUST) and the Genesis of Pakistan Marine Engineering College (PNET) conference was held in Karachi, Pakistan in February 2009.

Dr. Tarek Sobh gave a workshop presentation entitled "Online Engineering and Remote Learning" at the Conference on Remote Engineering and Virtual Instrumentation REV 2008, which was held in Dusseldorf, Germany in 2008.

Dr. Lawrence Hmurcik and Kris Seluga, of Technology Associates, recently completed an investigation into the smoke-inhalation death of a young girl in the Bronx. The investigation revealed that the apartment building fire resulted when a space heater was mistakenly set upside down. Fluid surrounding the heating elements flowed away, and the elements became too hot, eventually setting fire to the building.

Dr. Tarek Sobh served as Chair of the International Conference on Remote Engineering and Virtual Instrumentation (REV2009). The conference was held at the University of Bridgeport in June 2009.

Dr. Tarek Sobh gave the Invited Keynote Speech to the IEEE Symposium, which was held at the University of Bridgeport in April 2009.

Dr. Tarek Sobh was General Chair of the International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CISSE 2008) in December 2008.

Dr. Jeremy Li will attend the ASME 2010 International Design Engineering Technical Conferences & Computer
and Information in Engineering Conference held at Montreal, Canada from August 15-18, 2010.

Dr. Tarek Sobh was the Keynote Speaker at the 2009 International Conference on Industrial Electronics, Technology & Automation (IETA 2009), "Research and Education Directions in Robotics, Intelligent Sensing and Mechatronics," which was held in December 2009.

Dr. Gad Selig presented a paper and key presentation on, "The Critical Role of the Project Manager and Governance in Successful Strategic Sourcing and Outsourcing Initiatives" at the Eighth Annual Smart Sourcing Conference in Jersey City, NJ from August 24-25, 2009.

Dr. Tarek M. Sobh was an invited workshop presenter in Cairo, Egypt in March 2010. The workshop was delivered for the Egyptian National Authority for Quality Assurance and Accreditation in Education, Ministry of Higher Education and Scientific Research. The workshop topic was "University and Disciplinary Accreditation for Egyptian Universities".

Dr. Irv Ojalvo, professor and chair of mechanical engineering 1983-90, and Dr. Lawrence Hmurcik, professor and chair of electrical engineering, recently consulted in two court cases, in which an electrician received a mild electric shock while working 10 feet above ground, causing two men to lose their balance and fall; one died and the other was crippled. Dr. Ojalvo cited numerous problems with the scaffolding and safety harnesses, while Dr. Hmurcik showed that both men failed to obey basic safety protocols.

Dr. Tarek Sobh was an invited Keynote Speaker for the Ministry of Science and Technology, Brazil, Vi-GESITI Congress (Management of Systems and Information Technology in Organizations), which was held in Campinas City, Brazil in June 2010.

Dr. Tarek Sobh was an invited Colloquium Speaker for "Robotics, Intelligent Sensing and Control: New Directions in Research and Education", which was held at the University of Denver in October 2009.

Dr. Tarek Sobh was the Plenary Session Speaker for the Sixth International Conference on Remote Engineering and Virtual Instrumentation, (REV200), which was held at the University of Bridgeport in June 2009.

Dr. Patra attended a Symposium on Quantitative Neuroscience with Magnetic Resonance on March 15, 2010, held at the Yale University School of Medicine.

Dr. Tarek Sobh was a Plenary Session Speaker for the American Society for Engineering Education, (ASEE 2009), Northeast Section Conference, which was held at the University of Bridgeport in April 2009.

Dr. Tarek Sobh was an invited Keynote Speaker at the Fourth International Conference on Intelligent Computing and Information Systems (ICICIS 2009), which was held at the Ain Shams University in Cairo, Egypt in March 2009.

Dr. Hmurcik recently concluded an accident investigation in which a garage door at a factory in Hartford was raised up by a motor, but since there were no sensors to tell the motor to stop, it kept raising the door after it came to rest in the "up" position. This broke one of the cables that held the door. The door swung out and hit a worker. Dr. Hmurcik was able to show that the cables were to blame.

UB has a long history of collaboration with industry through sponsored research, as advisors to academic programs, and through UB's student co-ops, internships and work study experiences.

Dr. Tarek Sobh was the invited Keynote Speaker at the International Joint Conferences on Computer, Information and Systems Sciences and Engineering (CISSE 2008) in December 2008.

Dr. Tarek Sobh was named Distinguished Professor of Engineering and Computer Science by the Board of Trustees at its meeting on February 26. Professor Sobh is only the second member of the UB community to achieve this distinction. Dr. Richard Rubenstein, President Emeritus and Distinguished Professor, is the other.

Buket Barkana, assistant professor of electrical engineering, Lawrence V. Hmurcik, professor of electrical engineering, and Dr. Lowell Baker, formerly of MIT and now with Technology Associates, recently concluded two accident investigations. In each case a woman was hospitalized after being burned by a TENS, a transcutaneous electrical nerve stimulator, which applies electricity to the skin in order to massage muscles.

Jani Macari Pallis, former investigator with NASA, has been appointed Chair of the Department of Technology Management.

Dr. Tarek M. Sobh was named Distinguished Professor of Engineering and Computer Science in February 2010. He was named in recognition of his extensive scholarly achievements and contributions to the fields of robotics, automation, sensing and computer vision, systems engineering, computer science, on-line engineering and engineering education. The vote was unanimously approved by the University of Bridgeport Board of Trustees.

Recently, Dr. Hmurcik concluded a case in which a construction worker on-site in Honolulu, Hawaii claimed to have been struck by lightning. He was making a claim against his construction company for putting him in harm's way. Dr. Hmurcik was able to refute the worker's claims and show a connection between the worker's very minor injuries and an un-related accident.


Dr. Tarek Sobh was appointed Editorial Board Member of the "Journal of Global Development and Peace" in 2008.

Dr. Tarek Sobh was named Director of the Connecticut Center for Advanced Technologies (CCAT) Center for Robotic Simulation in 2008.

Dr. Tarek Sobh was appointed as a member of the International Program Committee (IPC), International Association of Science and Technology for Development (IASTED) International Conference on Robotics and Control (AsiaRC 2010), to be held in Bangkok, Thailand in November 2010.

Dr. Tarek Sobh has been named a Member of the International Program Committee (IPC) of the International Association of Science and Technology for Development (IASTED) International Conference on Robotics and Applications (RA 2010), to be held in Cambridge, Massachusetts in November 2010.
Dr. Xiaoguo Xiong was recently named Engineering Professor of the Year in the Northeast. This honor was announced by the Governing Board of Region 1 of the American Society of Engineering Education at the Conference Annual Award Banquet. We are proud of his contributions to engineering and to his students, and the honor he has brought to the University of Bridgeport.

Dr. Sobh has been appointed as a member of the International Program Committee of the International Association of Science and Technology for Development (IASTED) International Conference on ACIT Control, Diagnostics and Automation, (ACIT-CDA 2009), to be held in Novosibirsk, Russia in June 2010.

Dr. Tarek Sobh has been named North American Liaison of the Seventh International Conference on Remote Engineering and Virtual Instrumentation (REV 2010), to be held in Stockholm, Sweden in June 2010.

Dr. Tarek Sobh was elected Fellow of the African Academy of Sciences in December 2009.

Dr. Tarek Sobh served as the General Chair of the International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CISSE 2009).

Professor Patra gave an invited talk at City University of New York (City College) in the Department of Mechanical and Biomedical Engineering. The talk, “Nano-Structured Scaffold for Tissue Engineering. Talk” was given in February 2010.

Dr. Tarek Sobh served as an International Program Committee Member of the International Association of Science and Technology for Development (IASTED) International Conference on Identification, Control and Applications, (ICA2009), held in Honolulu, Hawaii in August 2009.

Dr. Jeremy Li attended the Sixth International Conference on Remote Engineering and Virtual Instrumentation from June 22-25, 2009.

Dr. Tarek Sobh served as a Technical Committee member of the Remote Engineering and Virtual Instrumentation 2008 (REV2008) International Symposium, held at the University of Applied Sciences in Dusseldorf, Germany in 2008.

