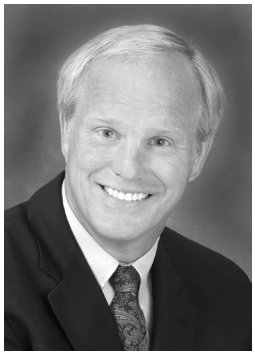
A PUBLICATION OF UB ENGINEERING AND THE ENGINEERING ALUMNI ASSOCIATION

UB ENGINEERING

FALL 2006

IN THIS ISSUE

UB Engineering Welcomes New Dean



Harvey G. Stenger Jr. began his appointment as the new dean of the School of Engineering and Applied Sciences on August 1. He comes to UB from his former position as professor of chemical engineering and former dean of the P.C. Rossin College of Engineering and Applied Science at Lehigh University.

A chemical engineer who earned his undergraduate degree at Cornell University and his doctorate from the Massachusetts Institute of Technology, he succeeds Mark H. Karwan, who returns to the faculty of the Department of Industrial and Systems Engineering.

UB President John Simpson praised Stenger and welcomed his tenure at the School. "Not only is he an accomplished scholar and faculty member who already has distinguished himself in his field, but he also is a seasoned academic administrator who has considerable experience in leading a prominent engineering program. It's clear that his leadership in this capacity has been characterized by a strong commitment to innovation, research excellence and curricular rigor, as well as great success in forging strong and dynamic partnerships with business and industry—all of the essential elements that have built our School of Engineering and Applied Sciences into a thriving and nationally renowned program."

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2006 UB Business Partners Day

IBM EXECUTIVE VP NICHOLAS DONOFRIO

The largest and most successful UB Business Partners Day ever was held June 15, 2006 at the Hyatt Regency Buffalo. Hosted by UB and the School of Engineering with the participation of other UB schools, the event brought 360 guests together to celebrate the successful and productive relationships among industry, government and the University.

DEAN MARK KARWAN PRESENTING THE VITAL PARTNER AWARD TO MICHAEL CADIGAN ON BEHALF OF IBM

This year's featured speaker was Nicholas Donofrio, Executive Vice President, Innovation and Technology, IBM. Donofrio excited the crowd with his presentation, "The Value of Innovation," which argued for the importance of innovation—the ability to combine technology with insight to develop the products, services, methods, processes and policies that meet the challenge of global business and society.

DALE VOLKER, NEW YORK STATE SENATOR

UB Engineering honored IBM with the Vital Partner Award in recognition of its longtime support of UB and the School. An active recruiter and employer of engineering and applied sciences graduates, IBM also has collaborated on research in areas such as biometrics, language models, and parallel computing while also supporting professors through honors such as the "IBM Fellows."

PAUL TOKASZ, NEW YORK STATE ASSEMBLY MAJORITY LEADER

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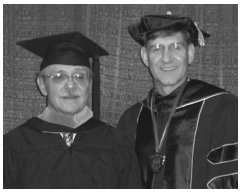
Dean's Award Presented to Taylor



DOUGLAS TAYLOR AND DEAN MARK KARWAN AT THE 2006 UB ENGINEERING COMMENCEMENT

The 2006 Dean's Award for Achievement was given to **Douglas P. Taylor,** BS ME '71, for his contribution to the practice of engineering, exceptional professional career, and outstanding service to the School and University.

Taylor is president of Taylor Devices, Inc., a successful publicly-held, world-wide manufacturing firm located in North Tonawanda, NY. He is also president of Tayco Developments, Inc., a research arm of Taylor Devices.

CONT. ON PG. 19

UB Engineering
University at Buffalo *The State University of New York*
THE SCHOOL OF ENGINEERING AND APPLIED SCIENCES

Happy 60th Anniversary!

As a new hire at the fledging UB school of Engineering, Founding Faculty member and Professor Emeritus **Howard Strauss** was eager to start his work. He came in on his first day to the newly constructed Parker Hall and excitedly received his laboratory key from the first Dean of Engineering **Paul Mohn**. However, he was in for a shock when he walked into an empty room. He returned to the Dean and asked if there was a mistake. There was nothing in his lab. Dean Mohn calmly told him that there was no mistake. The empty lab was part of why he was hired.

