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UBENGINEERING

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2007 UB Business Partners Day

NYS ASSEMBLYWOMAN CRYSTAL PEOPLES AND UB PRESIDENT JOHN SIMPSON

DEAN HARVEY STENGER PRESENTING UB ENGINEERING'S VITAL PARTNER AWARD TO JOSEPH WAGOVICH ON BEHALF OF LOCKHEED MARTIN

UB Engineering and UB held another successful UB Business Partners Day in downtown Buffalo to celebrate the successful and productive relationships among industry, government and the School and University.

The Engineering Alumni Association began the awards portion of the program with their presentation of the Engineer of the Year award to **Norman McCombs**, BS EngSci '68. (See Alumni section.)

UB Engineering honored Lockheed Martin with the Vital Partner Award in recognition of its longtime support of the School. Lockheed Martin's multiple partnerships exemplify the benefits gained by faculty, students, research and corporate partners when industry and academia work together.

NATIONAL GRID CEO STEVE HOLLIDAY

Among the partnerships between Lockheed Martin and UB Engineering are the federal systems contracts for the U.S. Postal System at UB's Center of Excellence for Document Analysis and Recognition and supply chain management research conducted by Lockheed Martin with UB's Department of Industrial and Systems Engineering.

Lockheed Martin has also supported UB Engineering with generous philanthropic dollars, actively recruits our graduates, and attends Tau Beta Pi's

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SUNY Names Distinguished Faculty

GEORGE LEE

Three UB Engineering faculty members have joined the ranks of SUNY Distinguished faculty. The SUNY Board of Trustees have appointed **Colin Drury,** UB Distinguished Professor of ISE, and **George Lee**, Samuel P. Capen Professor of CSEE, to the rank of SUNY Distinguished Professor. **Carl Lund,** professor of CBE, has been named a SUNY Distinguished Teaching Professor. The designation as distinguished professor – a rank above full professor and the highest in the SUNY system – denotes national or international prominence and an established reputation in the recipient's field of expertise and is bestowed by the SUNY Board of Trustees.

CARL LUND

Drury is an internationally-known expert in human factors, human error and quality control. He directs UB's Research Institute for Safety and Security in Transportation which studies how human factors contribute to errors and inefficiencies in security systems, and inspection maintenance.

COLIN DRURY

Drury is a member of the Transportation Security Administration's Scientific

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Departmental Highlights

CBE Nanoparticles and Virus Detection, p. 17; Engineered Blood Vessels, p. 17

CSEE Circulation in the Great Lakes, p. 17; Rocking Bridges, p. 16

CSE Reader for USPS, p. 16; Obsolete Cursive Handwriting, p. 15

EE Exploring Micro and Nano Worlds, p. 16; Thailand Co-op, p. 8

ISE New Service Systems Engineering Program, p. 9, Information Fusion and Intelligence Gathering, p. 14

MAE Measuring Kidney Cells, p. 14; Snowmobile Winners, p. 7

UB Engineering Growing Bigger and Better

The UB 2020 Strategic plan calls for unprecedented growth of the University through a dedication to eight Strategic Strengths. As UB Engineering is home to many key research and education programs which are central to these strategic strengths, the School is well-placed to be a leader in the University's development and growth. In fact, we are making great strides in our plan to both expand and improve over the coming years.

UB Engineering is aggressively pursuing new faculty using as many funding sources as possible, including the SUNY Empire Innovation Program, the UB Spousal Accommodation Program, the SUNY High Needs Program, the Strategic Strength hiring plans, and vacancies due to attrition. These funding sources allow us to continue to grow in research and teaching areas that are key to the University's future,

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Alumni

2007 UB Alumni Association Awards

Each year the UB Alumni Association honors alumni and friends for their outstanding achievements, their distinguished contributions and their support of the University, the community, and their professions. We were pleased to have UB Engineering's nominations of the following persons accepted.

Christopher Scolese, BS EE '78, was honored with the Clifford C. Furnas Memorial Award which is presented to a graduate who has distinguished him- or herself in a field of engineering or science, thereby bringing honor to the University. Scolese is chief engineer of the National Aeronautics and Space Administration, leading a technical team that numbers 30,000 who are responsible for the direction, oversight and assessment – the technical readiness – for all of the agency's programs. Scolese has received several prestigious awards, including two Presidential Rank Awards of Meritous Service, the AIAA National Capital Section Young Engineer of the Year Award, and two NASA Outstanding Leadership Medals.

Krishna "Kittu" Kolluri, MS IE '88, was honored with a Distinguished Alumni Award in recognition of exceptional career accomplishments. Kolluri is a proven technology company executive and entrepreneur, a general partner at New Enterprise Associates (NEA), a leading venture capital firm with more than $8 billion under management.

Kolluri focuses on information technology investments, working closely with entrepreneurs to build successful companies in the U.S. and India. His firm has invested in more than 550 companies, of which 150 have gone public and another 220 have been acquired. He is on the board of directors of Determina, Nevis Networks, RingCube Technologies, SnapTell and WeatherBill, and was formerly on the board of Port Authority Technologies.

Richard, friend of the School, and **Patricia Garman,** MS nursing '79, were awarded with the Dr. Philip B. Wels Outstanding Service Award which is given to individuals or groups who have contributed to and advanced the University for a specific purpose or have served UB in a voluntary capacity for a significant period of time. The couple was honored for their establishment of the Richard E. Garman Endowment which supports scholarships for students in the civil engineering and the Patricia H. Garman Behavioral Health Nursing Endowment to promote the advancement of education, research and practice in the area of behavioral health nursing.

These individuals have made important contributions to the quality of life in Western New York through their personal gifts as well as gifts from their Garman Family Foundation and Buffalo Crushed Stone. Their outstanding generosity to UB and its program has qualified them as members of UB's Million Dollar Roundtable. The Garmans are also among the leaders in philanthropy to Western New York in general and their efforts have improved life for people across the region.

ALUMNI MEMBERSHIP

Graduates of UB's School of Engineering have the opportunity to improve their alma mater through the joint membership between the Engineering Alumni Association and the UB Alumni Association. Members can participate in fun events such as the upcoming football tailgate and can feel proud about giving back to UB.

Membership dues:

- **support alumni in 21 cities in the U.S. and 11 international locales, providing important opportunities to network and reconnect;**
- **support scholarships for engineering students as well as student events such as Engineers Week;**
- **help produce UB Today, the alumni magazine, and @ub, the University's e-newsletter, sharing the latest accomplishments and remarkable research happening at UB;**
- **connect UB alumni to current students through support of the University Student Alumni Board and partnerships with the offices of Student Life, Student Affairs, Athletics and Career Services; and**
- **deliver programs such as mentoring, "Dinner with Twelve Strangers," and Homecoming.**

Just by joining the alumni association, members can make a direct impact on UB, current students and alumni around the world.

To renew or begin your membership, go to www.alumni.buffalo.edu. Once there, click on the "Membership" tab at the top right. Then, in the left column, you can join either online or by mail. Be sure to notice the special membership type for UB Engineering alumni.

Alumni Honor Student Excellence

The Engineering Alumni Association again honored distinguished students with EAA Scholarships. The scholarships recognize "Leaders in Excellence" and encourage students develop a "spirit" and a sense of loyalty to the School.

NADINE ROBERTS, CSEE; MICHAEL DRAY, BS CE '04, EAA BOARD MEMBER AND FORMER EAA SCHOLARSHIP WINNER; STEPHEN PFETSCH CSE; AND MICHELLE RHODES, BS CE '99, MS CE '07 EAA BOARD MEMBER. NOT PICTURED: CHRISTOPHER WIRTH, CBE.

Class Notes

1960s

Fred Justice, MS CE '66, has been named a fellow in the American Institute of Chemical Engineers, an honor for chemical engineering professionals who have made a meaningful impact on the profession and the Institute in at least 25 years of practice. Justice serves as Business Development Manager at Chemstations, Inc., where he has set volume records for chemical process simulation software.

1970s

Robert Chiusano, BS IE '78, delivered the 2007 commencement address at Hudson Valley Community College. Chiusano recently retired as executive vice president and special assistant to the CEO of the aviation and aeronautics company Rockwell Collins.

Ronald Kraemer, BS CIE '78, has been named assistant vice president of National Gas Supply Corp.

K.S. Krishnamoorthi, MS IE '71, PhD IE '79, recently published *A First Course in Quality Engineering: Integrating Statistical and Management Methods of Quality,* a textbook which integrates statistical methods in quality with management methods addressed to engineering manuscripts.

Steven Rosen, BS AE '70, currently practices law in Portland, OR where most of his practice involves engineering issues, usually defending airplane and helicopter manufacturers, maintenance facilities, or pilots.

Mark Schnell, BS ME '79, has recently been promoted to Pharmacy Quality/Safety Manager at the Massachusetts General Hospital in Boston, MA.

Dennis Schrader, MS IE '79, has been nominated by President George W. Bush to be Deputy Administrator for National Preparedness for the Federal Emergency Management Agency at the Department of Homeland Security. Schrader previously served as Director of the Maryland Governor's Office of Homeland Security.

1980s

David Rose, BS IE '85, currently works as a Director of Ergonomic Services with CNA Risk Control.

Ashish Shah, MS EE '89, PhD EE '93, was a member of a Greatbatch Inc. team that was honored at the Western New York Inventor of the Year Awards Banquet.

John Stopher, BS EE '86, MS EE '88, PhD EE '94 and UB Engineering Dean's Council member, has left the U.S. House of Representatives and has started his own company, 377 Omega. The company provides strategic and technical services dedicated to advancing technology, programs, and policies for intelligence and national security programs. The group works with government and industry clients to synchronize these key elements to enhance national and world security.

Mao-Jiun Wang, PhD IE '86, was elected a fellow of the Human Factors and Ergonomics Society. Wang is a professor and deputy dean of industrial engineering at National Tsinghua University in Beijing, China.

1990s

Salim Araci, PhD ME '99, was honored with a SUNY Chancellor's Award for Excellence in Teaching, a recognition considered the highest honor award presented by the SUNY system. Araci is an associate professor of engineering science at Finger Lakes Community College.

Joseph Lentivech, BS EE '94, will serve as a new associate in the Intellectual Property Practice Group of the Brouse McDowell firm in Akron, OH. He is a member of the Ohio and Akron Bar Associations and served as Associate Editor of the Akron Law Review.

Robin Li, MS CE '94, has been named to eWeek's 2007 list of Top 100 Most Influential People in IT. Li is the founder of Baidu, China's answer to Google.

Ruben Morawicki, ME IE '99, has been appointed as a member of the Scientific Advisory Council of the American Frozen Food Institute. Morawicki is an assistant professor of food science at the University of Arkansas.

Sissy Nikolaou, MS CIE '95, PhD CIE '98, was recently named as one of the winners in the 2007 "40 Under 40" competition sponsored by Building Design & Construction magazine for exceeding in her professional role while giving back to her community and professional societies. Nikolaou is an associate with Mueser Rutledge Consulting Engineers in New York City, where she heads the Geo-Seismic Department.