EE Professors Garbarino and Mpembele were chosen by a committee representing the Office of Naval Research, Electric Power Research Institute, and the American Electric Power Council to attend a one week summer workshop at Northern Arizona University in Flagstaff. Professors Mpembele and Garbarino will be working on a new engineering curriculum that integrates Power Electronics and Power Engineering and Electric Machines into one program. Other participants in the workshop include professors and experts in the fields of energy and power, drawn from the nation’s schools and industries.

Dr. Tarek Sobh served as Chair of the American Society for Engineering Education, (ASEE2009), Northeast Section Conference, held at the University of Bridgeport in April 2009.

Dr. Navarun Gupta, ASEE 2009 conference co-chair, was elected by the Governing Board as the Chair-Elect of the ASEE Northeast Zone, to assume his duties as Chair in 2010. Congratulations to Dr. Gupta. We look forward to his leadership in the ASEE.

Dr. Tarek Sobh will be serving as General Chair of the IASTED International Conference Robotics and Applications (RA 2010), to be held in Cambridge, Massachusetts, in November 2010.

Dr. Tarek Sobh served as a Program Committee Member of the International Conference on Advanced Robotics (ICAR2009), held in Munich, Germany in June 2009.

Dr. Hmurcik recently investigated a problem at a local hospital wherein a patient who was anesthetized and undergoing surgery was producing electrical noise that was interfering with the electrical signals being read to monitor the unconscious patient’s physical activity. Dr. Hmurcik showed that there was no provision made to dissipate simple static buildup (like the kind one experiences after walking across a new carpet and touching a doorknob) in order to insulate the patient from possible shock or electrocution from heavy electric current flow. Dr. Hmurcik recommended a cuff be used on the patient’s hand to dissipate static charge build up. This type of cuff is already used in the field of semiconductor electronics analysis, where static charge can blow out a fragile electronics chip.

Dr. Hmurcik was recently contacted to investigate an incident at Mount Sinai Hospital in New York. A patient had a bronchoscope (also spelled bronchoscope) inserted into his lungs via his mouth. The bronchoscope exploded. Dr. Hmurcik’s initial investigation found equipment problems as well as problems with the medical technician’s application technique.

Dr. Tarek Sobh served as a member of the International Program Committee (IPC) of the International Association of Science and Technology for Development (IASTED) International Conference on Control and Applications (CA 2008), held in Quebec, Canada, in 2008.

Dr. Tarek Sobh received the Professional Recruitment Regional Award from the American Society for Engineering Education (ASEE) in 2008.
Dr. Tarek Sobh, Vice President for Graduate Studies and Research and Dean of the School of Engineering, learned recently that a $2.4 million federal grant has been awarded to a consortium, of which UB is a primary member, to develop drones for the U.S. Army. The application was developed primarily by Dr. Sobh and Dr. Lou Manzione, Dean of the College of Engineering, Technology and Architecture at the University of Hartford, along with the University of Connecticut and the Connecticut Center for Advanced Technology. The following UB faculty are involved in the project: Dr. Sobh (PI), Dr. Khaled Elleithy, Dr. Jeongkyu Lee, Dr. Prabir Patra, Dr. Xingguo Xiong, and Dr. Hassan Bajwa. Several UB engineering students will work with the project as well. Funding for the 18-month project should be available starting July 2010.

Dr. Hassan Bajwa was awarded a free fabrication slot, valued at $125,000, by MOSIS Education Program to support his research project, "Area Efficient Low Power SRAM Design" in February 2009. In February 2009, Dr. Bajwa also was awarded a UB Seed Money Grant of $6,650, for his proposed research project, "Dynamically Configured, Low Power SRAM Design". Dr. Xingguo Xiong was co-investigator for this project, which also supported one student research assistant.

Dr. Jeongkyu Lee was awarded a $10,000 UB Seed Money Grant for his interdisciplinary research project, "JusTDo: Developing Automatic Judging System for Taekwondo Poomsae Videos," which involved Professors Yongbom Kim and Jaedon Lee of UB's International College as co-investigators.

Dr. Prabir Patra is currently serving as a co-investigator on a $600,000 grant from the National Science Foundation's Partnerships for Innovation Program, under University of Massachusetts Dartmouth Principal Investigator Dr. Suku Sengupta. The project, "Development of Fiber-based Technology for Creating New Opportunities in Economically-depressed Northeastern United States", will conclude in early 2011. In addition, Dr. Patra is investing considerable effort to equip a lab to serve the new master's program in biomedical engineering at UB. Since October 2009, Dr. Patra has secured several pieces of equipment through the U.S. Department of Energy's Energy-Related Laboratory Equipment program. The following equipment, with their original acquisition cost noted in parentheses, includes: gas chromatograph ($13,899.27), micropump dispenser ($14,000), electrophoresis and pump ($27,000), Zeiss microscope ($30,299), and transmission electron microscope ($49,500).

Dr. Tarek Sobh received funding in the amount of $57,688 for the School of Engineering from the U.S. Army Armament, Research, Development & Engineering Center (ARDEC) for a research project entitled "Hybrid Projectile Design".

Dr. Elif Kongar was awarded a UB Seed Money Grant of $7,000 to support proposed research in "Establishing an Environmental Sustainability Program at the University of Bridgeport", along with co-investigator Dr. Jani Macari Pallis. A student research assistant was also supported by the project.

Dr. Tarek Sobh and his colleagues received funding in the amount of $2.4 million for a research project entitled "Advanced Technology in Support of Hybrid Projectiles", from the Defense Appropriation Request.

The Connecticut Space Grant College Consortium awarded a $6,000 grant to Dr. Joyce Hu for her proposed project, "CFD Validation and Simulation of Airfoil Characteristics", in which a student research assistant was involved. Subsequently, Dr. Hu was awarded a UB Seed Money Grant of $7,000 in February 2009 for research on "Modeling Transport Phenomena and Shielding Gas Effects in Gas Metal Arc Welding", which was a collaborative project with Missouri University of Science and Technology faculty member Hailung Tsai.

Dr. Sobh obtained $5,000 in funding in January 2010 for development of a travel grant from the U.S. Army Armament, Research, Development & Engineering Center (ARDEC).

Dr. Zhengping Wu was awarded a UB Seed Money Grant of $6,409 in February 2009 for the proposed research project, "A New Policy-based Management Architecture for Cross-domain Federation".

Dr. Tarek Sobh received funding in the amount of $40,000 for the School of Engineering from the Connecticut Center for Advanced Technology Grant for a project entitled: "Center for Simulation, Modeling and Analysis for Robotic Applications".

A UB Seed Money Grant of $6,930 was awarded to Dr. Xingguo Xiong for the proposed research project, "A Bulk-micromachined MEMS Comb Vibratory Gyroscope", which also involved co-investigators Drs. Linfeng Zhang and Hassan Bajwa. In addition, Dr. Xiong was awarded a Hewlett-Packard multimeter, original acquisition cost of $10,000, through the U.S. Department of Energy's Energy-Related Laboratory Equipment program, in June 2009.

Dr. Sobh has obtained funding for a Hybrid Projectile Vision System from the Imperial Machine and Tool Company in the amount of $30,000 for the period of April 2010 to July 2010.

Dr. Linfeng Zhang was awarded $6,864 in February 2009 for a UB Seed Money Grant research project, "Integration of the Platinum Nanoparticles and Carbon Nanotubes in Silicon-based Micro Fuel Cell and Silicon-based Chemical/Biological Sensor", with co-investigators Drs. Angela Santiago and Xingguo Xiong. In June and July 2009, Dr. Zhang secured equipment through the U.S. Department of Energy's Energy-Related Laboratory Equipment program. The following equipment, with their original acquisition cost noted in parentheses, includes: microanalyzer system ($660,000), gas spectrometer ($30,000), and microscope ($10,000).

UB donated a 2.4 million dollar scholarship to CPEP (Connecticut Pre Engineering Program). Mr. Bruce Dixon, Chief Executive Officer of CPEP accepted the check.
A team of engineering students from the University of Bridgeport won the 2009 Connecticut Collegiate Business Plan Competition.

This is the sixth time in five years that a UB team has won a top prize at the semi-annual competition, which is sponsored by the Connecticut Department of Economic and Community Development, CT Innovations, and the Entrepreneurship Foundation.

This year’s event, which was held on December 11 at the New Haven Lawn Club, attracted 30 teams from colleges and universities across Connecticut, including Yale, UConn, Quinnipiac, and Central Connecticut State University.