PHOTO COURTESY OF THE UB UNIVERSITY ARCHIVES

It is hard to imagine an empty lab now amongst the dozens of crowded laboratories filling much of the five current engineering buildings on the Amherst (North) Campus. But what isn't hard to imagine is the spirit of ingenuity and dreams of future research that have driven the past 60 years of growth. That same excitement can be felt in today's new faculty and each group of incoming students and the new research projects those individuals undertake daily at UB.

In 1946, one hundred years after the founding of the University of Buffalo, the School of Engineering was established as its thirteenth division. The School began with junior courses offered for mechanical and industrial engineering, and went on, between 1946 and 1962, to add electrical, civil, and chemical engineering degrees. In 1962, when the University joined the State University of New York higher education system, aerospace engineering was added, and a comprehensive engineering school was achieved. Since then, an undergraduate program in engineering physics and degrees in computer engineering and environmental engineering have been added. In recent years, the Department of Computer Science joined the School and formed an expanded Department of Computer Science and Engineering.

Even in the early days, the School experienced tremendous and sometimes unexpected growth. Before the School was established, the University and its leader, Chancellor Samuel Capen, recognized the importance technology was going to have in the 20th century. In 1923, Chancellor Capen reported that "The University cannot long delay the establishment of courses which will meet in a large way the demands of its industrial environment… Buffalo, with its unrivalled location, especially for work in industrial chemistry, will some day see [in] this frontier the seat of a great engineering school." His words are prophetic. Although the Great Depression and World War II delayed the progress toward that vision, by 1946 student enrollment in the engineering program already exceeded previous estimates for 1948-49. As soon as the new Karr Parker Hall was dedicated as the engineering building, it became apparent that the core building, planned for a modest-sized student body of 450, couldn't accommodate the student body of more than 1000 which had grown in the war years.

Today, UB Engineering has more than 200,000 square feet of laboratory and office space and annual research expenditures of approximately $38 million. The current 115 members of the

Taking over the helm of the school, new Professor and Dean **Harvey G. Stenger Jr.** says, "I am proud to follow the recent leadership and successes of Deans George Lee and Mark Karwan. I know that the School's achievements in the future will be mostly their's, a little bit of mine, and a lot of everyone else's. As I think about starting my new job, I sometimes feel like a pilot who has been given a well-built and well-equipped jet that is racing down the runway and has just left the ground. Now it's my job to pilot the jet successfully to new heights and a new destination. While course corrections and stops for refueling will be required, the current direction is positive, exciting, and on target.

"In the past few months many people have asked me: 'What will you focus on as dean?' In response, I try to keep my response short and easy to remember: (1) student success and (2) national recognition, reputation, and prominence. The same interviewers then say, what aspects of these are you referring to, and I respond 'All that can be imagined!' Unfortunately the list is too long to fit it all here, but I'm sure you can write much of it yourself. As I develop specific strategies and initiatives, I will regularly communicate with the readers of UB Engineering.

"I'm proud and excited to be a part of UB Engineering, and I look forward to leading it to a great and successful future."

Upon receiving his 1993 Dean's Achievement Award, Distinguished Teaching Professor Emeritus Irving H. Shames noted the importance of students to his work. Upon his leaving UB Engineering after many years of instructing nearly all engineering students to pass through the program, Shames remarked, "What I shall miss most are the students that I have had here! You have given me much joy and fulfillment! I thank you for that. You have been my unofficial co-authors in the development of [the many mechanics books that I have written]."

faculty have won prestigious awards, authored countless books and articles, and produced patents for materials and techniques which benefit all humankind. The School continues to value interdisciplinary research and has structured itself to promote connections across disciplines that benefit undergraduate and graduate study as well as promote the creation of new knowledge that has significance beyond the campus's borders.

This work has a long tradition. From the beginning of the School, Dean Paul Mohn worked with professional technical societies and industries, positioning the School as "a research and development center for many industries [in Western New York] who are unable to support experimental laboratories and research for themselves." According to Mohn's vision for the School, "This is of interest to every industry in Western New York whose personnel consists chiefly of industrial, electrical and mechanical engineers." Today, although still deeply committed to working with Western New York industry, the School's research and educational training impacts industry across the globe.

