What a great year it was! Lee Gildart and Oswald Haase School of Computer Sciences and Engineering (GHSCSE) students have excelled not only in academics but also in athletics, music and other activities. They won top honors in various competitions, including the ASCE Concrete Canoe Competition, IEEE Student Paper Contest and the MCNA Mechanical Contracting Contest. Moreover, they had the wonderful opportunity to develop their leadership and organization skills by hosting the Spring 2010 ASCE Metropolitan Conference on the FDU Metropolitan Campus.

We have continued to invest heavily in upgrading our lab facilities. An iLab is also being established to allow students remote access to the computer resources in our labs. Our annual seminar series on contemporary technologies have been well received by faculty and students alike.

The FDU community was treated to an outstanding presentation by Gregory Olsen, our distinguished alumnus, on his trip to the International Space Station. In addition, our faculty attended a black-tie dinner reception at FDU’s 21st Annual Charter Day honoring Olsen for his outstanding contributions to the engineering profession and the community. Finally, at FDU’s 67th Commencement, I had the honor and privilege of introducing Lucio C. Tan, who received an honorary doctorate from FDU. We look forward to another challenging and fun-filled year!

Alfredo Tan, director of GHSCSE, tan@fdu.edu

**Student Achievements**

**Third Place for Institute of Electrical and Electronics Engineers (IEEE) Student Paper Contest**

Edward Weite III (BSEE’10) and Brett Magura (BSEE’10) won third place and an honorable mention, respectively, at the spring 2010 IEEE Region 1 Student Paper Contest, which required a written paper and a 15-minute oral presentation. The IEEE Region 1 contest included students from colleges in New Jersey, New York and all of New England.

2010 ASCE Metropolitan Conference

An FDU team of engineering technology students won fourth place in the American Society of Civil Engineers (ASCE) Concrete Canoe Competition organized during the ASCE Metropolitan Conference hosted by the FDU-ASCE Student Chapter in April 2010. Students designed, constructed and tested a canoe made of special lightweight concrete all under the guidance of Stanley Bielewicz, lecturer of civil engineering technology and coordinator of civil engineering technology program. Students also raced... (continued)
their canoe and competed with other schools in Cooks Pond, which is located in Denville, N.J. GHSCSE will be hosting the same conference in 2011.

**IEEE North Jersey Spring 2010 Student Presentation Contest Winners**

Gloria Reinish, professor of electrical engineering, hosted the spring 2010 Institute of Electrical and Electronics Engineers (IEEE) North Jersey Student Presentation Contest at FDU’s Metropolitan Campus in March 2010. The main focus of the contest is to give students an opportunity to sharpen their communication skills and to help students prepare for real-life situations as practicing engineers and researchers. FDU student winners included Fred Clark (BSEE ’11), first place in the undergraduate category, and Shreeram Sharma (MSEE ’11) and Ami Desai (MSEE ’10), joint first place in the graduate category. FDU engineering students Brett Magura (BSEE’10), Edward Weite III (BSEE’10), Xu Cai (MSEE’10) and Gurudatta Mogullura (MSEE’11) were also among the winners.

**GHSCSE Students in the News**

Merhan Altayeb (MS’10), management information systems, was featured in an article “Grad Student Believes Dreams Come True” in the November 19, 2009, issue of The Equinox. She was chosen to write lyrics after an audition by a new musical production company in New York. Altayeb hails from Saudi Arabia and is currently working for the United Nations in program development.

Elmine Botes (BSEE’13), was selected, “Athlete of the Week” and featured in the November 19, 2009, issue of The Equinox. Originally from Heidelberg, South Africa, Botes is an avid tennis player and was attracted to FDU having the “best campus and location, good academic program and good tennis program and scholarship.”

Kamil Svrdlik (BS’11), computer science, played forward for the FDU men’s basketball team during academic year 2009–10.

**University College Dean’s Award**

Claudine Williams (BA’10), mathematics, and Xu Cai (MSEE’10) received the University College Dean’s Award at the Honors Convocation in April 2010.