Anthony Power, BS ME '92, MS CIE '94, has been named Chief Investment Officer for Emirates Investment Development Company PSC (Emivest) where he will manage the conglomerate's private equity investment through capital participation in its partner companies and initiate new projects through joint ventures in the manufacturing, education, healthcare and services sectors.

Stephen Waldvogel, P.E., BS CIE '97, ME CIE '99, has recently been named project manager for Conestoga-Rovers and Associates, Western New York's largest full-service environmental engineering firm. He heads the firm's Utility Management Consulting Group and is also the firm's senior water system's modeler and oversees projects in the area of public utility extensions and infrastructure planning.

2000s

Swades De, PhD EE '04, has joined the Computer Technology Group at the Indian Institute of Technology - Delhi where he will work in areas such as communication networks, multi-layer interaction studies in mobile ad hoc networks and wireless sensor networks, and optical wireless systems.

James Fry, BS ME '05, recently married Rachel Kibler and is employed at Praxair.

David Howe, BS ME and AE '03, recently graduated from a leadership development program with Lockheed Martin where he currently works as a research engineer.

Timothy Howe, BS ME '04, has been hired as a mechanical engineer by Stantec, a company providing professional design and consulting services in planning, engineering, architecture, surveying, economics, and project management.

Francesco Lliguicota, BA CS '00 currently works as a programmer at UB's School of Pharmacy and Pharmaceutical Sciences where he is building an online based application to determine the impact of complex drug interactions on protease inhibitor plasma concentrations during chronic HIV pharmacotherapy.

Kathryn Nowicki, BS ME '03, and Anthony Kania, BS ME '03, were married recently. She currently works in product development and he works on the 787 Program, both for Boeing Commercial Airplanes in Seattle, WA.

Michael Rogalski, P.E., BS EE '00, has been named principal with RAM-TECH Engineers, a mechanical and electrical engineering firm with offices in Buffalo, Syracuse and Philadelphia.

Since the early 1990s, the UB Engineering Alumni Association has carried on a tradition of giving scholarships to deserving undergraduate students. In order to continue this tradition, we need your financial support. Please consider donating to the UB Engineering Alumni Association Scholarship Fund and continuing the tradition of UB Engineering excellence.

Checks should be addressed to the UB Foundation and sent to:

External Affairs
UB Engineering Office
412 Bonner Hall
University at Buffalo
Buffalo, NY 14260

PE Contact Hours for License Renewal

UB Engineering is pleased to be recognized as an approved NYS provider site for professional engineer continuing education. UB Engineering provides PE Continuing Education options in three forms:

1. Graduate courses via our distance learning system EngiNet™
2. Special short courses
3. Departmental seminars

For further information, registration, or particular company needs, contact the EngiNet™ office at (716) 645-2768 x1132 or enginet@eng.buffalo.edu.

Alum Returns for Order of the Engineer

PAUL SHIELDS AND MIKE RYAN, PROFESSOR OF CBE AND UB VICE PROVOST AND DEAN OF UNDERGRADUATE EDUCATION

Paul Shields, BS IE '68, returned to UB to participate in the Order of the Engineer after researching the ceremony and its "Obligations of an Engineer" for his work mentoring young professionals at global technology companies. (See Student section for more information about the Order of the Engineer.) He encourages ambitious professionals to look to the Obligations' emphasis on integrity and ethical work values for inspiration on how to succeed in the world of industry.

Through operational and financial assignments with Fortune 100 corporations around the world, Shields developed a multi-functional and global perspective on business issues. He has served as chief financial and administrative officer for Control Data International, president and CEO of CDC Interamericas, and the Xerox executive responsible for financial planning and analysis of worldwide manufacturing operations. He currently works with Executive Conversation, a Seattle-based consulting company, as a specialist in high tech sales, sales support, manufacturing and international finance.

Calling all Tau Bates

2007 marks the 40th anniversary of Tau Beta Pi on the UB campus. The New York Nu chapter of the national engineering honor society would like to invite all alumni who were members of Tau Beta Pi to our fall induction dinner to celebrate our illustrious years at UB. The dinner will be held in November and registration will be required.

For more information, please see the events section of our website, www.eng.buffalo.edu. For registration, please contact Deanie Hedrick at Hedrick@eng.buffalo.edu or 645-2768 x1110.

McCombs named Engineer of the Year

MICHAEL DRAY, BS CBE '04, AND BRIAN PEER, BS CE '05, UB EAA BOARD MEMBERS, PRESENT THE 2007 ENGINEER OF THE YEAR AWARD TO NORMAN MCCOMBS AT THE 2007 UB BUSINESS PARTNERS DAY

Norman McCombs, BS ME '68, was awarded the 2007 Engineer of the Year award by the UB Engineering Alumni Association. McCombs is senior vice president of research at AirSep Corporation, world-renowned as the premier manufacturer of PSA oxygen generating systems for medical and industrial applications. The company's two divisions – commercial products and medical products – meet a wide variety of respiratory and commercial needs in more than 100 countries. Through his work at AirSep and elsewhere, McCombs has created countless jobs for people in Western New York and around the world.

While the application of McCombs's PSA technology was initially for animal clinics and oxygen-acetylene torches, his most significant accomplishments are in the medical products division. He is best known for his invention of the Portable Oxygen Concentrator. This device is electronically driven and delivers oxygen continuously on demand. Safer than high pressure oxygen cylinders and with a year of home oxygen costing less than just a day in the hospital, these oxygen concentrators have alleviated the suffering of over 10 million people with Chronic Obstructive Pulmonary Disease. McCombs recently introduced a new oxygen unit weighing just 4 pounds. This portability has opened the door to easier travel for hundreds of thousands of people.

In recognition of his accomplishments to date, McCombs has been honored three times in inventor of the year competitions, made a fellow of American Society of Mechanical Engineers, given a lifetime achievement award by the Intellectual Property Law Association, granted 37 U.S. patents and hundreds more internationally, and has been nominated to the National Inventors Hall of Fame.

Corporate Receptions Celebrate Industry Relationships

UB Engineering has a long tradition of working with corporate partners in our research and education endeavors. Recently we have had the opportunity to work with the UB Alumni Association to host two corporate receptions in honor of these beneficial relationships.

Moog employees and executives met with members of the University and UB Engineering community at a reception held at the Roycroft Inn in East Aurora, NY. During the reception, Robert Brady, chairman and CEO, commented on the close friendship between Moog and the School of Engineering and announced the company's intention to support the fundraising efforts for our School's new building. He emphasized the importance of their success with hiring our graduates, many of whom are now in leadership positions in the company.

A National Grid reception honored 16 National Grid employees who recently finished Masters of Engineering degrees in Electrical Engineering through a special program tailored to the needs of engineers in the power industry coordinated by **Mohammed Safiuddin**, research professor in EE. The reception was held the morning of UB Business Partners Day to capitalize on the presence of Steve Holliday, CEO of National Grid, who was in Buffalo to speak at the event. (See page 1.) Marsha Henderson, UB vice president for external affairs, and **Dean Harvey Stenger Jr.** were among attendees.

Graham Stewart, head of UB Alumni Relations, organized both receptions.

MOOG CHAIRMAN AND CEO ROBERT BRADY RECEIVES A PLAQUE OF APPRECIATION FROM UB VP HENDERSON AND UB ENGINEERING DEAN HARVEY STENGER. L TO R ARE: RAMJI GUPTA, MS ME '72, PHD ME '74, DEAN'S COUNCIL MEMBER AND PRODUCT LINE MANAGER AT MOOG; DEAN STENGER; ROBERT BRADY; AND VP HENDERSON

Pillars Society Luncheon

UB Graduates who received degrees in 1957 and before are invited to attend the fifth annual Pillars Society luncheon on Friday, October 5 from 11:30 a.m. – 2:00 p.m. in the Center for Tomorrow Ballroom on the North Campus. Attendees will also be able to participate in a tour of both campuses and "A Dialogue on UB's Future" with Robert Shibley, Senior Advisor to President for Campus Planning and Design, and Professor of Architecture and Planning.

Two complimentary football tickets for the UB Bulls Homecoming game on Saturday, October 6 are available for those who attend the luncheon. All information about the Pillars Society gathering and UB Homecoming events, including registration, will be available at www.alumni.buffalo.edu/events and via phone at 1-800-284-5382 or email at ub-alumni@buffalo.edu.

Come Support the Bulls on the Gridiron!

The UB Engineering Alumni Association invites you to the Fall Football Tailgate on Saturday, September 22 at 4.30 p.m. prior to the UB Bulls game against Baylor University.

For more information, including ticket info, please call Deanie Hedrick at (716) 645-2768 x1110 or email Hedrick@eng.buffalo.edu.

UB Career Services: Here to Serve You

Seeking high quality job candidates?

UB Engineering graduates are academically competitive and have the experience to know how to apply concepts to real world challenges. Contact the UB Career Services office to arrange on-campus interviews or to discuss creative ways to showcase your organization to current students. E-mail jobs@buffalo.edu for more information.

Have advice for current college students?

The Meet-a-Mentor program is a win-win situation for students and alumni who choose to participate. Mentors have the flexibility to decide their level of involvement in the program and students are able to tap into alumni who can give insightful advice about their industry, the world of work, and job searching. Learn more about the program and how you can get involved by contacting Laura Godwin at ljgodwin@buffalo.edu.

Job hunting?

Career Services offer a wide variety of services to engineering and applied sciences alumni, including résumé/cover letter critiques, job search and interviewing tips, access to online job postings, résumé referral, on-campus interviewing, and individual career counseling appointments. Visit the Career Services office in 259 Capen Hall to speak with a counselor or call (716) 645-2231.

For more information about any of these programs, log on to www.ub-careers.buffalo.edu.

Nicholas Gill, BS ME '02, recently hosted one of the UB Alumni Association's Dinner for 6 Strangers evenings. The UBAA program is simple, bringing alumni and students together over a meal to create an informal environment for making real connections with each other. The group of engineers enjoyed dinner and card games while discussing the School's past, present and future. If you are interested in hosting a dinner, please go to http://alumni.buffalo.edu/drpl/node/1422 for more information or call the UB Alumni Association at 1-800-284-5382.

100 Years of Professional Engineering

The year 2007 marks 100 years of professional engineering in the U.S. The National Society of Professional Engineers (NSPE) and the National Council of Examiners for Engineering and Surveying celebrates this centennial with a special edition of *PE: The Magazine for Professional Engineers*. Among outstanding engineers cited for major contributions during this 100 years was our own **Wilson Greatbatch,** MS EE '56. Cited in the article as among the "Notable PEople," Greatbatch is praised for his groundbreaking invention of the implantable pacemaker and corrosion-free lithium-iodide battery. In 1985, NSPE named Greatbatch's invention one of the 10 greatest engineering contributions to society of the last 50 years.