From a fledgling undergraduate engineering school with only a few programs in a single building, UB Engineering has consistently grown and improved during its 60 year history. Laboratories are growing beyond anyone's wildest imagination. Student populations are expanding to fill more and more classrooms. The School's faculty members are changing the world with their discoveries and insight. Much has been accomplished in 60 years and much excitement awaits.

Spanning the years from when UB Engineering was started to the present -- each student, faculty and staff member has contributed, officially and unofficially, to the success of the School and the progress toward Chancellor Capen's vision of Buffalo as the "seat of a great engineering school."

At the end of leading UB Engineering for 12 years, former Dean **Mark H. Karwan** looks backs and sees – creation, maturation and refinement.

Creation – during his time as dean, Karwan convened the School's first Dean's Council – a group of distinguished alumni and friends who advise and consult on strategic school topics. It was also during this time that he oversaw the establishment of an active school development program – establishing an environment of philanthropy and support for the School that is the envy of UB. In 2002, the School successfully completed its first comprehensive campaign.

Acting on a deeply held belief in a quality undergraduate engineering education, he established the Student Excellence Program – designed to assist freshmen engineering students to succeed with their first year courses. Results are beginning to reveal just how successful the initiative is – the first full cohort resulted in a 47 percent retention rate and a 60 percent improvement in graduation yield.

Maturation can be found in a research program that doubled in dollars during his time and a research expenditure per faculty that ranks in the top tenth – about 35th – of U.S. Engineering schools. Other examples include the development of additional multidisciplinary research centers and active participation in UB's 2020 initiative.

Refinement occurred with the School's organization receiving a department of computer science, realigning computer and electrical engineering and recognizing discipline strength by renaming departments resulting in Chemical and Biological Engineering; Civil, Structural and Environmental Engineering; Computer Science and Engineering; Electrical Engineering; Industrial and Systems Engineering and Mechanical and Aerospace Engineering.

Further refinement took place in the School's economic development activities. A modest outreach group, The Center for Industrial Effectiveness, grew into a comprehensive one-stop shop for contracting engineering service from the School. Stimulated in part by the School's Strategic Partnership for Industrial Resurgence 200 companies and governmental agencies are assisted each year primarily by faculty and students.

Finally, the small international program is now recognized as having the fourth most active exchange program among U.S. engineering schools.

UB Engineering Degrees

	BS	Masters	Ph.D.
2005-2006	**497**	**304**	**52**
1946-2006	**20,050**	**6990**	**1450**

In spring 1946, **Charles Fogel,** Founding Faculty member and Professor Emeritus, joined the engineering faculty, which, due to burgeoning postwar interest, became UB's newest school several months later. "The Parker Engineering Building was built in nine months," he recalls. "Within a year they had to add wings to it. The reason for this growth was the bulge of students getting out of [military] service and having the GI Bill available to them for university education. Most desired engineering. In fall '45, there were 115 engineering students, spring '46 there were 300 and the following year, there were 882 in the fall and 1034 in the spring. Over the next 10 years, the average enrollment in engineering was 633."

Alumni

2006 UB Alumni Association Awards

Each year the UB Alumni Association (UBAA) honors alumni and friends for their outstanding achievements, their distinguished contributions and their support of the University, the community, and their professions.

Robert Goldsmith, BS ME '51, was honored with the Clifford C. Furnas Memorial Award which is presented annually to a graduate who has distinguished him- or herself in a field of science or engineering. Goldsmith began his stellar career in industry as an entry-level engineer, and progressed until he achieved the pinnacle in corporate America…president, chairman of the board and chief executive officer of a Fortune 500 company. Under his leadership, Rohr Industries grew to No. 273 on the Fortune 500 list and captured 46 percent of the world market share for large aircraft engine nacelle (housing) systems.

Earlier, Goldsmith had a successful 26-year career with General Electric, progressing from the rank of engineer in component development for aircraft engines to corporate vice president with responsibility for GE's commercial aircraft engine and gas turbine divisions.

Goldsmith has an extensive history of service and philanthropy to UB Engineering and to his community. He has served multiple terms on the Dean's Council and is a benefactor of the Undergraduate Student Excellence Program and a graduate scholarship.