UB’s winning team, called the Green Splinter Company, won the $1,000 first-place prize in the Best Venture Enterprise category for a building material made from agricultural waste that can be used as a substitute for wood panels and drywall. Team members, all of whom are majoring in technology management, include Jawahar Ponnuwani, Bhaskara Phani Datla, Nithin Bharath Ravichandran, and Ramvignesh Gurushwami Mathivanan.

A second UB team comprised of engineering and business school students, called Cocoware Inc., also made it to the finals for their invention-cups and tableware made from coconut fiber.

The faculty adviser to both UB teams was Dr. Gad J. Selig, Associate Dean for Business Development and Outreach for the Division of Graduate Studies and Research.

Charles Moret, a judge from CT Innovations, the state’s venture capital fund, said the competition is held to foster more ventures in Connecticut, and that prize money is awarded to help winning teams move forward and fully develop businesses.

UB’s Green Splinter Company won, Moret added, because they had a very well thought-out business plan and a well-developed team. Ideas are great, but their execution, the originality of the concept, funding requirements, the management team, and the ability to execute on the plan is what’s always important.

Dr. Selig added, “Given the caliber of the finalists representing such universities as Yale, UConn, Quinnipiac and others, and the state-wide nature of the competition, this is a great accomplishment for UB.”

From 2005 through 2009, UB graduate teams representing the Schools of Business or Engineering, or a combination of both schools, have won the competition every year except 2008, and UB teams have been in the state-wide finals every year from 2005 to 2009.

University of Bridgeport engineering students awarded $4,500 Connecticut Space Grant to build lunar explorer for NASA competition

A team of University of Bridgeport engineering students has been awarded $4,500 by the Connecticut Space Grant College Consortium to build a lunar excavator that can be controlled via the Internet to travel over the surface of the moon and collect samples for scientific research.

The students designed their lunar regolith explorer for NASA’s Lunabotics Mining Competition scheduled for May 25-28.

The Consortium’s ESMD National Design Challenge Project Grant was announced earlier in the week, giving the UB team a little over a month to build the machine and get it to the Kennedy Space Center in Florida, where the NASA competition is being held.

The UB students will be among 26 university teams who will send lunar excavators over a rough-and-tumble relay course designed to simulate the surface of the moon. The machines will have a limited amount of time to collect as many samples as possible. Judges from NASA will choose the winners.

The challenges are significant. The excavators must collect as many samples as possible in a short amount of time since their power sources are limited. At the same time, the moon’s environment is harsh, with huge fluctuations in temperature and a surface than can easily tip a roving machine that isn’t sufficiently stabilized. Compe-
tition entries also must meet size and design requirements.

Whichever excavates the most will win, predicted graduate student Nicolas Gari, an electrical engineering major who is the team leader. “During the competition we’ll control it by computer to dig for samples. Power was the big issue for us: we made ours very light so we could put in a heavy battery and have as much power as possible.”

Other team members include mechanical engineering graduate students Song Fangyuan, Peng Lu, and Grace (Yajuan) Shi, and undergraduate computer engineering majors Edwin Gravrand and Matthew Breland.

They are advised by electrical and computer engineering assistant professor Xingguo Xiong and mechanical engineering assistant professor Jeremy Li.

“The students began designing the excavator last October, and the nature of work made it imperative to assemble an interdisciplinary team whose members could tackle the project’s many mechanical, computer, and electrical requirements,” said Xiong.

“We felt the opportunity to compete was very exciting,” he added. “The students have worked hard and we are proud of them.”

Two years ago, professors at the University of Bridgeport School of Engineering began collaborating on a critically important venture: establishing a chapter of the Society of Women Engineers (SWE) on campus that would, among other things, award scholarships to the most promising students in the department.

Engineering professors donate to the scholarship fund, and any engineering student who is a member of SWE is eligible to apply. Winners are selected based on academic performance and a statement that describes their future personal vision as an engineer.

This year, SWE scholarships are being awarded to two students: Suliat Giwa, a graduate student earning her Master’s Degree in Technology Management, will receive $1,500. Madhumitha Iyer, who is earning her Master’s Degree in Electrical Engineering and specializing in Digital Signal Processing, is being awarded $500.

All of the applicants were highly qualified, which really made the selection process a challenge. “We are so pleased for both students whom we know will make their mark in the field of engineering,” said Dr. Pallis, who is Chair and Associate Professor of at the Departments of Technology Management and Mechanical Engineering.

Ms. Giwa earned her Bachelor of Technology degree in Chemical Engineering from Ladoke Akintola University of Technology in Nigeria. Her areas of interest encompass management and operations in the fields of energy, environment, automation, human resources, and new-product development. She plans to contribute to the development of technology-based companies in her native country of Nigeria, upon the successful completion of her degree.

Ms. Iyer holds a Bachelor of Engineering degree in Electronics and Communications Engineering from the M.S. Ramaiah Institute of Technology in Bangalore, India.

Ms. Iyer holds a Bachelor of Engineering degree in Electronics and Communications Engineering from the M.S. Ramaiah Institute of Technology in Bangalore, India.

Ms. Iyer earned a perfect 4.0 GPA in the fall semester and was awarded a research assistant position with UB Professor Navarun Gupta. She is the author of two conference paper publications in the area of 3D sound. She plans to pursue a Ph.D. in the same area of study.
The National Society of Black Engineers (NSBE) was founded in 1975 as a nonprofit organization with the sole purpose of increasing the number of culturally responsible engineers, who excel academically, succeed professionally, and positively impact the community. The University of Bridgeport's NSBE chapter was established in 2004 with the purpose of being the personification of the original founders' dream of expanding the dream to other minorities.

UB’s chapter is a cauldron of engineering and applied science students from all over the globe. These countries include Barbados, Cambodia, Guyana, Jamaica, Kenya, Palestine, Antigua, India, the United States, Bosnia, Kuwait, Jordan, Panama, and the Dominican Republic. With 20 members and growing, members organize and sponsor various activities during the course of the academic year, such as tutoring high school students in science and math throughout the greater Bridgeport area and building websites for various organizations such as the National Association for the Advancement of Colored People (NAACP) and The Witness Project of Connecticut.

What is NSBE?

The National Society of Black Engineers (NSBE) is a 501(c) (3) non-profit association that is owned and managed by its members. The organization is dedicated to the academic and professional success of engineering students and professionals. NSBE offers its members leadership training, professional development, mentoring opportunities, career placement services and more. NSBE is comprised of more than 300 collegiate, 75 professional and 75 pre-college chapters nationwide and overseas.

NSBE is governed by an executive board of college students and engineering professionals and is operated by a professional staff at its world headquarters, located in Alexandria, VA.

NSBE, with its unique characteristics, has accomplished more for engineering students than any other organization in the world. The same light that NSBE spreads to students and professionals in the United States is also relevant in African, European, South American, Asian, Caribbean, Canadian, Australian and Pacific Islander countries for people of color. It is the NSBE leadership’s vision that the organization will replicate itself in countries around the world, creating a world network of engineers, scientists and technologists through its international operations.

Directive: Cultivate Leadership

Leadership is the key to fulfill NSBE’s mission. NSBE provides each member with the skills to lead and serve, to give each distinct competitive advantage in the work force and the ability to benefit those whom NSBE has pledged to "positively impact." As an organization, NSBE approaches this effort in two ways:

Provide each member with the opportunity to develop skills and traits characteristics of an effective leader throughout the year.

More effectively channel resources and support to chapters and chapter leaders for membership services and development.

Directive: Expand the Pipeline

To truly meet NSBE’s mission, it must address issues affecting the growth and development of the community, paying particular attention to the engineering pipeline. NSBE will establish a standard community presence and demonstrate the organization’s relevance through work in placing many more students’ in to the engineering pipeline to address the nation’s need to produce more technical talent.

Directive: Mobilize the Membership

NSBE members represent all that is positive in the engineering community. The organization will display its broader relevance through community action. Additionally, its members will continue to be the primary platform for displaying vast array of talent to the world.

The National Society of Black Engineers strives to accomplish the following objectives for the organization:

Stimulate and develop student interest in the various engineering disciplines.

Strive to increase the number of minority students studying engineering at both the undergraduate and graduate levels.

Encourage members to seek advanced degrees in engineering or related fields and to obtain professional engineering registrations.