**2010 Graduation Honorees**

The following received honors at Commencement:

- Mena Barsoum (BCSET’09), *cum laude*
- Benjamin Frokin (BSMET’09), *cum laude*
- Vibhavari Kunta (BS’10), computer science, *cum laude*
- Brett Magura (BSEE’10), *cum laude*
- Matthew Mockoviak (BSMET’10), *cum laude*
- Justin Protasiewicz (BCSET’10), *magna cum laude*
- Derick Rausch (BSConET’10), *magna cum laude*
- Jason Sadowski (BSConET’10), *magna cum laude*
- Jonathan Thai (BS’10), mathematics, *summa cum laude*
- Lori Ann Verbitski (BA’10), mathematics, *magna cum laude*
- Edward Weite III (BSEE’10), *cum laude*
- Claudine Williams (BA’10), mathematics, *cum laude*

**Graduate Student Writes Chapter in Published Book Digitization in the Real World**

Wei Fang (MS’10), computer science, digital services librarian, Rutgers University Library for the Center for Law and Justice, authored a chapter of the book *Digitization in the Real World* published by the Metropolitan New York Library Council.

**Kudos to Student Interns**

Three students from the GHSCSE are currently doing internships in various corporations. They include:

- Ioannis Tsangaris (BS’11), information technology, web designer/programmer at SmartChoice Home Health Agency, Inc., Fair Lawn, N.J.;

(continued)
Akshay Kantha Raju (MSEE’11), part-time co-op at Product Engineering Group of Panasonic Corporation of North America, Secaucus, N.J.; and Sharon Duhaney (BSEE’10), intern at MTA New York City Transit, working on their automatic announcement system.

**GHSCSE Student Writes REU Report on Human/Computer Intuitive Interface Using EMG Mapping**

GHSCSE electrical engineering student Fred Clark (MSEE’11) co-wrote a Research Experience for Undergraduates (REU) report on his summer work, which resulted in a robotic arm picking up a portion of Styrofoam using EMG signals. The abstract of his report follows:

The goal of this research was to create an intuitive human-computer interface that would allow a user to control a robotic arm using EMG signals. There is enough information contained within EMG data to accurately differentiate between different movements based on the observed muscle strategy. After designing an algorithm, accurate prediction of arm movements was obtained; the algorithm determined whether the test subject’s arm was moving up, down, left or right or closing a fist, and also what base position the test subject was in if not moving. A successful interface was designed for using EMG data with a robotic arm, moving the robotic arm in the same direction that the test subject’s arm moved, replicating a static position with the arm, and grabbing a piece of Styrofoam.

With further research and refinement, this library of kinesiological movements can be expanded to encapsulate the spectrum of human arm movement.

**Croton Water Filtration Plant Trip**

On Thursday, April 29, 2010, Gonzalo Perez, coordinator of student recruitment and career development, and Stanley Bielewicz, lecturer of civil engineering technology and coordinator of civil engineering technology program, accompanied students to visit the Croton Water Plant in Bronx, N.Y. Students from GHSCSE’s civil and construction engineering technology programs attended the field trip. Graduating adult student Derick Rausch (BSConET’10), currently works as a manager on the project and facilitated the trip. The cost of the water filtration project is approximately $2 billion, and it will be completed in 2012. The entire project is being built underground, and it required deep excavation and extensive rock boring to provide the necessary tunnels. GHSCSE students had an opportunity to experience the project firsthand and speak to key managers and superintendents on the project.

**Technology Students Attend MCAA Student Summit and Conference**

FDU’s civil, construction and mechanical engineering technology students attended the 2009 Mechanical Contractors Association of America (MCAA) Student Summit, held in Denver, Colo., and the MCAA Annual Conference, held in San Francisco, Calif. Students also participated in the mechanical contracting competition, involving HVAC, sustainability and green building during the conference. Under the guidance of Stanley Bielewicz, lecturer of civil engineering technology and coordinator of civil engineering technology program, the FDU student team was placed among the top 10.

**Education Partnership Agreement with NAWCAD**

FDU signed an education partnership agreement with the Naval Air Warfare Center Aircraft Division (NAWCAD). The partnership provides FDU students and faculty the opportunity to work with the Naval Air Systems Command (NAVAIR) engineers on engineering and scientific issues related to naval aviation. The partnership also provides students with internships and employment opportunities with the Navy. NAVAIR has awarded FDU a grant of $22,000 to work on four capstone projects during 2009–10. Melvin Lewis, senior lecturer of engineering technology, served as the overall supervisor for all projects.