Yanhong (Robin) Li, MS CS '94, was awarded the George W. Thorn Award given to UB graduates under 40 in recognition of their outstanding national or international contributions to their career field or academic area. Li is the co-founder and chief executive officer of Baidu.com, the Chinese search engine equivalent of Google and Yahoo. It has been used by some 70 percent of Internet users within the most populous country in the world.

Applying avant-garde technology to the world's oldest and most complex language was a challenge. For example, there are 38 different ways to say the word "I" in Chinese. "All the major search engines work in a similar way in terms of basic infrastructure. But in China, there are thousands of details to tailor for local use," Li says. There are no spaces between words and no clear definitions for what constitutes a word. You need to be able to parse sentences into words.

Li has twice been named one of China's Top Ten Influential IT Characters, has been ranked among the "Top Ten Pioneer Entrepreneurs in China" and one of the "Promising CEOs" on the list of The 13 New Elite in Capital Beijing.

Klein named Engineer of the Year

TIM KLEIN RECEIVES HIS AWARD AT THE 2006 UB BUSINESS PARTNERS DAY FROM BRIAN PEER, BS CE '05, AND MICHAEL DRAY, BS CBE '04, UB EAA BOARD MEMBERS

Timothy Klein, BS EE '84, was awarded 2006 Engineer of the Year by the UB Engineering Alumni Association. Klein is president, CEO and co-founder of ATTO Technology, Inc. of Amherst, NY. Klein is an exceptional professional who has risen in meteoric fashion to the top of his field of computer device design and fabrication.

What separates ATTO from its competitors is the remarkable speed of its computer component parts, as reflected in the company's name – an "attosecond" is one quintillionth of a second. Thus, ATTO, in quest of its namesake, designs and

CONT. ON PG. 7

ALUMNI MEMBERSHIP

Graduates of UB's School of Engineering have the opportunity to improve their alma mater through the new joint membership between the Engineering Alumni Association and the UB Alumni Association. Members have the opportunity to 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 and the Fall Picnic;**
- **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.

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!

Class Notes

1960s

James Beardi, BS IE '68, has been appointed to the Management Committee of M&T Bank Corp. M&T's Mangement Committee is comprised of 15 of the company's senior-most executive officers and is appointed by the bank's board of directors to conduct day-to-day policy-making functions. Beardi is president and chief executive officer of M&T Morgage Corp. He joined the bank in 1970 as a management trainee and was named executive vice president in 2003.

Robert Hiney, MS CIE '69, was unanimously elected to the Board of Directors of the New York Independent System Operator (NYISO). Hiney is the former Executive Vice President for Power Generation at the New York Power Authority (NYPA). He was hired by NYPA in 1970 as an assistant hydraulic engineer, and throughout his career worked in power system operations, power supply planning, marketing, electric rates, research and development, and energy efficiency. Hiney has also served as Vice Chairman of the Northeast Power Coordinating Council, as a trustee of the North American Electric Reliability Council, and as Chairman of the NYISO Management Committee. He is a member of the American Society of Civil Engineers.

David Pratt, BS CIE '66, was named chief engineer at Greenman-Pedersen, an engineering and construction services firm. Pratt, with over 40 years of engineering and construction experience will be responsible for quality assurance and all professional functions of the Buffalo branch. Greenman-Pedersen, with over 800 employees, is rated in Engineering News Record's top 100 firms nationally.

1970s

Joseph Drabik, BS EE '71, has been named vice president of business development by Troy and Banks, an Amherst company that audits utility bills for businesses and municipalities.

Harbans Singla, BS ME '70, was honored as the 2006 Tennessee Small Business Person of the Year for his work at the high-tech engineering firm named MS Technology, Inc., that he runs with his partner John Jones. The company employs 55 people in a cutting-edge venture into the use of microwaves to melt and cast metals. He was nominated by U.S. Representative Zach Wamp of Tennessee who said, "Harbans is a bright and talented man who brings so much to Oak Ridge, [TN]. I am grateful for his entrepreneurial spirit and innovative work." He was honored in Washington D.C. at an event attended by President Bush. Singla previously worked at the Y-12 National Security Complex.

1980s

Ed Philip Celotto, BS ME '84, has been named a consultant at Insyte Consulting, a consulting services provider to manufacturing and technology-based companies.