In Memoriam

UB Engineering offers its sincere sympathy to family, friends and classmates of those alumni who have recently passed away.

David Anderson, BS ME '63, MS ME '66
Mitchell Banas Sr, BS ME '54
Frederick Baynes, BS ME'50
Carlton Bjerke, BS ME '56
James Butler, BS EE '52
Mary Clare, BS CE '83
Gordon Dermanuel, BS ME '52
Jaroslave Grinstein, BS IE'90
Harold Holman, BS IE '59
Florian A. Kandefer, BS EE '62, MS EE'65
Alexander Karelus, BS ME '67
Jack Klingenmeier, BS IE '55
Bernard Lang Jr., BS IE '60
Stefano Moran-Guiati, BS ME '06
Richard Pekins, BS ME '59
Wayne Scharich, MS ME '64
Raymond Swierczynski, BS IE '50
Herbert Wendling, BS ME '49
George Wesley, BS EE '50

Hire UB Engineering Co-op and Intern Students

We encourage our alumni and industrial partners to consider employing UB Engineering students through our Co-operative Engineering Education Program.
Co-op students have completed their junior year, including coursework in their major, and many have business-success skill training through the Engineering Career Institute. They are prepared for challenging, value-added technical assignments.
Internships are also available.
Please consider employing one or more of these students.

For more information, contact:
Dean C. Millar, Assistant Dean
412 Bonner Hall, (716) 645-2768 x1112
dcmillar@eng.buffalo.edu, www.eng-intern.buffalo.edu

Students

UB Engineering Commencement 2007

Chancellor's Award for Student Excellence

Rahul Chopra graduated with a triple major of computer science, economics and mathematics. An advanced honors student, Chopra served as a teaching assistant in the Department of Economics. He is a member of Mortar Board International national senior honor society and the National Residence Hall Honorary, which includes the top 1 percent of students residing on a college campus.

Josh Hancock graduated with a degree in environmental engineering. He is an independent consultant on a grant on biodiesel production using trap grease as a feedstock and helped design the testing apparatus.

Zachary Lochner graduated with a degree in electrical engineering. An award-winning photographer and member of several engineering honor societies, Lochner has received a grant from the National Science Foundation to study and research electron beam nanolithography.

Student participants in the UB Engineering commencement ceremony included:

Banner Carrier

Christopher Drucker, BS IE '07, Engineering Student Association Coordinator

Salutation

Adrienne Decker, BS CS '01, MS CS '01, PhD CSE '07

Student Address

Brandon Brown, BS AE '07, President, Tau Beta Pi - New York Nu Chapter

Farewell

Adam Halstead, BS EE '05, MS EE '07

For more information about the 2007 Engineering Commencement, see http://www.eng.buffalo.edu/commencement/2007/index_2007.php.

Student News

Jack Durnin, mechanical engineering student, was recently named one of the top 25 participants in mtvU's "Best Filmmaker on Campus" Contest. The network, an offshoot of MTV tailored to college life, asked for submissions from full-time students nationwide. Jack's films can be found at http://www.bestfilmoncampus.com.

Scott Ferguson, a graduate student in MAE, received a 2007 Graduate Student Excellence in Teaching Awards. This award is given out yearly to publicly recognize those graduate students who have demonstrated exceptional performance in the execution of their teaching responsibilities. In addition, **Albert Goldfain**, CSE, and **Indranil Sarkar,** EE, received honorable mention recognition.

John Hu, student in CSE, was among a team winning UB's annual Henry A. Panasci Jr. Technology Entrepreneurship Competition for the proposed business, CH3 BioSystems. The company will provide high-performance ingredients for the discovery of protein methylation pathways in cells and tissues and will help scientists understand and treat certain cancers, HIV, heart disease and neurological disease.

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Order of the Engineer

Graduating senior engineering students pledged themselves to upholding the highest standards of the profession in the annual Order of the Engineer ceremony. Each graduate promised to "practice integrity and fair dealing, tolerance and respect; and to uphold devotion to the standards and the dignity of their profession, conscious always that their skill carries with it an obligation to serve humanity by making the best use of Earth's precious wealth."

This year's participants included over 100 undergraduate and graduate students, alumnus **Paul Shields**, BS IE '68 (see Alumni section) and **Dean Harvey Stenger Jr. Michael Ryan**, professor of CBE and UB Vice Provost and Dean of Undergraduate Education, spoke to the group about the history of The Order of the Engineer which began in 1925 as the result of efforts by a Canadian engineer and professor at the University of Toronto. He envisioned the institution of a ceremony and oath which would instill a spirit of brotherhood and cohesiveness among engineers. He brought together members of The Engineering Institute of Canada to plan the ritual and commissioned author Rudyard Kipling to write the oath.

Inductees are presented an iron ring to be worn on the little finger of the working hand to symbolize the continuity of the profession and its methods. A widespread myth holds that the first rings were fabricated from the wreckage of the Quebec Bridge that collapsed during construction on August 29, 1907. The story suggests that the material of the rings serve as a reminder of human fallibility, the consequence of error, and the paramount importance of public safety.

The ceremony was convened by the UB Engineering Office of Undergraduate Education.

Tau Beta Pi Honors Educators

PROFESSOR OF THE YEAR A. SCOTT WEBER WITH TBP PRESIDENT BRANDON BROWN

UB's New York Nu chapter recognized its Professor and TA of the year as voted by its members during the 2007 spring induction dinner. The group selected **A. Scott Weber,** professor and chair of CSEE, as its professor of the year. This is the second time Weber has received the award. **Bill Stubler**, EE graduate student, was chosen as the group's TA of the Year. Stubler formerly served as TBP vice president for external affairs and was selected for a prestigious TBP scholarship for his academic success, campus leadership and service.

TA OF THE YEAR BILL STUBLER WITH TBP VICE PRESIDENT OF EXTERNAL AFFAIRS ELECT TOM HEIDINGER

Tau Beta Pi Inducts New Members

Tau Beta Pi, New York Nu chapter inducted 17 new members in its spring induction ceremony. Tau Beta Pi is the largest and oldest engineering honor society, the nation's second-oldest honor society, and the only engineering honor society representing the entire engineering profession. The induction ceremony included a dinner with family and friends and time to honor outstanding UB Engineering educators.

Undergraduate

Luke Adams
Andrew Gaeta
Richard Galas
Edward Matrak
Andrea Morrill
Daniel Muffoletto
Keiichi Muramatsu
Masashi Nakane
Yuta Shibuya
James Sloan
Thomas Szalkowski
Shajan Thomas
Michael Zaccheo

Graduate

Kimberly Ghylin
Caroline Joseph
Mahiyar Nasarwanji
Priyadarshini Pennathur

Jon Missel, MAE student, was named a 2007 Tau Beta Pi Scholar and will receive a cash award based on his high scholarship, campus leadership and service, and promise of future contributions to the engineering profession. Missel is conducting research pertaining to the autonomous flight and navigation of a small helipcopter.

Summer Research Internship Program

The University at Buffalo Collegiate Science and Technology Entry Program (CSTEP) completed another successful summer session where promising young minority students participate in a summer research internship program. **Drexel Gidney,** senior academic advisor and director of minority engineering programs, serves as the UB Engineering representative on the program's planning board.

The following UB Engineering students and faculty participated in this year's program:

Brianna Clark, EE, worked with **Jennifer Zirnheld,** lecturer in EE, on researching the uses of sensors and applying them to a mobile platform.

Jamar Drue, EE, worked with **Alexander Cartwright,** professor of EE, on an applied mathematical model for multilayer periodic systems

Moses Farley, EE, worked with Jennifer Zirnheld on researching what to integrate in a synchronized system in order to monitor the oil and fuel levels of generators.

Steven Jean Julien, EE, worked with Jennifer Zirnheld on examining the efficiency of a 3-phase squirrel cage induction motor.

Richard Linares, AE, worked with **David Forliti,** assistant professor of MAE, on the visualization of 2d flow regimes through the use of soap films.

Rene van Ee, EE, worked with Alexander Cartwright to determine whether solar cells serve as a competitive method of electricity generation.

A special highlight of the final program was keynote speaker **Dexter Johnson,** BS AE '87, MS AE '89, PhD AE '95. Johnson is employed at the NASA Glenn Research Center at Lewis Field as the Chief of the Structural Systems Dynamics Branch. He has participated in the prestigious NASA Administrator's Fellowship Program, worked at NASA Headquarters in the Office of Aerospace Technology Programs Division and was a visiting researcher at Pratt & Whitney in East Hartford, CT, Veridian Engineering in Buffalo, NY and Moog Inc. in East Aurora, NY. He has received numerous awards including the esteemed "NASA Honor Award – Exceptional Service Medal," the Structures Division Mentor of the Year Award at NASA Glenn, the National Technical Association Technical Achiever of the Year – Technologist Category, and the Science Spectrum Magazine Trailblazer Award for outstanding Hispanic, Asian American, Native American, and Black professionals in the science arena whose leadership and innovative thinking on the job and in the community extend throughout and beyond their industry.

Johnson is a BEAM alumnus who actively pursued research opportunities during his time at UB. He continues his mentoring work through PHIDEX Enterprises, his educational research and professional development company whose mission is to "Passionately Help Individuals Develop Excellence."

Sledding Ahead of the Competition

This year, UB Engineering students performed excellently at the SAE Clean Snowmobile Challenge. Our team was the only team working with a diesel sled, and won the award for cleanest emissions. **Eric Peckham**, team captain, noted that "We did something with a snowmobile that has never been done before at this competition. We implemented a three cylinder diesel engine into our 2003 Polaris Pro-X chassis. With this motor decision we were looking for better efficiency, and a more reliable power. We ended up meeting both of these goals and more. The snowmobile ran at max rpm for 3 hrs and 60 miles burning only 3 gallons of B10 Diesel fuel. We also achieved the award for cleanest emissions thus dismissing the myth of diesel engines being noisy and dirty." The team consisted of MAE students Eric Peckham (Captain), **Steve Battaglia, Chris Battaglia, Jake Ennis, William Goodfellow,** and **Kevin Gastle.**

More information can be found at: http://students.sae.org/competitions/snow.

Education

Graduate Research Day and Open House

The first annual UB Engineering Graduate Research Day and Open House presented an opportunity for the students and faculty of UB Engineering to become more familiar with research work being performed throughout the School. Twenty graduate students participated in a poster competition and winners received prizes. Prospective students from other area colleges were also invited to get more information about opportunities for graduate study at UB.

Poster winners included: first place: **Jeffrey Czyz,** CSE; second place: **Dhananjay Marathe,** CBE; third place: **Gabriel Terejanu,** CSE; honorable mentions: **Min Zhang,** ISE; **Seda Dogruel,** CSEE; **Michael Holender,** ISE; **Scott Settembre**, CSE; **Marian Simo**, CBE; **Leng-Feng Lee,** MAE; **Ifeoma Nwogu,** CSE; **Eleni Mataxi**, MAE; **Sun Jin Kim**, EE; and **Elizabeth Nio**, EE.