Promote public awareness of engineering and the opportunities for Blacks and other minorities in that profession.

Function as a representative body on issues and developments that affect the careers of Black Engineers.

To accomplish the directives numerous conferences are held during the year: Leadership, Zone, Regional and National Conferences. In August, the Leadership Conference is held to inform incoming officers about the duties of their position. The Zone, Regional and National Conferences serves as a follow up to the leadership conference by checking on the progress that these officers and their local NSBE chapter have made also providing a support system on which they can rely on.

Service project of mentoring

Achievers Plus

Achievers Plus or A+ is NSBE’s signature program for improving the academic and technical aptitude of its members from PCI to Ph.D. The Achievers Plus program is implemented directly at the chapter level via

- Academic Workshops
- Support Workshops/Activities
- Mentoring Activities
- Individual Assessment Guides
• Collective and Individual Recognition

The program will be expanded to include online tutoring and will also include research tools that are so critical to graduate students and professional researchers. Achievers Plus has been expanded to promote membership in NSBE’s technical partner organizations to improve technical aptitude. This program offers both individual and group incentives that encourage the members to achieve, and achieve more abundantly.

Expanding the STEM Pipeline

Beginning this year, NSBE will be going to local high schools to introduce students to the STEM sciences, encouraging them to further consider their interest in going to college and fulfill their dreams, which is aligned with NSBE’s mission, “to increase the number of culturally responsible engineers who excel academically, succeed professionally and positively impact the community.”

The Freshman 4.0

NSBE will mentor incoming engineering students with the hope of retaining the new students, through creating a system of upperclassman-new freshmen students mentoring to help the freshmen achieve the “Freshman 4.0”. NSBE will then guide them through their college years and professional careers.

During the week of March 31 to April 4, 2010, members of UB’s National Society of Black Engineers chapter attended the annual National Society of Black Engineers Conference in Toronto, Ontario, Canada. The trip was sponsored by the UB Student Government Association, School of Engineering and the respective students who attended. Attendees included: Brandon Stark, Ahmad Nasser, Danny Wilson, Wilfred Amuri, Roger Hercules, Marsil Lewis, and Marcus Diggs. The theme of the conference was “Engineering a Global Impact.”

The opening session featured welcoming remarks from the Toronto Commissioner of Tourism, who extended greetings from Canadian Prime Minister Stephen Harper, Premier Dalton McGuinty, and Mayor David Miller. The opening session speakers were J. Michael McQuade, Senior Vice President of Science and Technology, United Technologies Corporation, and Michael Lee-Chin the Founder and Chairman of Portland Holding Inc. Mr. McQuade spoke about the impact that the National Society of Black Engineers has had on the industry throughout the years and how United Technologies has touched us in one way or another, from elevators to escalators, plane engines, and heating systems. Attendees were then introduced to the current employees of Sikorsky who were hired through the connections that NSBE has with the company. Mr. Lee-Chin spoke about the struggles he faced growing up and the importance of family. He encourage everyone to hold fast to their dreams because nothing in life is easy there will be some ups and downs; in the turbulent times we need to remember our end goal.

Accomplishments

In 2008 the University of Bridgeport NSBE chapter mentored the PCI Bridgeport Black Pride chapter and first place overall at the National Convention, beating out 40 other chapters.

In December 2007, the UB National Society of Black Engineers chapter was honored by the City of Bridgeport.

Students have benefitted from attending NSBE conferences. The following students have accepted jobs: Mohamed Ibrahim (CAT), Ike Mogbana (Rockwell Collins), Dele Sule (Texas Instruments) Subrina Thompson (Goldman Sachs), Lyon Leslie (internship with HP), and Wilfred Amuri (internship with HP). These students are proof of the benefits of being associated with NSBE. This also lets employers know that the University of Bridgeport produces quality professional computer scientists and engineers.

If you’re interested in joining or donating to the University of Bridgeport National Society of Black Engineers chapter, a representative may be contacted by email at ubnsbe@gmail.com, or through faculty advisor, Dr. Stephen Grodzinsky (grodzins@bridgeport.edu or 203-572-4145).
The faculty ranks of the School of Engineering have doubled in the last three years – we now have 21 full-time faculty members. We have attracted some of the brightest and most accomplished scholars and researchers in the nation to join our faculty.

More than 400 faculty and student scholarly publications have been published in world-class academic conferences and journals over the last three years, which is astounding, given the number of full time faculty (21) in the School of Engineering. This illustrates the scholarly productivity of our faculty.

School of Engineering faculty members have produced more than a dozen books in the past two years, on topics varying from engineering education, computing sciences and software engineering, E-learning, instructional technology, algorithms and techniques in automation, robotics, industrial electronics and telecommunications.

The School of Engineering faculty is very active in serving the engineering community by participating in more than fifty academic conferences/professional meetings every year in roles such as members of technical committees and chairs of conference and technical committees. They are also expert consultants who have been called upon to testify in court for cases and for project assessments.

Most of the School of Engineering faculty members are editors and/or on the editorial boards of world class academic and scholarly journals.


Dr. Neal Lewis was recognized as a reviewer in the new, 10th edition of Engineering Economic Analysis, by Donald Newman, Jerome Lavelle, and Ted Eschenbach, and published by Oxford University Press. Dr. Lewis is included in the Real Options section of the book. This is the best selling text for undergraduate engineering economics courses.

Dr. Elif Kongar has been invited to submit a book chapter for the forthcoming The Handbook of Technology Management, three volume set, Hossein Bidgoli, Editor-in-Chief, to be published by John Wiley & Sons, Inc., Hoboken, N.J., 07030.

Dr. Gad Selig has written two books:


Professors Buket Barkana, Navarun Gupta, and Lawrence V. Hmurcik of the Electrical Engineering department have had a paper accepted for publication in the medical journal, Burns. The title of the paper is "Two Case Reports: Electrothermal (aka contact) Burns, and the Effects of Current Density, Application Time, and Skin Resistance."

Prof. Neal Lewis presented a paper, "Integration of Real Options with Decision Trees & Simulation: Uncertainty in the Graduate Engineering Economy Course," at the 29th Annual Conference of the American Society for Engineering Management, held at the United States Military Academy in West Point, New York. He also gave a presentation, "Internships as a Two-Way Business Deal: An Industrial Perspective."

Prabir Patra, Assistant Professor of Mechanical Engineering and Biomedical Engineering, Shalini Prasad and collaborators (Vindhya Kunduru, Manish Botha, Jason Grosch, Sukalyan Sengupta) at UMass, Dartmouth, and Arizona State University, have had their paper, "Nanostructured Surfaces for Enhanced Protein Detection towards Clinical Diagnostics," accepted for publication in the peer-reviewed journal, Nanomedicine.

Buket Barkana, Assistant Professor of Electrical Engineering, presented two papers at the International Conference on Information Technology - New Generations, on April 12-14 in Las Vegas. Her papers were entitled "Environmental Noise Source Classification Using Neural Networks" and "English Vowel Production by Native Mandarin and Hindi Speakers." She also chaired the Signal Processing Applications and AI Applications tracks at the conference.


Syed Rizvi, Bevin Thomas, Khaled Elleithy, and Aasia Riasat. "A New Technique of Switch & Feedback Job Scheduling Mechanism in a Distributed System," 2009 Spring Simulation Multi-conference (SpringSim’09), San Diego-Mission Valley. San Diego, CA, USA.


Gad Selig and Tarek Sobh's article, "Transforming a Technology Management Master's Degree into an Innovative High Growth Inter-Disciplinary Program," was published in the Journal of Engineering and Applied Sciences, Volume 5, REV 2009 Special Issue, pp. 4-7, August 2009.

An article by Jack Toporovsky, Christine Hempowicz and Tarek Sobh, entitled "Interdisciplinary Automation and Control in a Programmable Logic Controller (PLC) Laboratory", was published in the International Journal of Engineering (IJE), Volume 4, Issue 1, pp. 79-85, March 2010.

An article entitled "A Method for Evaluating the Performance of Engineering Schools," by Elif Kongar and Tarek Sobh, was accepted for publication in the International Journal of Engineering Education (IJEE), March 2010.


A paper entitled "Modular Design and Implementation of Wireless Camera Component of Transformable UAV", submitted to the 7th IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS 2010), Boston, MA, August 2010.