Additionally, Gloria Reinish, professor of electrical engineering; Bernard Lefkowitz, associate professor of electrical and mechanical engineering and coordinator of mechanical engineering technology program; Kalyan Mondal, associate professor of electrical engineering and coordinator of information technology program; and Reji Joseph, assistant lab director, supervised Brett Magura (BSEE’10), Benson Mak (BSMET’11), Angel Simeon (BSMET’10), Richard Tomek (MSEE’10) and Luis Yanez (BSEE’10) while they were working on the projects. The signing ceremony was hosted by Alfredo Tan, director of GHSCSE.

(continued)
Computer Science Student Presented LISTA Junior Technology Achievement Award

Anthony Saire (BS’13), computer science, was presented with the LISTA Junior Technology Achievement Award on December 8, 2009, at the Marriott Marquis in New York City.

The award is given to a Latino college freshman who excels in community service and leadership, demonstrates academic ability and is majoring in a technical field. LISTA, which stands for Latinos in Information Sciences and Technology Association, is a nonprofit organization whose mission is to increase technological awareness in the Latino community. Saire was presented with a $500 scholarship as well as a laptop for his studies. He attended FDU’s Technical Enrichment and Outreach Program (TEOP) in 2008 and is poised for future success in the computer science field.

FDU Welcomes Three HBCU-STEM Fellowship Students

The HBCU-STEM Fellowship Program provides fellowships and stipends to graduates of Historically Black Colleges and Universities (HBCUs) who have gained admission into master’s programs in science, technology, engineering or mathematics (STEM) at schools in Pennsylvania, New Jersey, Delaware or Washington, D.C. In addition to providing financial support, student progress is monitored to ensure success and to nurture the next generation of scientists, researchers and engineers.

Gonzalo Perez, coordinator of student recruitment and career development, GHSCSE, sits on the HBCU-STEM Fellowship Program Advisory Committee and works closely with the fellowship students. This partnership has attracted elite students to attend FDU for their graduate studies.

The new HBCU-STEM students are Omar Scott (MS’11), computer engineering; Kevin Bonner (MS’12), management information systems; and Martin Granger (MS’12), computer science.

Senior Honors Theses Completed

Seniors who completed their honors theses and presented on Research Day in April 2010 were the following:

Brett Magura (BSEE’10), “Wireless Communications and Laboratory Networking,” mentored by Gloria Reinish, professor of electrical engineering;

Jason Sadowski (BSConET’10), “Development of a Cul-de-Sac,” mentored by Stanley Bielewicz, lecturer of civil engineering technology and coordinator of civil engineering technology program; and

Jonathan Thai (BS’10), mathematics, “Differentiated Instructional Methods Teachers Can Use to Increase Student Achievement in Secondary Mathematics,” mentored by Miriam Singer, assistant professor of education and director of QUEST program.

UNICEF Internship

GHSCSE computer science student, Sachet Sharma (MS’10), worked on an internship last fall with the UNICEF OLDS Department, which is a division of human resources.

UNICEF, which stands for United Nations International Children’s Emergency Fund, provides long-term humanitarian and developmental assistance to children and mothers in developing countries.

Sharma had the opportunity to apply his Web-programming skills by implementing various software solutions for the organization. He specifically mentions his courses in database management, enterprise computing and data mining and warehousing to be the academic foundation that helped him with his practical work. It has been an enriching experience for Sharma, and he would urge his fellow students to definitely consider a career with the United Nations.

Outreach Program News

BCA Students Interning

GHSCSE faculty mentored three Bergen County Academies (BCA) seniors, Sam Fingeret, Pavel Panchekha and Garrett Rubinstein. The students interned at FDU every Wednesday through the 2009–2010 academic year. Students have worked with FDU faculty on various projects and topics, including an autonomous jeep vehicle, digital signal processing, image processing, communications, neural networks, fuzzy logic, cryptography and VHDL programming. FDU mentors include Zong Chen, associate professor of computer science and management information systems; Mark Farag, assistant professor of mathematics; Melvin Lewis, senior lecturer of engineering technology; Zhiwei Mao, assistant professor of computer science; and Joseph McPherson, lecturer of electrical engineering and computer science.
professor of electrical engineering; Kalyan Mondal, associate professor of electrical engineering and coordinator of information technology program; Howard Silver, professor of electrical engineering and deputy director of engineering, engineering technology and information technology programs; Alfredo Tan, director of GHSCSE; and Hong Zhao, assistant professor of electrical engineering. The students also attended afternoon technical seminars presented by FDU faculty members.