In addition to our usual print copy, UB Engineering is pleased to publish an online version of our current news and announcements. In addition to our usual print copy, we will be publishing an online version of our current news and announcements.

You will still receive a print copy of our newsletter to enjoy, but we want to encourage all our UB Engineering alumni to visit our electronic edition. When you view the eNews, you have the opportunity to subscribe to receive a notice whenever we publish a new edition. You will find a button for subscriptions on the main page of the eNews. You can also submit information for our Class Notes section to keep your fellow UB alumni current on your recent achievements.

To view the UB Engineering eNews, go to our UB Engineering home page at www.eng.buffalo.edu. In the menu running across the top of the screen, choose the "About" dropdown menu and select "UB Engineering Publications." From there, choose the link to the eNews.

New Dean's Scholars Program

Starting in fall of 2007, UB Engineering will be providing a special opportunity for approximately 20 highly talented incoming freshmen who will be members of the Dean's Scholars Program. The program will recognize students for their outstanding high school records, demonstrated commitment to academic success, and interest in engineering. Through the program, incoming engineering students will receive individual academic advising, special seminars, and social activities that promote a sustaining interest in advanced education and research. A special feature of the program will be the involvement of the Dean on a personal basis as he will be working closely with the students.

Our goal is for Dean's Scholars to reach their full potential and make a difference in their communities, their disciplines, and beyond. These young scholars will enjoy access to all the resources of UB Engineering, including research opportunities and connections to superior faculty and fellow students. By strengthening the School's commitment to and fostering of innovations in education and advances in research, UB Engineering is taking steps to promote a skilled workforce that will support a knowledge-intensive, global economy built around interdisciplinary learning opportunities and hands-on experience.

Some of our students go far beyond what one would expect of a summer co-op project. William Cuthbert, EE student, choose to spend his summer in Bangkok, Thailand where he taught, presented his research findings to an international audience of students and faculty, reviewed papers from Thai faculty and conducted research. His advisor is Douglas Hopkins, research associate professor in EE.

The American Society for Engineering Education ranked UB Engineering in the top 25 schools in the nation for number of master's degrees awarded.

CSE Celebrates 40 Years

CSE FACULTY, STUDENTS AND ALUMNI GATHER TO CELEBRATE THE DEPARTMENT'S MANY ACHIEVEMENTS

In 1967, UB took a bold step, creating one of the nation's first departments in the emerging discipline of computer science. Now, after producing 6000 graduates, many of who are some of the field's most renowned innovators, the Department of Computer Science and Engineering marked its 40th anniversary with a two-day program of distinguished alumni speakers, a showcase of graduate student research and discussions about the past and future of the discipline. The celebrations also included a year-long Alumni Speaker Series which brought many other celebrated graduates back to campus to share their wisdom and experiences.

CSE chair and professor **Bharat Jayaraman** noted the department is looking forward to a future of growth, particularly in the area of "smart environments," one of the major initiatives within the UB 2020 strategic strength of information and computing technology. He described a smart environment as one in which sensors and computing and communication devices are embedded into everyday objects, providing a seamless and natural way for humans to interact with computers to get things done.

The anniversary celebration was organized by Jayaraman and **Marianne Sullivan**, executive officer, CSE. For a complete listing of event participants and additional photos, please see **http://aluminum.cse.buffalo.edu/40/html/index.html.**

New Arenas for UB Engineering: Biomedical Engineering and Service Systems Engineering

UB Engineering prides itself on being at the forefront of new research and education. While this generally means new developments in our existing labs and classrooms, we are excited to announce the development of both a new degree program in Service Systems Engineering and a new department of Biomedical Engineering. These new efforts will provide research and education opportunities for students and faculty seeking knowledge in new and growing fields.

The proposed Biomedical Engineering Department will focus on four fields of emphasis: (1) molecular-cellular, cell and tissue engineering; (2) computational biomedical engineering and modeling; (3) biomedical sensors, instrumentation; and (4) diagnostics medical imaging and analysis. This distinct field of education, employment and research is growing and promises to have a positive impact on the student quality and enrollment at UB as well as the region's economy and health care industry. The department will foster and expand collaborative interdisciplinary research and will take leadership and responsibility for important facilities.

The Service Systems Engineering program will provide in ISE master of engineering degrees for those in the service sector industries such as banking, investment, insurance, health and hospitality. It will provide graduate education for those engineers who will be involved with the planning, organizing, leading and controlling aspects of service enterprises as well as those wishing to advance to managerial positions in service organizations. The 12-month, 30-credit hour program consists of technical and management courses as well as a master's project. The program begins in the fall 2007 semester with a class of between 25 and 30 students and State Education Department approval is being sought.

Distinguished Faculty (cont. from pg. 1)

Advisory Panel and serves on the National Research Council's Panel on Assessment of Technologies Deployed to Improve Aviation Security. As a member of these panels, he has reviewed security systems in airports around the world. (For other accomplishments and awards see "Festschrift" on page 10.)

Lee has made significant contributions to the field of engineering on a national and international scale in his 45 years at UB. He has served as chair of the Department of Civil, Structural and Environmental Engineering, as dean of UB Engineering, as associate director of the Calspan-UB Research Center and as director of the National Center for Earthquake Engineering Research, now known as MCEER. In addition, Lee has been a proponent of international education, helping to negotiate UB's first exchange agreements in Beijing in 1980. He has also been active in promoting engineering education among members of underrepresented minority groups, helping to found the Buffalo-area Engineering Awareness for Minorities program.

A prolific researcher, Lee has co-authored four books and published 250 papers on structural engineering and mechanics, steel structures and earthquake engineering. His accomplishments have earned him numerous awards, among them the Superior Accomplishment Award from the National Science Foundation and the Newmark Medal from the American Society of Civil Engineers.

Lund received the SUNY Chancellor's Award for Excellence in Teaching in 1991 and was named a Lilly Teaching Fellow by the UB Office of Teaching Effectiveness in 1988. In addition, he twice has been named "Chemical Engineering Professor of the Year" by the American Institute of Chemical Engineers' student chapter and was selected "Teacher of the Year" by the New York Nu Chapter of Tau Beta Pi.

The recipient of the National Science Foundation's Presidential Young Investigator Award in 1988, Lund's current research interests include heterogeneous catalysis for fuels and chemicals from domestic and renewable resources, mechanistic and quantum modeling of heterogeneous catalytic reactions, methods for the design and development of heterogeneous catalysts and the development and assessment of tools to facilitate active learning in engineering courses.

Business Partners (cont. from pg. 1)

annual employment dinner. In addition, company executives have long been generous volunteers with the School. Joseph Wagovich accepted the award on behalf of Lockheed Martin. Also attending from Lockheed Martin were UB Engineering alums **David Howe**, BS ME '03, BS AE '03, and **Kimberly Davis**, BS EE '04, both of whom are employed at Lockheed Martin's Owego site.

The University gave its Igniting Ideas award to Crystal Peoples, New York State Assemblywoman. UB President John Simpson remarked, "Crystal Peoples has worked hard to improve the economic, environmental, cultural, academic and health conditions for her constituency. We are especially appreciative of Assemblywoman People's support of UB's plans to grow and her understanding of our positive impact in Buffalo Niagara, especially within Buffalo's urban core."

This year's featured speaker was Steve Holliday, CEO of National Grid. Holliday discussed energy delivery and global climate change. One of the world's largest utilities, National Grid has committed to delivering a 60 percent reduction in greenhouse gas emissions for all its processes, operations and offices in the United Kingdom and the US by 2050.

Holliday also participated in a National Grid corporate reception given in honor of recent UB Engineering graduates who are employed by the company. (See Alumni section.)

For more information about the event, please see http://www.eng.buffalo.edu/events/iuday/index.htm

UB Engineering Growing (cont. from pg. 1)

especially in areas identified in the UB 2020 Strategic Strengths plan.

We are expecting twelve new faculty to join the School for the 2007-2008 academic year, bringing our net full-time equivalent faculty count to approximately 150. .

In addition, our student population numbers are rising. This year we saw a 21% increase in graduate applications, resulting in an 11% increase in enrollment. At the undergraduate level, we have a 6% increase in the number of freshmen enrolled. We expect to continue this steady growth rate with projected undergraduate enrollments increasing at the rate of 5% each year to match the proposed 30% increase in our classroom, lab and office space in our new building. (See the Development section for more information about the progress on the new building initiative.)

In addition to larger numbers, our undergraduate admissions increased significant in terms of student quality as measured by SAT scores. In 2006, the average student scored 1195 on the exam whereas in 2007, the average student score is 1217. Initiatives such as the Dean's Scholar Program (see Education section) and new efforts in student recruitment have yielded promising results and should continue to spur progress.

Faculty & Staff

Dean's Award Presented to Mark Karwan

MARK KARWAN AT THE 2007 UB ENGINEERING COMMENCEMENT

The 2007 Dean's Award for Achievement was given to **Mark H. Karwan,** professor of ISE and former dean, for his substantial contribution to the practice of engineering, exceptional professional career, and outstanding service to the School and University.

Karwan began over 30 years ago in the Department of Industrial Engineering and has held leadership positions, including chair of his department and associate dean for research and graduate education. He served 12 years as dean of the School, during which time UB Engineering experienced tremendous growth in both research and education endeavors.

In presenting this year's award, **Dean Harvey G. Stenger Jr.** thanked Karwan for his efforts and dedication which "left behind a School that is full of quality, great people, and a sense of community."

Among his many accomplishments, Karwan encouraged the creation and expansion of a number of research centers as well as the School's international programs, including student exchanges in 30 countries. He developed successful programs such as the Student Excellence Initiative which has resulted in the increased selectivity of UB Engineering's undergraduate students as well as significant advances in student retention. He established the Dean's Council, a body of industry and academic experts which advise the school, and the Junior Faculty Mentoring Program. He worked tirelessly to assist economic growth in Western New York and beyond through the Strategic Partnership for Industrial Resurgence program and broadened economic outreach for the School and Unversity through The Center for Industrial Effectiveness.

Karwan is now active in ISE, returning to his first passion as a professor – teaching and conducting research. He remains dedicated to UB and Engineering, professing, "I'm a UB person and will always be a UB person."

A Festschrift in Honor of Colin Drury

A festschrift, or collection of intellectual works presented in tribute to a scholar, featuring international experts in the field of human factors and aviation safety was held to honor **Colin G. Drury,** SUNY Distinguished Professor in ISE, who is stepping down from his teaching and administrative duties in UB Engineering. The conference also included panel presentations from Drury's former students, experts in areas of interest to him, and a poster session displaying research derived from, inspired by or advised by Drury.

SOME OF THE MANY STUDENTS WHO COMPLETED PHDS UNDER DRURY'S ADVISEMENT WITH DRURY AND HIS WIFE MARGARET, SEATED 5TH AND 4TH FROM THE LEFT, RESPECTIVELY

DRURY TALKS WITH ONE OF HIS MANY PHDS DURING THE FESTSCHRIFT

Drury, who will continue his research at UB, is known internationally for combining research into human factors, such as ergonomics, fatigue and training, with studies of human error and quality control to pioneer innovations designed to reduce human errors in numerous industries and sectors ranging from aviation and consumer products to chemical demilitarization.