Michael Hammill, BS ME '87, has been appointed director of Six Sigma and Fabio Martins senior engineering consultant for mechanical equipment in the Global Operations Excellence Group at Praxair's Technology Center in the Town of Tonawanda. Hammill joined the company in 1999 and most recently was a master black belt for its North American Industrial Gases Group.

James Lines, BS AE '83, has been appointed president and chief operating officer of Graham Corporation, a designer, manufacturer and global supplier of ejectors, pumps, condensers, vacuum systems and heat exchanges. Lines started with Graham in 1984, serving as an application engineer, sales engineer and product supervisor before going into senior management positions such as vice president of engineering, vice president of sales and marketing and vice president and general manager.

Jeffrey Markin, BS IE '80, has been appointed chief operating officer at VirtualScopics, Inc., a leading developer of image-related biomarker solutions. Markin is leaving his position as vice president and general manager of output systems and mammography solutions in the health group at the Eastman Kodak Company. He has served Kodak for 26 years. Since joining the health group in 2001, he has managed major group operations including leadership of the conventional x-ray business, mammography solutions, healthcare IT software and solutions business, and global radiology sales and service organization. Markin is a Six Sigma Management Black Belt and in 2004 he won the Kodak Chairman's leadership award for his inspired management of company and health group business imperatives.

Robert Murphy, BS CIE '80, has been named vice president, operations manager to all upstate New York offices of URS Corp., an engineering consulting firm. His area will cover Buffalo, Rochester, and Albany, as well as Pittsburgh.

Catherine Pilarz, BS ME '80 and Dean's Council Member, was recently awarded the 2006 Award of Merit and accompanying title of fellow by ASTM International, a standards development and delivery system accepted and used in research and development, product testing, quality systems, and commercial transactions. Pilarz is responsible for the safety of Mattel and Fisher-Price product lines.

William Pippine, P.E., BS ME '84, has been named Senior Project Manager for zumBrunnen, a national construction consulting and facility assessment firm based in Atlanta. Pippine has over 35 years of design, construction and code consulting experience in both the public and private sectors. Prior to joining zumBrunnen, Pippine served as Regional Engineer for the New York State (NYS) Department of State Code Division and was an Area Supervisor for the NYS Office of General Services Design and Construction Group. Pippine is also a retired Lieutenant Colonel, Corps of Engineers, U.S. Army Reserve. In his new position, Pippine will work directly with clients across the country, providing them with objective and thorough construction monitoring services, detailed facility assessment reports and accurate forecasts of replacement reserves for planning and budgeting purposes.

Russell Stoll, BS CIE '81, was named director of engineering by the Niagara Frontier Transportation Authority. Stoll, a licensed engineer, previously was with Clough Harbour and Associates. He is also an adjunct faculty of construction and civil technology at Erie Community College.

Patrick Sunderlin, BS IE '85, has been named director of Production Operations at Lockheed Martin Corp. He will be responsible for all manufacturing activities at the Troy, AL.; Santa Barbara, CA.; and Ocala and Orlando, FL. facilities. Sunderlin has more than 23 years of experience in manufacturing, production engineering, quality assurance, supply chain management and sector/business area staff positions, including his most recent assignment as director of Manufacturing Operations at the Orlando facility.

Ann Wegrzyn, BS IE '85, has been named assistant vice president by National Fuel Gas Distribution Corp., the utility segment of National Fuel Gas Company. Wegrzyn joined the company in 1985 as an analyst in the Industrial Engineering Department. In 2000, she was promoted to general manager of the Information Services Deparment and is also responsible for the utility's engineering functions.

1990s

John Caracappa, BS IE '95, has joined the Washington, D.C. Intellectual Property Practice of Steptoe & Johnson LLP as a partner. Caracappa was formerly a member of the IP group in Akin Gump, where his practice focused on patent litigation. He has represented a range of Fortune 500 and leading international companies utilizing new technologies, including injection molding systems, chip scale packages, excimer lasers, cell phones and microprocessors in district courts and at the International Trade Commission.

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 Marge Hewlett, mhewlett@eng.buffalo.edu, (716) 645-2768 x1106.

Class Notes (cont.)

Brian Carlson, BS CIE '97 ME CIE '98, and Jonathan De Planche, BS CIE '96, were promoted to senior engineers by TVGA Consultants, an Elma engineering firm. Carlson has worked on bridge engineering and highway transportation projects since joining the firm in 1998. DePlanche, with the firm since 1999, specializes in structural engineering.