Tarek Sobh, Jack Toporovsky and Christine Hempowicz’s conference paper entitled "Interdisciplinary Automation and Control in a Programmable Logic Controller (PLC) Laboratory", was presented and published in the proceedings of the International Conferences on Engineering Education, Instructional Technology, Assessment, and E-learning (EIAE 2009) in December 2009.

A paper entitled "Modular Design and Structure for a Mobile Sensory Platform," by Aysam Elkady and Tarek Sobh, was published in the proceedings of the International Conference on Industrial Electronics, Technology and Automation (IETA) in December 2009.

Elif Kongar and Tarek Sobh’s paper, "Prioritizing Goals of U.S. Universities to Ensure Sustainability" was presented and published in the proceedings of the International Conference on Industrial Electronics, Technology & Automation (IETA) in 2008.


H. Bajwa, I. Macwan, V. Veerapandian and X. Chen. "VHDL Implementation of High-Performance and Dynamically Configured Multi-Port Cache Memory," to be presented at the 7th International Conference on Information Technology: New Generations (ITNG 2010), Las Vegas, NV, USA.


Tulashree Thapa (MBA 2010) recently secured a position at RBS (the Royal Bank of Scotland). She will work in their Stamford, CT office as a project manager/compliance manager. Tula's association with the School of Engineering is unique. While pursuing her MBA at the University of Bridgeport, she was hired as a student worker in Electrical Engineering, a post she held for eight semesters. Although a business major, she was strong enough to teach the Electrical Engineering labs (Fiber Optics, Controls, Analog Electronics, Digital Signal Processing), and her work was so good that she won the award for outstanding student worker in 2009, beating out approximately 100 candidates university-wide.

Li-tai Lee (MSEE 2010) was recently hired as a Controls Engineer for Sonitex Corp., Milford, CT. His job is to troubleshoot their PLC equipment and assembly line components. NOTE: PLC stands for programmable logic arrays. Mr. Lee spent more than a year of his two-year stay at UB working in the PLC lab building and troubleshoot- ing equipment under Prof. Toporovsky.

Laxmisha Gopal Lakshmiya (MSEE 2008) is studying in the Ph.D. program in Computer Science at Stanford University, California. His topic of study is NanoScience Technology.

Vinodkumar Patel (MSEE January 2009) was recently hired by South Coast Hydraulic Company in Houston, Texas. He was hired, based on his expertise in PLCs (programmable logic controls). He gained this expertise in UB's two PLC labs.

Saikiran Kolla (MSEE May 2009) was recently hired by Anthony IT in Austin, Texas, as a programmer analyst.

Venu Mandava (MSEE 2008) is employed by Lockheed Martin in Baltimore as a hardware engineer. His job includes testing and codifying test results on parts.

Obasa Koswatta (MSCpE 2002) completed his Ph.D. last year and now works for the IBM research center at their Watson Center in Yorktown Heights, NY. As part of his job, he spends much time at Notre Dame University in the IBM research lab located on campus. Among his other topics of study are the applications of thin-films to the development of the next generation of computers.

Dipeshkumar Patel (MSEE Feb 2009) has been hired by Neeltran Inc, Milford, CT as a transformer design engineer.

Bhavin Patel (MSEE 2006) works for Wipro Technologies in Danbury, CT as a Network Security Administrator.

Robert C. Otworth (BSEE 1981) went to work for DuPont in Victoria, TX. Oxy bought the business in 1988 and he has been with them ever since. His career has shifted from electrical engineering to operations/maintenance to sales/marketing.

Dinesh Chanamolu (MSEE 2006) recently obtained a job at Trans-Lux Corp. in Norwalk, CT. She will be testing LED displays, including their electrical and thermal characteristics. She will be working for Russ Budzilek (UB adjunct professor in Electrical Engineering) who is Vice President in charge of Research and Development at Trans-Lux.

Chirag Bhai Patel (MSEE 2008) has been hired by MobileComm Professionals Inc., Plano, Texas as an RF (radio frequency) engineer. He will troubleshoot their wireless communications equipment and protocols.

Jalpa Bani (MSCS 2009) was employed by a respected trading firm in Manhattan, New York named GroupOne Trading Company LLP. Jalpa's endeavor with the University of Bridgeport is also very impressive. She was honored with the School of Engineering Academic Achievement Award for the year 2009 for achieving a consistent GPA of 4.0 in all the four semesters of M.S. in Computer Science. She was a voracious researcher at UB and published papers on software encryption at the IEEE Wireless Telecommunication Symposium 2008 and ASEE Zone I Conference 2008. She also published an article in the Aug 2009 Issue, Vol. 4, International Journal of Computer Science and Information Security.

Jalpa Bani (MSCS 2009), a UB graduate who works on Wall Street

Chirag Bhai Patel (MSEE 2008) has a job with IT Consulting in Metuchen, NJ. He serves as the Oracle Database Administrator.

Kantaria Dineshbhai (MSEE 2008) has a job at AmerIndia Technologies, in Plainsboro, NJ as a programmer-analyst.

Mahmoud Moghav Vemi (MSEE 1988) is a tenured professor in Electrical and Computer Engineering at the University of Malaysia, where he works in the fields of communications and solid-state Physics.

German Chistokhodov (MSEE 2004)
works for HAAS Automation Inc., Oxnard, CA. He is a senior Electrical Engineer responsible for quadrature encoder interfaces and motor control electronics (both digital-to-analog and analog-to-digital and field programmable gate arrays). He does full circuit design and layout as part of his job in re-designing HAAS motors and CNC machines.

Rajitha Velagapudi (MSEE 2008) was hired by Winspiron Technologies in Tumwater, Washington. He works as a networks administrator and troubleshooter.

Jayantibhai Patel (MSEE 2007) is working for Avaya Inc. in St. Petersburg, Florida as a network manager. His largest job is working on IP telephony for Nortel.

Ganesh Murthy (MSEE 2001) is the project manager at IT&E in Los Angeles. His team implements and tests a variety software packages being developed by private vendors.

Gopal Mansetta (MSEE 2008) is working at Motorola in Edison, NJ as a software tester for all makes of new software.

Adilomar S. Mansuri (MSEE 2007) was hired as a datawarehouse developer for Aleris International Inc., Irving, TX.

Venkata Rajanna Velichety (MSEE 2007) is working as a software programmer analyst for Computer Power Group Inc., Brookfield, WI. His duties include working with client/server applications such as Oracle and SQL. He is also trained in PDMA networking for health care applications.

Sumeet Bhalla (MSEE 2002) is working as an EMC Engineer in Nemko, Canada. He passed the EMC Engineer NARTE (National Association of Radio and Telecommunication Engineer) exam in December 2007.

Vikas Singh (MSEE 2006) recently joined ING-Corp. in Hartford as a business analyst systems analyst.

Deepak John (MSEE 2007) works for Intel in Folsom, CA as a software engineer with expertise in NEXT software.

Mahesh Dhungel (MSEE 2007) is working for SI Engineering in New York City in lighting design. His firm is a DOT contractor.

Soumen Chatterjee (MSEE 2008) was recently hired as an Assistant Professor in the Electrical and Electronics Engineering Department, at CIT, Rajnandgaon, India.

Wen Shu (MSCpE 1990) has left his position as Senior Engineer at Texas Instruments to work for the Dallas-based company, Research in Motion, as an executive consultant.

Julie Hagel (BSEE 1990) was recently promoted to lead the engineering group for Agilent Technologies in their Plaistow, NH office, troubleshooting and designing revisions of electronic test equipment.


Yue Fang (MSEE 2005) was recently promoted to head sales manager for General Photonics. His job is not only to sell their products but to interface with their engineering staff in the development of Lasers, LED’s, and general electro-optic and fiber optic components.

Srawanthi Yeruru and Saikiranyadav Kolla (both MSEE Jan 2009) are engaged to be married and working in Texas. Ms. Yeruru has a job as Report Analyst RW3 Inc., Austin. Mr. Kolla has a job as an IT Analyst for Anthony IT, Newark, Delaware, on loan to Austin.

Padmini K. Ramalingam (MSCS 2009) works as a systems analyst/developer for Independent Software LLC, in New Haven, CT.

Sowmya Madarapu (MSEE 2008) recently married. She and her husband live and work in Virginia.