Outreach Programs for High School Students
GHSCSE has been conducting the Technical Enrichment and Outreach Program (TEOP) for 35 high school students from various school districts every semester, 12 Saturdays per semester, for a total of 11 semesters. Participating New Jersey high schools include Union City High School, Manchester Regional High School, Orange High School, Paterson Public Schools, Bergenfield High School, Hackensack High School and Lakeland Regional High School. The students served are typically underrepresented minorities and/or financially disadvantaged, ranging from freshmen through seniors.

Alumni News
Send news about your work, family, professional growth and any other happenings for publication in our Alumni News section to Kalyan Mondal, co-editor and associate professor of electrical engineering and coordinator of information technology program, at mondal@fdu.edu.

 Gregory Olsen Honored at FDU Charter Day
FDU’s 21st Annual Charter Day on Friday, June 4, 2010, at the College at Florham, honored alumnus Gregory Olsen (BS’66, BSEE’68, MS’68), FDU trustee and chair of FDU NOW campaign steering committee. Charter Day honors individuals who have distinguished themselves as leaders in their professions and their communities. Olsen was the third private citizen to travel to the International Space Station. After an illustrious career as a research scientist and an entrepreneur, he manages his “angel” investments as the president of the GHO Ventures, Princeton, N.J. He is active in many civic organizations and is the author of *By Any Means Necessary!: An Entrepreneur’s Journey Into Space.*

Sung-Mo “Steve” Kang Delivers Keynote Address
FDU alumnus Sung Mo “Steve” Kang (BSEE’70), chancellor of the University of California at Merced, was the keynote speaker on October 30, 2009, at the Louisiana Computing Carnival, held at the University of Louisiana, Lafayette.

Avi Ma’ayan Develops GATE: New Software to Animate Gene Expression Data
Computer science alumnus Avi Ma’ayan (BS’97), an assistant professor in Mount Sinai School of Medicine’s department of pharmacology and systems therapeutics in New York, collaborated in the development of new software called Grid Analysis of Time Series Expression (GATE), which uses a clustering algorithm to turn genetic regulation processes into mini, data-rich movies. These animations allow researchers to play, pause and dive into molecular-level changes in genes and proteins and see how they work together. In a paper co-authored by Ma’ayan, researchers used the program to document cell fate changes in embryonic stem cells published on November 19, 2009, in *Nature* (Nature Publishing Group).

Program Updates

**New Course on Integrated Circuit Devices**
Starting in fall 2009, a new graduate course on Integrated Circuit Devices was introduced by Kalyan Mondal, associate professor of electrical engineering and coordinator of information technology program. Students gain an understanding of the physical electronics of semiconductors, metal-semiconductor junctions and metal oxide semi-conductor (MOS) capacitors. This knowledge helps them learn VLSI design in the subsequent course.

**Microcontroller Course at FDU**
An updated undergraduate course on Microprocessor Systems II was offered by Kalyan Mondal, associate professor of electrical engineering and coordinator of information technology program, in spring 2010 using industry-standard Freescale HCS12 microcontroller and CodeWarrior integrated development environment (IDE) tool. Apart from theory, students gained hands-on experience of I/O interface programming on the Wytek Dragon (continued)
12-Plus demo board. GHSCSE Assistant Lab Director Reji Joseph set up the tools on Windows-based systems. Kripakaran Ravivarman (MSEE’10) was an early user and assisted students through the course.

**New Information Technology (IT) Certificate Programs**

Starting fall 2009, GHSCSE introduced new certificate programs on Web-development Technology and Network and Systems Administration, both at the Metropolitan Campus and FDU-Vancouver, to help working individuals enhance their professional skills. These programs were developed in close cooperation between the information technology faculties of both campuses.

**IT Program News from FDU-Vancouver**

Vasudevan Janarthanan, assistant professor of information technology in FDU-Vancouver, reported that information technology students formed an IT club with its planned website and activities. Karim Haouchine (BS’10), information technology, has been the FDU-Vancouver student government president and is the first IT program graduate from FDU’s Canadian campus. He invites all the FDU New Jersey students to come and spend a semester at FDU-Vancouver.