He was the founding Executive Director for The Center for Industrial Effectiveness, which works with regional industries to improve competitiveness and has been credited with creating and saving thousands of jobs in the region. He is

CONT. ON PG. 17

UB Engineering Faculty Member Loves Lucy

Every spring, **Bill Rapaport,** professor of CSE, and his wife Mary join thousands of fans in flocking to Jamestown, NY, the birthplace of Lucille Ball, for Lucy-Desi Days, an annual festival honoring the beloved comic redhead, her co-star and husband, Desi Arnaz, and their classic television show, *I Love Lucy.*

The Rapaports are major donors to the Desilu Playhouse—a collection of vintage memorabilia, costumes and set recreations from the iconic TV series that is named in honor of the Hollywood studio where the show was filmed.

"We went down to one of the festivals one summer and just really fell in love with the whole thing," says Rapaport, adding that his wife had become a serious collector of memorabilia after watching the show helped to keep her spirits up during a serious illness in the mid-1990s. "I grew up watching the original show," Rapaport says. "I remember going to school the day after *I Love Lucy* was on and everybody was talking about it. So being involved in this—going to festivals, meeting people who wrote the show and meeting some of the people who were on the show I used to watch—is a lot of fun."

Chung Delivers Concert-Lectures

Deborah Chung, National Grid Endowed Chair Professor of MAE, traveled to universities and schools in the Peoples Republic of China to deliver 13 concert-lectures titled "Science, Music and Life" to a total of approximately 12,000 people. Students attending ranged from primary through university levels. They all expressed a great appreciation for the experience and actively participated in the Q&A sessions as they discussed their own inspiration, understanding of the relationship between art and science and personal situations.

Faculty News

Rajan Batta, professor of ISE and associate dean for graduate education, received the 2007 Research Foundation Research and Scholarship Award from the SUNY Research Foundation. The award is the highest honor given to SUNY faculty by the Research Foundation and recognizes faculty for their outstanding scholarly and research contributions.

SUNY awarded several 2007 Chancellor's Awards for Excellence to faculty in honor of their contributions to the University community. Honorees include: **Andrei Reinhorn**, Clifford C. Furnas Eminent Professor of CSEE; **Mark Pitman,** technical services manager, CSEE; **Venu Govindaraju**, professor of CSE; and **Rajan Batta,** professor of ISE and associate dean for graduate education. Batta was also awarded the Chancellor's Award for Excellence in Teaching.

Carl Chang, adjunct professor of ISE, received the 2007 Best Book Award from the International Association for Management of Technology for his text *Engineering Management: Challenges in the New Millennium*. Chang's article "Value Addition to Technology Organization: The Six-Dimensional Opportunities" published in the *International Journal of Innovation and Technology Management* is ranked two of four "Top Accessed Articles" of that journal.

Adrienne Decker, CSE lecturer, received the 2007 Milton Plesur Excellence in Teaching Award given by UB's Student Association.

David Kofke, professor and chair of CBE, was selected as the recipient of the Jacob F. Schoellkopf Medal by the American Chemical Society. This award is the oldest local section award in the nation, and was named in honor of chemical industry entrepreneur Jacob Schoellkopf, founder of National Aniline Works.

Joe Mook, professor of MAE, has been re-elected Chair of the Executive Committee of the Global Engineering Education Exchange, the largest organization for engineering student exchanges in the world.

Shambhu Upadhyaya, associate professor of CSE, and **H.R. Rao,** professor of management and adjunct professor of CSE, along with Manish Gupta, co-edited *Managing Information Assurance in Financial Services*, a text which addresses issues such as risk management strategies, security optimization and fraud intelligence.

A. Scott Weber, professor and chair of CSEE, and **James Jensen,** professor of CSEE, were named recipients of the New York Water Environment Association's Kenneth Allen Memorial Award for their paper, "Fate of Tetracycline Intermediate Resistant and Resistant Bacteria in the Activated Sludge Process."

UB recognized the research and commercialization achievements of faculty members at its annual Scholars, Inventors and Entrepreneurs Reception.

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Celebrating Dedication to UB Engineering

Family and colleagues gathered for a luncheon to celebrate the retirements of members of the dedicated staff of the Center for Technical Communication, **Pneena Sageev, Floreal Prieto and Anthony Smaczniak.** Sageev was hired by former dean **George Lee** to establish a communication program for engineering students. Her 20 years of work led to a leading program which is recognized nationally for its ability to satisfy company needs and meet ABET requirements. Prieto and Smaczniak both served 10 years, ably supporting the program by teaching and mentoring students in oral and written technical communication skills. UB Engineering would like to thank them for their service and wish them all happy retirements.

Service Awards

The following faculty and staff were recognized by Dean Stenger for their years of service to UB.

30 Years of Service

Mark Karwan ISE; Dean Stenger; Michael Ryan CBE and UB Provost's Office; Stuart Shapiro CSE; not pictured: Wayne Bialis ISE

20 Years of Service

Front row: Deborah Chung MAE; Bina Ramamurthy CSE ; Pneena Sageev Center for Technical Communications; Eugenia Smith CEDAR; back row: Carl Lund CBE; Venu Govindaraju CSE; Mark Lukowski MAE; Shambhu Upadhyaya CSE; Dean Stenger; not pictured: Shahid Ahmad CSEE; Zach Liang CSEE; D. Joseph Mook MAE; Mehrdad Soumekh EE; Mai Tong CSEE

10 Years of Service

Sabanayagam Thevanayagam CSEE; Anthony Smaczniak Center for Technical Communications; Jane Sinclair Undergraduate Education; Kemper Lewis MAE; Dean Stenger; not pictured: John Dicorso MAE; Thenkurussi Kesavadas CSE; Abani Patra MAE; Floreal Prieto Center for Technical Communications; Jianwei Song CSEE

Chair Change in MAE

The Mechanical and Aerospace Engineering Department has begun an external search for a new department chairperson. Thanks are extended to Joe Mook for his three years of dedicated service as chair of MAE. Andres Soom has accepted the position of interim department chair during this search that is being chaired by A. Scott Weber. MAE faculty members of the search committee are: Gary Dargush, Paul DesJardin, Susan Hua, Roger Mayne and Tarun Singh.

Goodbye and thank you to:

Colin Drury, ISE, SUNY Distinguished Professor Emeritus (See Festschrift page 10)

JoAnn Glinski, CSE

Annette Panek, Center for Technical Communication

Floreal Prieto, Center for Technical Communication*

Pneena Sageev, Center for Technical Communication*

Anthony Smaczniak, Center for Technical Communication*

*(See Celebrating Dedication on this page)

22nd Annual UB Engineering Scholarship Awards

Each year the UB Engineering community comes together to honor student excellence and achievement. Awardees are pictured with faculty members and some of the donors who made the scholarships possible. We wish to thank all our generous donors for their support. Photos by Nancy Parisi.

American Institute of Chemical Engineers Awards

Outstanding Senior Award: Stacy Pustulka, CBE; **Outstanding Junior Award:** Krista Brown, CBE

American Society of Civil Engineers Julian Snyder Endowment Fund Scholarship

John Danzer, donor group; Greg Nelson, CSEE

American Society of Civil Engineers Student of the Year Award

Kenneth M. Wojkowski P.E., donor group; Nadine Roberts, CSEE

Robert P. Apmann Award

John van Benschoten, asssociate dean of undergraduate education; Josh Hancock, CSEE; A. Scott Weber, chair of CSEE; not pictured: Jungsun Oh, CSEE

Joseph and Adele Augustyn Memorial Book Award

Linda Madonia, donor; David Manchester, MAE; Michael Madonia, donor and director, Engineering Development

Babcock and Wilcox Scholarship

Jennifer Zirnheld, lecturer, EE; Uldric Antao, EE; not pictured: William Cuthbert, EE

David M. Benenson Memorial Scholarship

Mynal D'Arcangelo, MAE; Jessica James, CBE; Jonathan Bruneau, CSE; Harpaul Kumar, EE

Joan G. Bennett Memorial Scholarship

Adam Kraus, EE; Brianna Clark, EE; Jason Cieri, EE

Civil, Structural and Environmental Engineering Chair's Recognition Awards

Jeffrey Gardiner, CSEE; CSEE chair, A. Scott Weber; not pictured: Michael Pollino CSEE

D. Richard Ferguson Memorial Scholarship

Jennifer Zirnheld, lecturer, EE; Barnard Onyenucheya, EE; Elfriede and Donald Ferguson, donors

Beth Cheshire Moran Award

Suzanne Duermyer, CSE

Robert H. and Catherine H. Goldsmith Fellowship

David Keller, CSEE; not pictured: Charles Ekiert, CSEE; Adam Revezzo, CSEE

Barry M. Goldwater Scholarship

Jeff Errington, associate professor, CBE; Andrew S. Paluch, CBE

Matthew Grappone Book Awards

Andrew Gaeta, EE; Jeff Gardiner, CSEE; not pictured: John Coles, ISE; Christopher Wirth, CBE

Matthew Grappone Memorial Scholarship

Steven Pfetsch, CSE

UB Engineering Graduate School Ambassador Award

Adam Halstead, EE; Priyadarshini Pennathur, ISE; Rajan Batta, associate dean for graduate education; Ashish Goel, MAE; Hongbo Wang, CSEE; not pictured: Michael Andrle, MAE; Swathi Bondugula, CSEE; Hongyi Dang, CBE; Naga Kakani, CSE; Abhijith Kashyap, CSE; Dong Keon Kim, CSE; Priyadarshini Motwani, EE; Frank Mufalli, ISE; Mahiyar Nasarwanji, ISE; Tom Rosch, CBE; Lei Shi, CSE; Indrajetet Singh, CBE; Zendan Xue, MAE

IIE Senior of the Year and Thomas/Karwan Industrial Engineering Undergraduate Scholarship

Gabriel Abdella, ISE

Robert B. Kleinschmidt Memorial Award

Michael DiNezza, EE

R. R. Rumer Award

Gregory Duell, CSEE

Presidential Fellowships

Sandipan Kundu, EE; Rajan Batta, associate dean for graduate education; Clive D'Souza, ISE; not pictured: Michael Andrle, MAE; Jonathan Bona, CSE; Philip Cormier, MAE; Chin Giaw Lim, CBE; Tam Nguyen, CSE; Xiang Yu, CSE

Mechanical and Aerospace Engineering Award

Stephanie Mucha, donor; Matthew Szymanski, MAE

Senior Scholar Awards

Front row: Zachary Lochner, EE; Nadine Roberts, CSEE; Stephen Pfetsch, CSE; Back row: Zakery Carr, MAE; Alec Solway, CSE; Soyab Kapadia, EE; not pictured: Christopher Wirth, CBE