Haifeng Dong (MSEE 2009) was recently admitted to the Ph.D. program in Electrical Engineering at Tufts University. Mr. Dong did his MSEE in the study of the MEM's gyroscope.

Venkatasubramanian Krishnamoorthi and his wife Umamaheswari Viswanathan (both MSEE 2003) work as senior lecturers in the department of Electrical and Computer Engineering at Saranathan College of Engineering. Both are pursuing doctorates and they hope to become professors in their discipline in the near future.

Mitali Shah (MSEE 2007) works as an application specialist at Radiant Systems in Bridgewater, NJ. Her job is to troubleshoot software used in clinical trials.

Birenkumar Patel (MSEE 2008) has a position as Engineer I for Raytheon Inc.

Deepak Kaliannan (MSEE 2009) recently secured a position as senior manager of sales and technical issues for the company Metal Management Services, Chennai, India. India is one of the largest producers of granite monuments. Mr. Kaliannan will be in charge of this division, serving the entire country of India.

Joseph Bango (MSEE 2006, BSEE 1987) was recently awarded a $600,000 contract by NASA under the SBIR program for his proposal "Electrospray Collection of Airborne Contaminant Spacecraft Cabin Air Management". Apollo 11 astronaut Buzz Aldrin and Nobel Prize winner John Fenn (professor emeritus of Yale) were present at Hamilton-Sundstrand in Windsor Locks for the award. Mr. Bango regularly seeks advice from Professor Fenn and Profs. Xiong and Hmurcik of UB’s Electrical Engineering department.

Brijesh Prajapati (MSEE 2008) was hired by Avion Systems, Inc as an associate RF engineer at Mobile, AL.

Paritosh Joshi (MSEE, UB Alumnus) works in India for a multinational corporation by the name Meltek Infosystems Pvt. Ltd. He works with satellite communications equipment.

Obasa Koswatta (MSCpE 2003) is completing his Ph.D. degree in Electrical and Computer Engineering. He will join IBM’s T.J. Watson Re-Research center, working on carbon nanotube electronics and optics.
Gilles Mpembele (Adjunct professor of Electrical Engineering and MSEE 2006) recently began a new job as electrical engineer in charge of circuits design and testing at Digatron Firing Circuits, Shelton, CT.

Prakash Thapa (MSEE 2006) was recently hired by Yahoo to work in their headquarters in New York City as a senior software engineer.

Navtej Singh (MSEE 2006) recently went to work for CSC (Computer Science Corporation in East Hartford) working as a computer engineer, adapting a customer’s business needs to the mainframe (Vantage One) that the company sells. Mr. Singh is also a field troublesooter, going to a customer's business and calculating what things the customer needs in their computer.

Aushall Franklin is an EE GA, who works very had for many different professors in many different capacities. She is outstanding Student Employee of the year (academic yr).

Sandeep Talwar (MSEE 2006) is working for Vodafone Industries. He was with their California branch, but he has since relocated to their branch in India. Mr. Talwar is in Network Operations. His company is a leading telecom provider.

Chintan Rajyaguru, a current Master's Student of Electrical Engineering, has been offered the Austrian Marshall Plan Scholarship to conduct research in an Austrian university. He will be working in Austria during the summer of 2010 and hopes to publish the results of his research in a journal.

Yasser Elleithy applied for the NASA CT Space Grant Consortium UTC Summer Internship and received a grant of $5,000 for a 10-week internship with Otis Elevator Company in the Electrical and Software Standards Group.

The recycling program to be initiated in University of Bridgeport is seeking help from the alumni. Please contact Elif Kongar (kongar@bridgeport.edu) regarding possible contributions and donations to help transform UB into a green campus !!!!
Applied Computational Fluid Dynamics Laboratory
The applied Computational Fluid Dynamics (CFD) lab at the Mechanical Engineering department was established to use CFD as an analysis tool to understand the transport phenomena (fluid dynamics, heat and mass transfer, chemical reactions and electromagnetic effects) in industrial processes and as a design tool to optimize engineering components and system design. Transport phenomena are present in various industrial processes and engineered systems, such as energy conversion, automobile aerodynamics, electronics cooling, HVAC (heating ventilation and air conditioning), welding, casting, etc.

Center for Sustainable Energy and Environment
The Center for Sustainable Energy and Environment (CEE) is led by Dr. Elif Kongar and serves as an interdisciplinary research facility at the School of Engineering to conduct extensive research on energy and environment related issues. The mission of the Center is to contribute to the body of knowledge in related areas while increasing awareness on greening activities.

Research areas include: life cycle analysis, End-of-life (EOL) products, disassembly for environment, disassembly sequencing, disassembly scheduling, greening curricula, and increasing participation of women in engineering.

The Center also serves as a bridge between researchers and the community, aiming to create enthusiasm for Science, Technology, Engineering and Math (STEM). Dr. Jani Pallis and Dr. Kongar, are respectively the current Society of Women Engineers (SWE) counselor and faculty advisor and aim at increasing the female participation in STEM related research.

Cloud Computing Cluster
The Cloud Computing Cluster (CCC) develops and implements open-source technologies to support reliable, scalable, distributed computing in non-relational data environments for science and business.

CNC Mini Milling Machine Laboratory
A Haas CNC mini milling machine in the Mechanical Engineering Lab at the School of Engineering is currently being used to support the academic and engineering education. Courses offered through the Lab include MEEG 479: CNC Machine Control and Mill, MEEG 423: CAM & CNC Machining, MEEG 424: Advanced CAM & Automation, and some electrical engineering courses. Students acquire knowledge and experience in CNC programming, understand basic machining processes, learn to set up and adjust the tools and fixtures and follow safety procedures. The hands-on machining experiences in this mechanical lab benefit our engineering students in their current academic course learning as well as future career plan/employment.

Interdisciplinary Robotics, Intelligent Sensing, and Control (RISC) Laboratory
The Interdisciplinary RISC Lab resides in the Computer Science and Engineering department at the University of Bridgeport. It was formed in 1995 by its founder and co-ordinator, Professor Tarek Sobh, in order to conduct research in a variety of robotics-related fields, and as a step towards the development of commercially applicable projects. Research interests include: reverse engineering and industrial inspection, CAD/CAM and active sensing under uncertainty, robots and electromechanical systems prototyping, sensor-based distributed control schemes, unifying tolerances across sensing, design, and manufacturing, hybrid and discrete event control, modeling, and applications, mobile robotic manipulation, developing theoretical and experimental tools to aid performing adaptive goal-directed robotic sensing for modeling, observing and controlling interactive agents in unstructured environments.

Multimedia Information Group
The Multimedia Information Group (MIG) of the Department of Computer Science and Engineering was founded by Professor Jeongkyu Lee in August 2006. MIG’s research explores the technology and application of multimedia and information including video surveillance system, graph-based video database management system, and medical videos.

Nanomaterials & Nanobiomaterials Engineering Laboratory
Recent times have seen a significant amount of research focused on the understanding of various physical properties associated with nanoscale materials, either by themselves or in conjunction with polymers. Nevertheless, for nanotechnology advances to impact human life, designing these materials and hybrid materials with desired properties and integrating these properties in future technology development is needed. Thus, it is necessary to have complete control over their structure, properties, and
This year the Graduate Studies Division announced several new initiatives, including interdisciplinary concentrations that may be incorporated into graduate programs of the Schools of Business, Engineering, and Education and Human Resources. Matriculated and non-matriculated students may earn professional graduate certificates in any of the concentration areas listed below by satisfying the area requirements.

Students do not need to be enrolled in a degree program. Each of the following requires three or four courses to complete. For more information, feel free to contact Prof. Gad Selig at gadselig@bridgeport.edu, or Prof. Khaled Elleithy at elleithy@bridgeport.edu.

- Bio-Medical Engineering
- Bio-Tech Management
- CAD/CAM
- Computer and Information Security
- Technology Entrepreneurship and New Venture Creation
- Environmental and Energy Management
- Global Program and Project Management
- Health Care Management and Systems
- Information Technology
- Intellectual Property Management
- Manufacturing Management
- Modern Database System
- New Product Development and Management
- Service Management and Engineering
- Software Engineering
- Robotics and Automation
- Strategic Sourcing and Vendor Management
- Supply Chain Management
- Wireless and Mobile Communications
- Corporate and Government Security and Continuity Management
- Computer Communications and Networking

**PLC & Controls Laboratory**

The PLC Laboratory at the Electrical Engineering Department is led by Prof. Jack Toporovsky.