**Computer Science IAB Meeting**

FDU’s Computer Science Industrial Advisory Board (CSIAB) met in fall 2009. Attending were Paul Sweeney, Ascent Media Systems Integration, LLC (MS’00), computer science; Alan Klayman, Student at the Wheel, My Income Strategy, (BA’83), computer science; Suzanne McIntosh, secure software engineer, IBM Research, (BS’86) and (MS’88), computer science; Jonathan Stanton, director, New Media at Hudson River Sloop Clearwater; Paul T. Donahue, president, Highlands Technologies, Inc., (BS’79), accounting, (MBA’86); and Andre DiMino, ADM Tronics, Inc, (BS’78), industrial engineering (MBA’81). Sweeney is a new board member. Gertrude Levine, professor of computer science, discussed the new concentrations that will be introduced to further improve the BS in computer science program. The four concentrations proposed are computer programming with game development; computer security; database management; and honors computer science. The CSIAB members suggested some changes to these names and the courses. The board approved the concentrations as part of the program, and it also discussed at length introducing a capstone or project course into each concentration. This topic requires further discussions.

**Electrical Engineering IAB Meeting**

The spring 2010 Electrical Engineering Industrial Advisory Board (EEIAB) meeting was convened by Howard Silver, professor of electrical engineering and deputy director of engineering, engineering technology and information technology programs, and held on May 10, 2010. Apart from faculty, industry representatives Eric Stoll (ITT SSD), Kevin Xu (EMC Corp.), Cheng Youn Lu (Teletronics Technology) and Jules Insler (BAE Systems) attended the meeting. Latest student and alumni survey results on program objectives and outcomes were presented to the board. The EEIAB generally agreed that the basics and development of problem-solving skills need to be emphasized in an undergraduate curriculum. A suggestion was made to put increased emphasis on design examples and case studies. Current syllabi for the computer programming and microprocessor design course sequences were discussed. Members agreed that LabView is widely used and students should be exposed to it.

**Information Technology IAC Meeting**

The Information Technology Industrial Advisory Committee (ITIAC) meeting was held in fall and spring of the academic year 2009–10. Mitchell Mond, vice president, Ness North America and Bruce Fogel, team leader – finance and human resources systems integration, Affinity Health Plan, joined the committee and attended the spring meeting. The committee members, including Glenn Osborne, senior director, PTC Therapeutics; Susan Fowler, Conference House Associates; and Walter Schneider, BAE Systems, reviewed the IT program and provided many thoughtful suggestions for further improvement. There were interesting discussions on C++ versus Java as the programming language of choice and emphasis on nontechnical areas. Professional certifications were recommended, as a must for IT graduates. Mond has offered to notify GHSCSE about any training and/or internship opportunities for FDU students. One such opportunity has already been posted on FDU’s job site.

**Laboratory and Machine Shop Upgrades**

Procurement of the Ganesh GMV-2 9” X 49” Deluxe Series Variable Speed CNC Milling Machine has enhanced the capability of the GHSCSE Machine Shop to do precise milling operations. This machine will help students in their project development.

Additionally an Allen Bradley Programmable Logic Controller (PLC) and the LabVolt Level Process Control system were introduced by Reji Joseph, assistant lab director, to help students design small-scale systems that can be found in the industrial world.

(continued)
GHSCSE to Establish New iLAB for Students with $32,850 Donation from IBM

GHSCSE is establishing a new iLab utilizing state-of-the-art equipment donated by IBM. The new iLab will be "virtual" in the sense that students will be able to connect to it from anywhere in the world and enjoy access to all the software and resources that are otherwise only available in our physical computer labs.

The nature of virtualized computer desktops means that working and studying off-campus will now be easier for current students and more attractive to prospective students. The iLab will make it possible to offer distance-learning courses or programs that were not practical previously. In addition to being convenient, iLab will be more environmentally friendly than our current computer labs; it uses less power, less cooling and much less physical space.

IBM donated a server, which will assist in accessing the consoles of the internal network lab devices. The iLab project is spear-headed by Dritan Bitincka, lab director for computerscience.