Irving H. Shames Outstanding Teaching Assistant Award

David Keller, CSEE; A. Scott Weber, CSEE chair; Daniel Schwartz, CSEE; Not Pictured: Charles Ekiert, CSEE; Adam Revezzo, CSEE

Felix Smist Scholarship

Mary Gamble, donor; Rachel Styn, EE; Chloe Styn; Kenneth Dawley, MAE, Rosemary Tiebor, donor

R. P. Shaw Award

Laura Przybylski, CSEE

Watts Engineering and Architecture Minority Scholarship

Brianna Clark, EE

Silent Hoist and Crane Materials Handling Prize

Front row: Kelly Nasradinaj, ISE; Robert Barnes, associate dean for external affairs; Katie Kotarski, ISE; back row: Gabriel Abdella, ISE; Simone Appelt, ISE; Andrew Widjaja, ISE; not pictured: Jonathan Jankowski, ISE; Jason Kaczmarski, ISE; Jennifer Skerker, ISE

Lawrence and Amanda Megan Scholarship

Andrew Lenox, CSEE

Gustav and Greta Zimmer Research Scholar Awards

Brett Juhas, MAE; Amanda Schmidt, MAE; Dayle Hodge, MAE; not pictured: Michael Andrle, MAE; Raymond Beale, MAE; Bradley Cheetham, MAE; Mark Huntington, MAE; Jeremy Kruger, MAE; Jeremy Marschke, MAE; Jonathan Missel, MAE; Christopher Nebelecky, MAE; Babaseyi Olaleye, MAE; Mary Russell, MAE

John Zahorjan Memorial Scholarship

Gunvanti Marathe, ISE; Carl Chang, adjunct professor, ISE; Deepika Vij, ISE

Zimmer Special Project

Mrynal D'Arcangelo, MAE; not pictured: Geoffrey Hohn, MAE; Michael Rausch, MAE; Rohan Sood, MAE

James W. and Nancy A. McLernon SAE Engineering Scholarship

Stacy Pustulka, CBE; not pictured: William Cuthbert, EE; Alexander Karas, MAE; Justin Lee, MAE

Frederick Thomas Award

Matthew Henchey, ISE; Thomas Szalkowski, ISE; Christopher Walh, ISE

Bhaw D. Shukla Scholarship

Ryan Holoubek and Neela Shukla, donors; Brandon Brown, MAE; Brett Juhas, MAE

S.P. Prawel Award

Danielle Kubicki, CSEE

Other Scholarships Awarded but Students not Present

CSX Transportation Scholarship

Robert Colorafi, EE

Joseph Markle Dinner Memorial #4 Scholarship

Andrew Leyonmark, MAE

Moog Graduate Fellowship

Dung Quoc Vo, EE; Erich Devendorf, MAE; Andrew Stuntz, MAE

Schomburg Fellowship

Tomas Andino, CSEE; Michael Williams, CSEE

Xerox/SHPE Scholarship Award

Maribel Lanfranco, EE

Faculty News (cont. from pg. 11)

Honorees included: **Michel Bruneau,** professor of CSEE and MCEER director, who received the Exceptional Scholars Sustained Achievement Award, and **Christina Tsai,** assistant professor of CSEE, who received the Exceptional Scholar Young Investigator Award. The following faculty members were recognized for being named on U.S. patents: **Paschalis Alexandridis,** professor of CBE; **Sriram Neelamegham**, associate professor of CBE; **Joseph Mollendorf**, professor of MAE; **Tarunraj Singh,** professor of MAE. The following faculty members invented technologies that were licensed to an industrial partner: **Kris Schindler,** lecturer in CSE; **Michael Buckley,** lecturer in CSE; **Albert Titus,** assistant professor of EE; **Joseph Mollendorf**, professor of MAE; **Roger Teagarden,** UB Engineering Machine Shop; **Harsh Deep Chopra,** professor of MAE; **Zonglu (Susan) Hua,** associate professor of MAE; **Alexander Cartwright,** professor of EE; **Mark Swihart,** associate professor of CBE; **Ken-Tye Yong,** postdoctoral associate in CBE. **Kris Schindler** and **Michael Buckley** of CSE were also recognized as 2006 UB Faculty Entrepreneurs.

Research

Bridges Will Rock With New Quake Design

Bridges that "dance" during earthquakes could be the safest and least expensive to build, retrofit and repair, according to earthquake engineers at UB and MCEER.

The researchers recently developed and successfully tested the first seismic design methodology for bridge towers that respond to ground motions by literally jumping a few inches off the ground. The new methodology allows steel truss towers that support bridge decks to be built or retrofitted at far less expense than conventional approaches, where each leg of a bridge tower is strongly anchored to its footing.

The design recently underwent successful testing on a model truss tower that is 20 feet high and weighs nine tons. Testing was conducted on a six-degrees-of-freedom shake table in UB's Structural Engineering and Earthquake Simulation Laboratory (SEESL).

"Our approach is unconventional, counterintuitive," admits **Michel Bruneau,** director of MCEER and CSEE professor, who developed the new approach with **Michael Pollino,** a doctoral candidate in the department. "With an earthquake, conventional wisdom dictates that the most important thing is to anchor the bridge tower," explained Bruneau. "The mass wants to overturn, so you have to tie it down." To do that, he explained, the tower must be anchored with a very expensive foundation system, which in turn, subjects it to the full force of the earthquake.

"In this scenario, something usually has to yield," he says. "Here, we're standing that concept on its head. By letting the tower rock, we're significantly reducing the overturning force."

Information Fusion Improves Intelligence Gathering

The research team at the National Center for Multisource Information Fusion (CMIF) is developing methods of enhancing national security and improving the accuracy of intelligence gathering. Information fusion works by combining evidence and intelligence gathered from a wide variety of sources, which when considered separately often yield conflicting and ambiguous results. The system combines and organizes the information from such sources as remote satellite, sensors and individual personnel, and then incorporates it in a seamless flow to a central command center, where decisions can be more effectively rendered. The command center can monitor a constant flow of real-time data, using estimation algorithms or artificial intelligence techniques to produce a far better estimate than those based on any single type of information.

Information fusion has already proven useful in defense applications for surveillance or reconnaissance systems, robotics, civil infrastructure, medical monitoring, intrusion detection and environmental monitoring. Non-defense applications of information fusion include condition-based maintenance, which allows for the prediction or estimate of health from sensor data, multi-spectral mammography, and intelligent transportation systems, which prevent intersection collision through the use of peripheral radars and acoustic sensors. Information fusion has also been used in disaster management and cybersecurity. One of the most successful applications has been the development of a method to determine whether a hit on an FAA website is a cyber attack or a valid inquiry.

CMIF is currently working to develop an information integration mechanism that will simplify human decision-making in solving operational problems. This mechanism would be an advanced, multi-intelligent system that can organize the information into a hierarchy, reducing the difficulty of processing it. Because of the increasing proliferation of sensors on all platforms, human decision makers are being overwhelmed with data. In this research, explains Moises Sudit, managing director and research professor of ISE, the team proposes a novel approach in the nearly "real-time" ranking and formulation of hypotheses in asymmetric warfare scenarios such as urban warfare.

New Methods of Measuring Kidney Cells

Zonglu (Susan) Hua, associate professor of MAE, has been awarded an NIH-supported mentored career development award which encourages quantitative research-oriented scientists and engineers to gain fundamental knowledge in biomedicine in order to utilize their skills to treat problems in health and disease. Hua's project, "Time Resolved Studies of Transport in Renal Epithelial Cells," utilizes a microfluidic approach to study biophysics of kidney cells.

The kidney is a selective transporter of solutes and water which moves waste products from blood to urine and regulates the level of many essential substances in the blood. A change in cell volume is the integral of all the fluxes. This project exploits a new technology that can measure cell volume at high resolution in real time. Taking advantage of a newly developed microfluidic lab chip, Hua will investigate a wide variety of factors that challenge cell volume homeostasis, including various pharmacological agents, flow effects, as well as mechanical stimuli. Kinetic analysis of cell volume responses to different stimuli will provide insight into the dominance of particular signaling pathways and sensory mechanisms, knowledge that could someday lead to new developments in the treatment of ailments such as kidney disease.

EngiNet™ Offerings

EngiNet™ is principally a graduate-level distance learning program. We offer courses year-round in the following areas:

Civil, Structural and Environmental Engineering
Computer Science and Engineering
Electrical Engineering
Engineering and Applied Sciences
Industrial and Systems Engineering
Mechanical and Aerospace Engineering

See our website http://www.eng.buffalo.edu/EngiNet/ for class lists and more program information.

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Multi-Hazard Experts Gather

Experts are gathering in New York for a symposium on "Emerging Developments in Multi-Hazard Engineering" organized by MCEER and the Architectural Engineering Institute of the American Society of Civil Engineers.

Multi-hazard engineering is a new field that aims to provide an integrated and cost-effective approach to addressing the numerous potential threats that can impact the built environment. The goal is to develop ways to protect communities from a variety of hazards at one cost, instead of using different solutions for each hazard, according to Michel Bruneau, MCEER director and professor of CSEE.

Recent events such as the attacks of September 11, 2001, the Asian tsunami in December 2004 and Hurricane Katrina have highlighted the need for solutions when two or more hazards simultaneously threaten communities and their infrastructure, said Bruneau.

Nationally recognized researchers and practitioners from industry, academia and government will discuss a variety of solutions and applications, including adapting technologies developed for specific hazards to multi-hazard problems and developing new technologies to mitigate a variety of threats. Specifically, symposium participants will discuss blast, earthquake, wind, flood and wave surge from the perspectives of risk, reliability, design, analysis, cost-benefit, life-cycle costs and structural health monitoring. The goal of the symposium is to establish an integrated risk assessment framework for multi-hazard environments while addressing how to assess and mitigate risk from competing low-probability, high-consequence hazards.

For more information about the symposium, please see http://mceer.buffalo.edu/meetings/aei/default.asp.

Inaugural Workshop for Integrated Nanostructured Systems

World-class researchers from industry, government and academia gathered at UB to discuss innovations in multifunctional nanomaterials and nanodevices at the first annual Integrated Nanostructured Systems Workshop organized by faculty members affiliated with the Integrated Nanostructured Systems Strategic Strength identified in the UB 2020 strategic planning process. The workshop highlighted emerging areas such as nanobiophotonics, semiconductor spintronics, nanofibers, nanomagnetics, hybrid nanomaterials, nanomechanical computation and nano-piezotronics.

According to Alexander Cartwright, professor of EE, "This workshop not only gave us the opportunity to attract global leaders in the field, it provided us with the opportunity to highlight the fact that UB is a leader in nanostructured systems."

Software that Intelligently Sorts Text

Janya, a software company founded by Rohini Srihari, associate professor of CSE, was recently awarded a significant research contract from the Air Force Research Laboratories for development of software that quickly pulls out important data contained in the streams of messages that can pass back and forth during operations. The company is refining its Symantex text-analysis technology, which allows computers to read through unstructured text and intelligently sort out desired information.