This lab introduces students with little or no background to PLC systems (programmable logic control systems). Students learn the theory of PLCs: they read, design and understand basic ladder logic; they are aware of potential problems and hazards; they learn to perform common procedures such as editing programs, forcing, clearing faults, etc. Students also learn how to connect to PLC systems and how to effectively and logically troubleshoot PLC system problems using RSLogix 500/5000, Factory Talk software, Mitsubishi PLC and HMI software. The Controls Lab, located in the Engineering Building (Tech 210), is used for both instruction and research.

**Renewable Energy Research Laboratory**

Sustainable energy is an increasingly important component of the new energy mix. Lab experiments cover the technologies of energy conversion, utilization and storage in solar, wind, fuel cells, and hybrid systems. The smart micro-power grid is also designed and optimized through a simulation with consideration given to cost and environmental effects.

**Signal Processing Research Group Laboratory**

The Signal Processing Research Group (SPRG) resides in the Department of Electrical Engineering. It includes four major areas: Speech, Audio, Bio, and Astronomy. Speech and Audio research projects are led by Prof. Buket D. Barkana. Bio and Astronomy research projects are led by Prof. Navarun Gupta.

**Wireless & Mobile Communications Laboratory**

The Wireless & Mobile Communications (WMC) Laboratory at the Computer Science & Engineering Department is led by Dr. Khaled Elleithy. The mission of the WMC Laboratory is to advance the state-of-the-art in wireless and mobile communications. The following projects are currently being conducted in the WMC Laboratory:

1) QoS of Multi-user communications for Cellular Networks;
2) Bit Error Rate Performance of Multi-user Wireless DS-CDMA receivers
3) Power-Efficient Wireless CDMA Systems
4) Fundamental Limits and Optimality of Wireless Mobile Ad Hoc Networks
5) Power-Efficient Wireless CDMA Systems
6) Performance Optimization of Multi-user Receivers.
2007/2008 was a “year of expansion” for the School of Engineering. During the summer of 2007, the old mechanical workshop was rebuilt to create two additional computer laboratories, server room, network room, 25 cubicles and eight faculty offices. The School of Engineering has laboratories in both the Engineering & Technology building and Dana Hall. All the offices of the engineering faculty, staff, adjunct faculty, Ph.D. students and graduate assistants are now located in the Engineering & Technology building. The Dana Hall space that we currently occupy and manage is considered to be our “overflow” area. At this time, the labs are managed by the systems director, Mr. Abdelshakour Abuzneid. Recently, Mr. Omar Abuzaghleh was hired as an assistant laboratory manager and the School plans to hire more staff members. Many graduate students are offered assistantships to work in the laboratories and assist in their management and operational support.

We have opened several new laboratories and merged others. At this point in time, the School of Engineering manages a total of 20 laboratories, in which most are “multitasking” few courses. In addition, we manage a server room that houses the equipment needed to support the School’s teaching and research needs. Beginning prior to the start of the Ph.D. program and continuing since, significant space, facilities and resources improvements have been made, dramatically changing the “map” of SOE laboratories. The flexible equipment and laboratory budget committed by the administration inspired us to use our talents to build a suitable laboratory structure and environment. We have installed about 150 new top-quality PC’s. In addition to Solaris and Windows systems, we currently have 75 Linux PC’s in the laboratories and faculty offices. We have replaced the old SUN stations with a new computer lab that has 30 SUN Ultra 25/45 stations. We have replaced the old SUN server with a new one that serves many engineering applications. These computer stations run three major operating systems and tens of engineering applications that are used by all the departments of the School: Computer Engineering and Science, Mechanical Engineering, Electrical Engineering and Technology & Management. The computer labs are designed to be classrooms, which can be reserved by the faculty and used for teaching and tutorial purposes. This approach has stepped up the level of knowledge passed on to students during class lectures, especially when the class involves learning a new software or technology.
People no longer use a single device for a specific purpose, but use many devices that interact with each other in the course of the day. In the wake of such prevalence of pervasive technology, the interaction among portable devices, sensors, and RFIDs needs to be continuous and imperceptible. Pervasive/ubiquitous computing requires a scalable and robust network which relies heavily on middleware to resolve communication and security issues. In this presentation, a secure middleware was introduced that incorporates device validation, resource discovery, privacy preservation, secure search and authentication for pervasive/ubiquitous computing.

**Design and Implementation of a Secure Middleware for Pervasive/Ubiquitous Computing**

**Dr. Sheikh Iqbal Ahamed**
Marquette University

As portable devices (cell phones, smart phones, or PDAs), sensors, and RFIDs become a part of our everyday lives, most of us are living in a more pervasive/ubiquitous computing environment. Technology effecting interaction and social relationships. The introduction identified the causes and costs of sourcing project failures. It suggested what can be done to prevent these failures in terms of superior sourcing project and quality management best practices, sourcing life cycle phase deliverables, performance management, key metrics and effective controls and governance. It concluded with a summary of critical success factors and lessons learned.

**Staying Healthy in the United States**

**Melissa H. Lopez, RN, BSN, MPH**
Director of Student Health Services, University of Bridgeport

Health affects all aspects of college life. It is important for college students to lead a well balanced life and learn healthy behaviors so that they can succeed academically and later on in their career. During this presentation, students learned about illnesses that affect college students in the U.S. and the importance of prevention and healthy behaviors. In addition, other topics such as insurance in the U.S., prevention of the flu (including H1N1), and health resources on campus were covered.

**A Peek into the World of Carbon Nanotubes**

**Dr. Saion K. Sinha**
Associate Professor, University of New Haven

Carbon Nanotubes (CNT) and its allied technology have recently been the principal reason in bringing nanotechnology to the forefront of the technological revolution. In the first part of the presentation the following questions were answered: What are Carbon Nanotubes? How are they characterized? How are they made? What are its properties? Thus its importance as a “wonder material” was elucidated.

**The Critical Role of Project and Quality Management in Executing Successful Strategic Sourcing and Outsourcing Initiatives: Major Trends, Critical Success Factors and Lessons Learned**

**Dr. Gad J. Selig**
Associate Dean, University of Bridgeport

In 2010, the global outsourcing market is estimated to reach $2 trillion (US $) annually. In recent years, many outsourcing deals have failed because of poor project and quality management skills, competencies and disciplines (e.g. processes, technologies, metrics, etc.) on the part of both customers and vendors. This presentation discussed the growing importance of solid project and quality management skills, techniques and processes throughout the life cycle phases of strategic sourcing and outsourcing.

Based on extensive primary and secondary research as well as significant consulting experience with sourcing initiatives across multiple industries and organizations, the presentation identified the causes and costs of sourcing project failures. It suggested what can be done to prevent these failures in terms of superior sourcing project and quality management best practices, sourcing life cycle phase deliverables, performance management, key metrics and effective controls and governance. It concluded with a summary of critical success factors and lessons learned.

**Research Trends in Mediated Communication - Past and Current Trends**

**Dr. Beth P Skott**
Associate Professor, University of Bridgeport

Technology is always evolving and each new development, from the printing press to satellite communication, has had an effect on interaction. Each development has further led to “a reworking of the kinds of representations and social relationships that are possible to maintain” (Smith, 1992). The Internet is a prime example of technology effecting interaction and social relationships. The presentation began by introducing the different types of interaction - telephone, face-to-face and Internet-based. It then introduced the participant to cyberspace and studies conducted on Internet interaction. After a discussion of methodology and methods used to study these various forms of communication, problems in studying Internet identity were examined.

**Innovation in Sports Technology Developing Marketable Products**

**Dr. Kim B. Blair**
Director, Sports Innovation MIT

Over the past 20 years, technology has had an enormous impact on sports products. From new materials in our sports equipment to new performance monitoring systems, technology has changed the way we participate in sports. To be suc-
cessful in the sporting goods market today, companies must innovate products that incorporate the latest technology advances. The success or failure of new products in this arena does not rely solely on innovation. Often, it requires the innovator to accurately assess the marketplace, understand the core consumer, and adapt the technology to meet the consumer needs. Further, with completely new ideas, successful products may require the innovator to create the market as well. Dr. Blair's talk focused on early innovation process in high-tech sports products, and discussed innovation and product development tools and tactics that can improve the chance of product success in the marketplace.