Faculty Highlights

Corporate and Foundation Relations Grant Recipients
Alfredo Tan, professor of electrical engineering and director of GHSCSE, and Melvin Lewis, senior lecturer of engineering technology, received varying amounts in grants from the Mechanical Contractors Association of New Jersey (MCANJ) for the BS in mechanical engineering technology program and for scholarships. GHSCSE also received grants for the Technical Enrichment and Outreach Program (TEOP) from several sources including the Toyota USA Foundation, General Electric, the John Victor Machuga Foundation, the ExxonMobil Foundation, the Paterson School District, PSE&G, Sony, BAE Systems and an endowment gift from Gregory Olsen (BS'66, BSEE'68, MS'68).

Engineering Seminar Series Continues
Zhiwei Mao and Hong Zhao, both assistant professors of electrical engineering, organized a very successful series of technical seminars every other Wednesday, which were well attended by faculty and students. The premier seminar on "Packet Scheduling for OFDMA Wireless Communication Systems" was presented by Mao. The following seminars were presented during the academic year and helped in the professional development of attendees:

"An Overview of Audio Signal Processing," Hyung Tai Cha, visiting professor with GHSCSE;

"Introduction of LabVIEW," Melvin Lewis, senior lecturer of engineering technology;

"Introduction to Fuzzy Logic and MATLAB Fuzzy Logic Toolbox," Howard Silver, professor of electrical engineering and deputy director of engineering, engineering technology and information technology programs;

"Data Acquisition and Instrument Control," Reji Joseph, GHSCSE assistant lab director;

"An Overview of Biometrics Technology," Zong Chen, associate professor of computer science and management information systems;

"Introduction to Deadlock of Computer Systems," Gertrude Levine, professor of computer science;

"Revolutionizing Electronics Education with National Instrument’s Academic Platform," Debora Varma of National Instrument; and

"Welcome to the World of Programmable Logic Controllers (PLCs)," Reji Joseph, GHSCSE assistant lab director, sponsored by The Society of Women Engineers, FDU Chapter.

IEEE North New Jersey Chapter Seminar
Hong Zhao, assistant professor of electrical engineering, organized two seminars for IEEE North Jersey Section Computer Society Chapter and Signal Processing Chapter under the sponsorship of FDU: "Secure Data Access in Unattended Sensor Networks" by Yanchao Zhang, ECE department, New Jersey Institute of Technology (NJIT), and "Information Forensics: Steganalysis, Tampering Detection, and Others," Yun Q. Shi, ECE department, NJIT, IEEE Fellow, respectively.

Alfredo Tan Introduces Lucio Tan, Honoree at FDU’s Commencement Ceremony
Alfredo Tan, GHSCSE director, introduced his cousin Lucio C. Tan, who received the honorary degree of doctor of humane letters during FDU's 67th commencement ceremony. Lucio C. Tan is one of the most prominent businessmen in the Philippines. The Tan Group of Companies includes Philippines Airlines, Philippine National Bank, Asia Brewery Inc. and the Tanduay Distillers Inc.

Journal Awards
Vladimir Zwass, distinguished professor of computer science and management information systems; deputy director of computer
science, management information systems, e-commerce and mathematics programs, is the editor-in-chief of the *Journal of Management Information Systems*. Two papers published in the journal won Emerald Management Reviews Citation of Excellence, being among the top 50 out of 15,000 articles published in 2009.

**More Publications and Presentations**

Faculty include Yoo Jung An, visiting assistant professor; Zong Chen, associate professor of computer science and management information systems; Mark Farag, assistant professor of mathematics; Zhiwei Mao, assistant professor of electrical engineering; Kalyan Mondal, associate professor of electrical engineering and coordinator of information technology program; Hong Zhao, assistant professor of electrical engineering; and Vladimir Zwass, distinguished professor of computer science and management information systems; deputy director of computer science, management information systems, e-commerce and mathematics programs.


Vladimir Zwass, distinguished professor of computer science and management information systems; deputy director of computer science, management information systems, e-commerce and mathematics programs, presenting the Distinguished Lecture at the 21st International Conference on Information Management in Taiwan, May 2010.

**Faculty Book Editor**

Vladimir Zwass, distinguished professor of computer science and management information systems; deputy director of computer science, management information systems, e-commerce and mathematics programs, is the series editor for the monograph *Systems Analysis and Design: Techniques, Methodologies, Approaches and Architectures*, published by M.E. Sharpe, Inc.