Srihari explains, "We pick up where search engines leave off." First, the program converts documents into words. Then, it scans each word and determines – based on context and rules of grammar – whether it is a name, place or other entity and how each is connected. Eventually, the software will be enhanced so that it can be used, in real time, to help analysts sift through the reams of text generated in military operations, such as reports produced by covert operatives, intercepted message traffic or something as simple as sets of map coordinates. Already, the program can sort through 1000 documents an hour.

Is Cursive Writing Obsolete?

While penmanship, the act of writing with a pen or pencil, remains a classroom staple, educators are actively debating whether cursive writing should be taught.

As states re-evaluate the standards that dictate to schools what students need to know, the seemingly universal addition of requirements for computer literacy promotes the development of keyboarding skills instead. In his research developing handwriting analysis software for use in the legal system, Sargur Srihari, SUNY distinguished professor of CSE, discovered a distinct difference between those under 24 and those over 45, a difference he attributes to a shift away from an emphasis on cursive writing in schools.

"We look at certain broad features called macro features in handwriting. These are things like general slant and connectedness of writing, the size of the writing. Micro features look at the strokes and capture three levels of features of individual alphabets and strokes. The primary task was to see if two samples were made by the same person, secondary was whether it could identify demographics," said Srihari. With about 82 percent accuracy, Srihari's handwriting analysis software can distinguish whether an h, d, x, b, v or l was made by someone under 24 or over 45.

For one comparative study on handwritten characters, he collected three distinct writing samples from over 1000 people representative of the U.S. population and scanned them into a computer. Srihari identified that key style characteristics can be used to determine a writer's age. "Younger people aren't really given penmanship lessons, or something along those lines. The way they hold the pen itself is not quite right in terms of the most comfortable posture which comes with experience. Because of the lack of practice, the skill is somewhat going away," said Srihari.

If cursive handwriting is removed as a classroom requirement, many of today's new teachers which were brought up in the computer age themselves will probably decide against teaching it. This doesn't mean that today's youngsters will be left behind, only that their skills will be different than those of previous generations. In fact, many studies show that students as young as fifth grade are surpassing the typing skills of many adults.

Student News (cont. from pg. 6)

Richard Stone and **Justin Yates**, graduate students in ISE, received second and third place respectively for their entries in the poster competition at the Industrial Engineering Research Conference doctoral colloquium.

A team of ISE students, **Richard Stone, Mahiyar Nasarwanji, Priyadarshini Pennathur, Caroline Joseph, Christopher Drucker** and faculty sponsor **Victor Paquet,** associate professor of ISE, won the ePrize in the first Applied Ergonomics Student Design Competition. The competition asked graduate teams to assess, analyze and calculate ergonomic risk factors and design a solution for a case study using eTools software by sponsor Auburn Engineers, Inc. The top teams were invited to the national conference to compete on site with an additional case study.

Zhi Zhang, graduate student in CSE, has received the highly competitive IBM Ph.D. Fellowship award. Zhang was nominated for the award by **Venu Govindaraju,** professor of CSE.

Giant Dampers Built for Bridge in China

The research relationship between UB structural engineers and Taylor Devices continues to pay dividends to the company owned by alumnus **Doug Taylor,** BS ME '71. The company recently produced eight giant dampers that will be installed on the 1,190-yard-long Sutong Bridge over the Yangtze River in the Peoples Republic of China. The engineers plan to place four of the dampers—essentially large shock absorbers capable of absorbing 2.2 million pounds of force—around each of the bridge's two towers, near where they connect with the deck. The idea is to have the dampers absorb the force generated by an earthquake or a typhoon, instead of the ridge, thereby sparing the span from serious damage.

Each damper is 24-feet long when fully extended and weighs 10 tons. They are the biggest dampers that Taylor Devices has ever designed or produced. "They may well be the biggest shock absorbers ever built," said Taylor.

Remote Computer Reader Improves Processing for US Postal Service

Venu Govindaraju, professor of CSE, and his team at the Center of Excellence for Document Analysis and Recognition (CEDAR) will be continuing the successful research partnership with Lockheed Martin Distribution Technologies with a new study on a Remote Computer Reader for the United States Post Office. (For more on the UB Engineering's relationship with Lockheed Martin, see the UB Business Partners Day article on the front page.)

The Remote Computer Reader is a real-time system for automated reading of addresses on mail-pieces to facilitate machine sorting and thereby significantly reducing labor costs for mail processing. Evaluation of large scale real-time recognition systems requires statistically representative test decks with accurate ground truth. The project will utilize an extensive suite of server-based tools that have been designed at the CEDAR Truthing and Evaluation Lab.

Exploring Micro, Nanoscopic World

The prevailing theory regarding the technology of tomorrow is to think small.

That observation comes from a UB expert in micro- and nanoscale electronics, who points out that everything from consumer electronics to the tools that diagnose disease is shrinking as science unlocks the secrets of the microscopic—as well as nanoscopic—world.

"People want to scale down from big to smaller and smaller," says **Yong-Kyu Yoon**, assistant professor in the Department of Electrical Engineering, who joined the faculty last fall. "In the last decade, nanotechnology has grown up fast."

The highly multidisciplinary research topics in which Yoon is engaged—a checklist of leading-edge subjects that includes microwave engineering, 3-D MEMS (Micro-Electro-Machine System) fabrication, bio- microfluidics, optic devices, sensors and actuators and nanomaterials—all come together through his role as founder and director of the new Multidisciplinary nano and Microsystems (MnM) Lab in Bonner Hall on the North Campus.

Yoon says these subjects fascinate him because there is so much that remains to be discovered in an emerging field that still is often looked upon as being a "black box." He says that neither the efforts of engineers to build micro- or nanostructures from the "top down" nor chemists and physicists to develop them from the "bottom up" on a molecular level have met complete success. Nonetheless, Yoon is determined to keep trying.

ABBREVIATIONS USED IN UB ENGINEERING NEWS

DEPARTMENTS

CBE, Chemical and Biological Engineering
CSE, Computer Science and Engineering
CSEE, Civil, Structural and Environmental Engineering
EE, Electrical Engineering
ISE, Industrial and Systems Engineering
MAE, Mechanical and Aerospace Engineering

DEGREE DISCIPLINES

AE, Aerospace Engineering
CE, Chemical Engineering
CIE, Civil Engineering
CompE, Computer Engineering
CS, Computer Science
EE, Electrical Engineering
EnvE, Environmental Engineering
ES, Engineering Science
IE, Industrial Engineering
ME, Mechanical Engineering

Study of Great Lakes Circulation Patterns

If the Great Lakes behaved like gigantic mixing bowls, then water, sediments and pollutants would be distributed evenly and even large concentrations of pollutants would turn up only in tiny concentrations.

Unfortunately, different regions of each of the Great Lakes have different circulation patterns, with some of them tending to concentrate pollutants, algae and other harmful organisms right along the shoreline, exactly where people tend to interact with them.

Joseph Atkinson, director of the Great Lakes Program and professor of CSEE, and researchers from the Environmental Protection Agency and the National Oceanic and Atmospheric Adminsitration are studying how flow patterns impact the health of lakes Erie and Ontario.

They plan to develop a set of tools to calculate average conditions in the lakes during different seasons of the year in order to better understand the relationship between physical forces in the lakes and their biological resources. The ultimate goal is improving the health of the lakes' ecosystems.

"Generally, the lakes are in good shape with a couple of reservations," said Atkinson, although he noted there is still work to do. "One of the key management issues that researchers are working toward is to eventually make Great Lakes fish safe to eat."

Nanoparticles Research Applied to Virus Detection

UB researchers have collaborated with scientists from other institutions to solve a critical bottleneck in the transport and capture of virus nanoparticles, making possible a device that could rapidly sample and detect infectious biological agents, such as viruses.

"This advance may pave the way for an 'on-the-spot' virus detector, which would be immensely helpful, especially in military and public-health applications," said **Paschalis Alexandridis,** professor of chemical and biological engineering.

The rapid detection of viruses in biological samples is of increasing interest, particularly with the recent emergence of new viruses, including SARS, West Nile virus and avian flu virus. But because viral particles are present at such low concentrations in biological samples, such as blood, a device that can quickly and easily detect them has remained elusive. Typical procedures involve using passive diffusion to get the viral particles to bind to an antibody, a slow process that is not feasible for many applications, such as on the battlefield, where quick results are critical. **Aristides Docoslis**, MS CE '99, PhD CE '00, served as co-investigator on the project.

The Center for Integrated Waste Management was recognized by the U.S. Environmental Protection Agency for their efforts to protect the environment. The group was honored for their research and development of technology to deal with toxic substances and hazardous wastes as well as their efforts to redevelop brownfields for Elmira, Lackawanna and Gowanda, NY.

Engineered Blood Vessels Function like Native Tissue

Blood vessels that have been tissue-engineered from bone marrow adult stem cells may in the future serve as a patient's own source of new blood vessels following a coronary bypass or other procedures that require vessel replacement, according to new research from **Stelios Andreadis,** associate professor, and **Jin Yu Liu,** postdoctoral researcher, in CBE.

"Our results show that bone marrow is an excellent source of adult stem cells containing smooth muscle and endothelial cells, and that these stem cells can be used in regenerative medicine for cardiovascular applications," said Andreadis.

The promising research demonstrates the potential for eventually growing tissue-engineered vessels out of stem cells harvested from the patients who need them, providing a desirable alternative to the venous grafts now routinely done in patients undergoing coronary bypass operations. Although not yet strong enough for coronary applications, the tissue-engineered vessels performed similar to native tissue in critical ways, including their morphology, their expression of several smooth muscle cell proteins, the ability to proliferate and the ability to contract in response to vasoconstrictors, one of the most important properties of blood vessels.

TISSUE-ENGINEERED BLOOD VESSEL FROM BONE MARROW ADULT STEM CELLS

Drury Festschrift (cont. from pg. 10)

head of the Research Institute for Safety and Security in Transportation at UB.

In 2005, he received the FAA Excellence in Aviation Research Award for his contributions in aviation maintenance and inspection research. He is a fellow of the Institute of Industrial Engineers, the Ergonomics Society, the International Ergonomics Association, and the Human Factors Ergonomics Society, and received the Human Factors and Ergonomics Society's A. R. Lauer Safety Award, the Bartlett medal of the Ergonomics Society and the Fitts Award of the Human Factors and Ergonomics Society.

Recently, he was chosen for the Kenneth Andrew Roe Award by the American Association of Engineering Societies, presented on behalf of the engineering community to recognize an engineer who has been effective in promoting unity among the engineering societies. (See also "SUNY Distinguished" on page 1.)