In recent years. One of the challenges of such sites is, however, to prevent video clips that violate copyright law by illegally copying and editing scenes from other videos. Due to the sheer number of clips uploaded every day, an automatic method to detect (illegally) copied video clips in a large collection is preferred. Dr. Lee presented a novel framework, termed as Video Linkage, that is based on record linkage techniques. His proposal is based on the observations that: (1) a video clip can be represented as a group of key frames, (2) two video clips are deemed to be similar if two groups of key frames are similar as a whole - i.e., the similarity of two video clips can be measured by means of graph-based similarity metrics such as maximal cardinality bipartite matching, and (3) if a video clip Va is copied to Vb, then Va and Vb must be somehow similar, but not all similar video clips are illegally copied ones, i.e., similar videos can be used as a filter for fast detection of copied videos. The validity of the observations and Video Linkage technique were thoroughly evaluated using both real and synthetic data sets.

The stagnation of development and incorporation of better technologies for transportation have created such a burden on oil that at the slightest sneeze of an oil well, the entire world catches a cold. Approximately 60% of oil goes toward transportation yet the engines that use the fuels made from oil are the most inefficient (i.e., gasoline engine 20%, diesel 40% efficient). An opportunity has seemingly presented itself in the form of high acid rain, asthma on the rise, etc. Why is this an opportunity? The technologies that were on the back burner are now taking precedence and oil is losing its cheap quality as more countries gobble up oil for their growth. One example is fuel cells. They have been around since the late 1800s and with improved materials, today's fuel cells can be made cheaply and used economically in order to finally be able to compete with oil. With over 50 years in the space programs, fuel cells have shown they can be very reliable and durable. Fuel cells are just one avenue where society can be feed its enormous energy need for today and future generations. Many more green technologies that have less detriment on human health must be perfected.

Dr. John Zera
Adjunct Professor, University of Hartford and Central Connecticut State University

The Future of Transportation

The stagnation of development and incorporation of better technologies for transportation have created such a burden on oil that at the slightest sneeze of an oil well, the entire world catches a cold. Approximately 60% of oil goes toward transportation yet the engines that use the fuels made from oil are the most inefficient (i.e., gasoline engine 20%, diesel 40% efficient). An opportunity has seemingly presented itself in the form of high acid rain, asthma on the rise, etc. Why is this an opportunity? The technologies that were on the back burner are now taking precedence and oil is losing its cheap quality as more countries gobble up oil for their growth. One example is fuel cells. They have been around since the late 1800s and with improved materials, today's fuel cells can be made cheaply and used economically in order to finally be able to compete with oil. With over 50 years in the space programs, fuel cells have shown they can be very reliable and durable. Fuel cells are just one avenue where society can be feed its enormous energy need for today and future generations. Many more green technologies that have less detriment on human health must be perfected.

Dr. Hassan Bajwa
Assistant Professor, University of Bridgeport

In this colloquium Prof. Bajwa presented several multidisciplinary projects that he currently is working on:

Low Power Dynamically Configured Cache: High performance designs use multi-port cache memory to provide needed accessibility and bandwidth. Hardwired multi-port cache architecture employs dedicated word and bit lines for each port, which not only results in a larger silicon area but also increases the bit-line discharge and power dissipation. In this presentation, Dr. Bajwa discussed a newly proposed architecture of low power area-efficient dynamically configured memory in detail. Unlike conventional dual-port memory, where both ports can access the memory bank at the same time, the dynamically configured memory provides accessibility only if the isolation controls line (ICL) is activated and memory is divided into virtual blocks or sub-banks.

RF Transmitter and Conformable Patch Antenna for Remote Health Monitoring: Carbon Nanotube (CNT) has emerged as a potential candidate for the replacement of the conventional metal patch in antenna application. The principal objective of Dr. Bajwa’s research is to develop a nanostructured flexible patch antenna array for multi-frequency operation in industrial, scientific and medical (ISM) bands. The patch antenna design, using CNT on flexible cotton sheets, has been simulated with cotton as a substrate and CNT as a conductive patch and ground plane. Conformability to curved surfaces and integration with the structure brings about a unique antenna design. An inset fed square patch is also proposed for remote health monitoring and RF energy harvesting operating.

Cloud Computing Genetic Bio-Algorithm: The high complexity of biological data requires unconventional computational approaches and knowledge-based solutions. The project leverages the distributed computing model by utilizing various commodity servers so that each and every processing program will be parallel processed, using Apache Map-Reduce frameworks. Dr. Bajwa utilizes a Hadoop distribute framework to mapreduce bioinformatics algorithms.
Reconfigurable Chip Multiprocessors for High Performance Applications

Dr. Sotirios G. Ziavras
New Jersey Institute of Technology

Heterogeneous chip multiprocessors form powerful computing platforms. For high-performance or real-time applications, their design should also rely on acceptable energy budgets. The inclusion of reconfigurable hardware can enhance these platforms even further. This talk first presented a very versatile family of reconfigurable chip multiprocessors that can support the run-time reconfiguration of resources in efforts to match target applications for better performance and/or lower energy consumption. Dr. Ziavras then introduced another family of reconfigurable chip multiprocessors where the hardware can be customized to speed up the execution of time-consuming application kernels. Hardware reconfiguration can then facilitate various customized kernels as execution proceeds. This approach greatly reduces the space and energy requirements, attributes that appeal to high-performance embedded designs. The kernel execution should be prudently scheduled considering the reconfiguration overheads. Suitable task scheduling and resource reconfiguration policies were presented for these families of chip multiprocessors and benchmarks were enlisted as well to showcase their success.

CFD Based Multiphysics Modeling and Simulation

Dr. Junling (Joyce) Hu
Assistant Professor, University of Bridgeport

Multiphysics modeling and simulation is one of the fastest growing research fields, which provides high-fidelity solution for complex engineering systems coupled with structural, thermal, fluid dynamics, acoustics and electromagnetic phenomena. Multiphysics capabilities are advertised for much commercial CAE software, such as ANSYS, COMSOL and STAR-CD/STAR-CCM+, etc. However, coupling issues and challenges are still present due to the limitations in heritage software approaches and computational science progress. Finite volume based computational fluid dynamics method (CFD) was originally developed to model heat transfer and fluid flow problem. The coupling flow, thermal, and stress phenomena can be simulated in CFD-based commercial codes and more coupled physics can be simulated with in-house codes. This talk reviewed the challenges of multi-physics modeling and presents case studies of modeling several multiphysics processes.

We invite you to attend the Colloquia.
Dear Alumni and Friends of UB:

You are part of a lasting legacy, and right now, you can help strengthen this legacy for the future, with your gift to the School of Engineering (SOE). Your support allows for new programs, enhanced classrooms, more student scholarships and a revitalized campus - all of which contribute to our continued growth and renewal.

You alreadyknow that knowledge is the key to building bridges of understanding. Cutting-edge programs and technology are leading the way for today's engineering students at UB. The University was founded on the belief that education should be accessible to all, and today we are keeping that promise. But we can't do it alone. Your support means we can strengthen our commitment to superb, functional, career-oriented degrees and world-class research and development endeavors. Please help the School of Engineering remain at the forefront of education, research and scholarship. Your gifts will help make that program a reality.

UB's School of Engineering is the fastest growing school of engineering in the nation (among 300+ accredited engineering schools) and is home to the largest graduate engineering program in Connecticut, with over 1,100 current graduate students, and is one of the four largest engineering programs in New England. The School of Engineering's recent accomplishments have been hailed in academia, the engineering community and the media as an amazing success story in the growth of academic quality, enrollment and research productivity among engineering schools in the country in the last 50 years. Attached please find a list of our recent highlights. We are very proud of our faculty and students who made these successes possible!

Friends and alumni of the University of Bridgeport's School of Engineering represent diverse and accomplished professionals who understand the importance of a solid education. Your legacy is the foundation upon which we build for tomorrow - and our future is bright.

If you have contributed in the past, we thank you and hope you will renew and consider increasing your support. If you are making a first-time gift, please know that all contributions, at any giving level, are greatly appreciated.

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With gratitude for your generosity,

Tarek M. Sobh, Ph.D., P.E.
Vice President for Graduate Studies and Research and Dean of the School of Engineering