Changes in SEESL Leadership

After more than 25 years of exemplary leadership, dedication and service to the department of CSEE, Andrei Reinhorn, Clifford C. Furnas Eminent Professor, will step down as Director of the Structural Engineering and Earthquake Simulation Laboratory (SEESL). Since joining the faculty, Reinhorn has been the guiding force in developing SEESL into one of the finest structural engineering laboratories in the world. It was the unique vision of Reinhorn that allowed UB to be the only university in the U.S. to be awarded two distinct equipment awards by the National Science Foundation during the establishment of the George E. Brown Jr. Network for Earthquake Engineering Simulation. Reinhorn's legacy is a state-of-the-art lab that continues to demonstrate unparalleled testing capabilities along with a professional staff second to none.

Professor Andre Filiatrault, who was the Deputy Director of SEESL, will assume the directorship where he will be solely responsible for all operations and fiduciary management decisions associated with SEESL.

Stay Connected… Permanently

With all the changes in life, it's nice to have some things stay the same. The UB Alumni Association now offers lifetime email accounts to all alumni. It is a great way to connect with former friends and new colleagues that can be found on the UB Connect alumni directory. The service is free and exclusively available to all UB alumni.

If you are interested in signing up for your free, permanent UB email account, please visit the UB Alumni Association website at www.alumni.buffalo.edu and click on the "UB Connect" tab. UB Connect is supported in part by members' dues. If you would like to support this and other alumni association programs, please visit www.alumni.buffalo.edu and click on the membership tab. If you are currently a member—thank you!

Development

First Leadership Gifts Received

With design plans underway for the new UB Engineering building, the Dean and UB Engineering development staff have been working to procure funds from individuals and corporations for this exciting undertaking. We are excited to report that we have received the first two leadership gifts. Each of the gifts are very gratifying for slightly different reasons. In the first case, an alumna came forward with a gift in appreciation of her alma mater. In the second case, community leaders came forward in recognition of the promising relationship between the School and industry. The gifts reflect the donors' confidence in the future of UB Engineering and its vision to attract the top students and faculty and pursue new partnerships, innovations and research opportunities that will impact positively the region, state and beyond.

Gina Bronkie Hammond, MS CS '73, has given a generous gift of $150,000 and in recognition, UB will name a graduate/undergraduate CSE laboratory after her.

"I originally thought I would become a math teacher, but fell in love with computers," says Hammond, a vice president at Computer Sciences Corp. who manages the company's Government-Wide Acquisition Contracts Service Center. "The new lab is an ideal match for me: an improved teaching space for top-notch students and faculty that's fully equipped with new technology. It's an exciting opportunity."

Hammond joined UB as part of a small group of exceptional women pursuing graduate educational opportunities in computer science and engineering. After graduation, she joined the burgeoning computer science field, serving in increasingly more responsible positions at Marine Midland Bank, Vanguard Technologies, CBIS Federal, DynCorp and Computer Sciences Corp.

"Gina Hammond has built an enviable career working on the leading edge of the computer science and engineering industry and the new Hammond Lab will reflect her pioneering spirit," says Dean Stenger.

Ravinder K. Bansal, PhD and his wife **Pratibha Bansal M.D.** have donated a substantial gift of $500,000 for construction costs of the new building. In recognition of their generosity, UB will name the building's atrium the Bansal Atrium.

Ravinder Bansal is chairman and CEO of Buffalo-based AirSep Corp., the world's leading manufacturer of PSA oxygen-generation systems for medical and industrial applications. According to Bansal, the majority of AirSep's senior engineering and R&D staff are graduates of the UB Engineering School. "These alumni have greatly contributed to the success of AirSep," he said.

He added, "We are proud of the developments and initiatives being undertaken by the School of Engineering. We wanted to support UB Engineering because there is great promise for the region, the state and for national economics that are becoming increasingly dependent on science and technology."

Bansal is a community-minded corporate executive. He has already participated in exploratory planning for the building and has agreed to serve as "a voice for the campaign" to personally urge others to give. At a critical time in our efforts, he has taken a leadership role through his personal gift and his encouragement of others.

UB Engineering welcomes Jenine Trzewieczynski as an assistant director of development. Trzewieczynski comes to us from the HoliMont Ski area, where she worked as marketing director, while also managing fundraising and event planning for the Ellicottville, NY Chamber of Commerce.

New Building Plans Shaping Up

Dean Stenger and other UB Engineering members are working closely with the architectural firm Perkins + Will to develop plans for the new building to be constructed on the North Campus. The group traveled to Boston to view buildings at Boston University, MIT and Harvard to get ideas of what has been successful elsewhere.

The group is currently meeting regularly for the conceptual design phase of the project. The group collected "wish lists" from the departments that will be housed in the new building, EE and CSE, as well as departments that will be affected by the movement of these departments out of their current space. The group is now considering numerous details such as the location of labs in relation to faculty offices and even the best arrangement for faculty offices to promote cooperative relationships between those who regularly work together.

Some of the highlights for the proposed 130,000-square-foot structure include a "clean room" for intricate work with nanodevices; a "cybortorium" with sophisticated communications devices and smart technology; and flexible research labs, classrooms and meeting areas for interdisciplinary work.

Rollercoasters (cont. from pg. 19)

The workshop curriculum was developed by English, Kevin Hulme, NYSCEDII research associate, and Julia Goodwin, an engineering technology teacher from the Lewiston-Porter School District. In addition, seven engineers from different Fisher-Price divisions attended workshop classes to provide additional instruction and support and women engineers from area companies such as National Fuel and Rich Products attended lunches with the students to share their experiences and answer questions about career choices.

Pre-College

Buffalo-Area Engineering Awareness for Minorities

Pre-Collegiate Summer Program

Seventeen minority high school students participated in the BEAM pre-collegiate summer program. This five-week program, coordinated by **Drexel Gidney,** senior academic advisor and director of minority engineering programs, consists of math enrichment and an introduction to engineering, computing and physics. Students attended field trips to General Motors Powertrain, Parsons Brinckerhoff and the Lockport Locks and Erie Canal Cruises.

The 2007 BEAM/UB Engineering summer program staff included: **Folarin Erogbogo,** graduate student in CBE, math instructor; **Adam Halstead,** graduate student in EE, computer instructor; and **Ledum Nordee,** undergraduate student in EE, student assistant.

Summer Research Program

The following senior high school students participated in summer research projects with UB Engineering faculty.

Derek Brim, 12th grade, Canisius H.S., worked with **Jennifer Zirnheld,** lecturer in EE

Jonathan Gambacorta,12th grade, Williamsville East H.S., worked with **Cemalettin Basaran,** professor of CSEE

Jewlianna Serrano, 12th grade, Hutch Tech H.S., and Britne Tyler, post 12th grade, Buffalo Seminary, worked with **Mark Swihart,** associate professor of CBE

Winston Liu, 12th grade, Saint Francis H.S, worked with **Yong-Kyu Yoon,** assistant professor of EE

Samuel Huoh, 12th grade, Amherst Central H.S., worked with **Andrei M. Reinhorn,** Clifford C. Furnas Eminent Professor of CSEE

David Huoh, 11th grade, Amherst Central H.S., worked with **David Forliti,** assistant professor of MAE

Junior Solar Sprint

Students from two BEAM clubs in Buffalo Public Schools, D'Youville Porter Campus and Westminster Community Charter School, won trophies in four categories and the overall trophy at the Junior Solar Spring Competition in Elma, NY.

BEAM Events

The tenth annual golf tournament fundraiser established to support the BEAM summer programs was held in August at the Chestnut Hills Country Club. Over 140 golfers participated to support the student programs.

For information on BEAM and volunteer opportunities, contact:

Marilyn Helenbrook, executive director, 206 Fronczak Hall, University at Buffalo, Buffalo, NY 14260, 645-3066, helenbrk@eng.buffalo.edu

Virtual Rollercoasters are Goal in Engineering Workshop for Girls

STUDENTS PARTICIPATE IN A PRODUCT "RIP-DOWN" OF A FISHER-PRICE SHAKE'N GO RACER TO DISCOVER HOW THE PRODUCT WORKS BY TAKING IT APART.

Instead of visiting an amusement park this summer and riding on rollercoasters, 16 high school girls attended the Fisher-Price Cyber-Engineering Workshop for Young Women hosted at the New York State Center for Engineering Design and Industrial Innovation (NYSCEDII).

The workshop provided high school girls the opportunity to employ engineering techniques, such as computer graphics, motion control and virtual prototyping to demonstrate the exciting and rapidly changing field of engineering design.

"The U.S. is not producing enough engineers to supply our needs for the future," said **Ken English**, NYSCEDII deputy director. "One thing that receives a lot of attention is, 'How do we attract more women to the field?' So we decided to do our workshop this year for young women."

Teams of students created their own ride simulations with computer programs that controlled the movements of the NYSCEDII motion platform, a spatial motion base in the center's immersive visualization lab. While the platform is moving, a 10-foot by 8-foot display showed visualizations that simulate the "ride" that motion base passengers are experiencing. On the last day of the workshop, the girls and their families had an opportunity to "ride" virtual rollercoasters in the NYSCEDII lab.

CONT. ON PG. 18

Promoting Science and Technology Careers for Girls

UB Engineering continued our sponsorship of the annual Tech Savvy conference hosted by the local chapter the American Association of University Women (AAUW). The conference encourages girls from Western New York in 6-9th grades to explore "STEM" careers – those involving science, technology, engineering and math. The students participated in 20 hands-on workshops which inspired success and career exploration while parents, teachers and other interested adults participated in sessions which allowed time for discussing issues and strategies to prepare girls for success in college and technology fields. Catherine Dee, author of inspirational books for girls, spoke at the pre-conference reception and Christy Corbett, research associate for the AAUW Educational Foundation, presented recent research on the state of women and girls in STEM areas. Over 300 students, 100 parents and 25 teachers attended the event. The event was co-chaired by Tamara Brown, ME CE '03, and Kerry Collins-Gross, assistant dean for undergraduate education, and Eileen Hassett, BS EE '95, associate dean for financial, information and resource management, offered assistance.

UB Engineering Calendar

Engineering Alumni Association Tailgate:
Saturday, September 22

Tau Beta Pi Honors Dinner:
Tuesday, October 2

UB Tech Fair:
Wednesday, October 3

Pillars Society Luncheon:
Friday, October 5

UB Homecoming:
Saturday, October 6

GUESTS AT THE 40TH ANNIVERSARY CELEBRATION FOR THE DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

GUESTS AT THE CELEBRATION FOR COLIN DRURY, UB DISTINGUISHED PROFESSOR OF ISE

MICHELLE RHODES, BS CE '99, MS CE '07 AND UB EAA BOARD MEMBER, AND PARENTS AT UB ENGINEERING COMMENCEMENT 2007

Engineering Dean's Council:
Friday, October 12

UB Family Weekend:
Saturday, October 13

UB Fall Open House with Engineering Participation:
Saturday, October 20

UB Discovery Day:
Monday, November 12

TBP 40th Anniversary Dinner:
November, date to be announced

UB BUSINESS PARTNERS DAY 2007

UB Engineering also maintains a calendar of events at http://www.eng.buffalo.edu/events.php.

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