Lisa Derrigan, BS CIE '91 MS CIE '93, was honored by the New York Water Environment Association with its 2005 Young Professionals Award for her dedication, professionalism and leadership in the association. Derrigan is a project engineer with Malcolm Pirnie.

Garret Hoffmann, BS CIE '90, has been promoted to the rank of associate in the Buffalo office of Clough Harbour and Associates, an engineering firm. Hoffmann, a project manager in the firm's Transportation Division, has more than 13 years of design, rehabilitation and bridge inspection experience.

Joseph Kolly, Ph.D. ME '96, deputy director of the Office of Research and Engineering for the National Transportation Safety Board (NTSB) has been selected as a fellow in the Commerce Science and Technology Fellowship (ComSci) Program sponsored by the Department of Commerce. As one of 19 recipients of this award, Kolly will study how the Legislative Branch interacts with leaders in science and technology leadership to form legislation. Kolly joined the Safety Board in 1998. During his tenure, he has investigated several major aviation accidents in the U.S. and abroad in addition to overseeing NTSB's three laboratory divisions.

Robert Kozarits, BS CIE '94, has been hired as project manager in the municipal engineering department of Passero Associates. He has more than 11 years of experience in designing municipal infrastructure, utility and site projects.

Jason LaMonaco, BS CIE '95, a state-certified engineer, has been named the new city engineer by the Tonawanda Common Council. He previously worked at Stearns and Wheler, an engineering firm.

Ruben Morawicki, ME IE '99, joined the University of Arkansas faculty as an assistant professor of food science in the Dale Bumpers College of Agricultural, Food and Life Sciences in the statewide Division of Agriculture. Morawicki will teach food processing and packaging courses and provide research opportunities for students majoring in food science. His research interests include innovative process systems and packaging materials for sustainable industrial methods that minimize the environmental impact of food processing plants, increase profitability, and produce safe products.

Scott Smith, ME CIE '97, was promoted to senior engineer V in the civil engineering and planning division of Clough Harbour & Associates LLP in Syracuse, NY.

Job Hunting?

Alums – Do you know that you can still receive FREE career advice?

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. Check out our Meet-A-Mentor program and get connected to UB alums who are working in various fields! Visit the Career Services office in 259 Capen Hall to speak with a counselor or call (716) 645-2231. For more information, log on to www.ub-careers.buffalo.edu.

2000s

Garth Howell, BA CS '02, joined Rochester Software Associates Inc. as a Web CRD technical analyst.

Janet Lane, BS CIE '01 ME CIE '03, a U.S. Army Corps of Engineers in Buffalo structural engineer, was named a semi-finalist in the the National Engineers Week Foundation's 2006 New Faces of Engineering. Lane served as design engineer on the Hospice of Western Reserve Project in Cleveland. The foundation is a consortium of engineering societies and major corporations.

Matthew J. Plizga, BS CIE '04, has been appointed as an engineer in the Transportation Department of Hatch Mott MacDonald in Buffalo, NY.

Nora Eberl Plizga, BS CIE '05, has been accepted into the Leadership Buffalo Class Experience Class of 2006. Plizga is Chief Financial Officer and Human Resource Officer of Eberl Iron Works, Inc. in Buffalo, NY.

Danella Zhao, MS CSE '01 Ph.D. CSE '04, an assistant professor in University of Louisiana at Lafayette's Center for Advanced Computer Studies, was recently awarded a fellowship from the Japan Society for the Promotion of Science. As part of the fellowship, Zhao will visit the Nara Institute of Science and Technology and will conduct research in the area of system-on-chip design and testing. The fellowship is funded by the Japanese government to promote international scientific cooperation and exchange.

Inter-decade

The Erie Niagara Chapter of the New York State Society of Professional Engineers elected a number of UB Engineering alumni to its new leadership. Thomas R. Heins, BS CIE '84 ME CIE '90, will serve as president. Heins is a partner in the engineering firm of McMahon and Mann. Other UB Engineering officers include: first vice president, William E. Schutt, BS CIE '79; secretary, Mark F. Domino, BS EE '91; and director: Thomas Klementowski, BS ME '87 MS ME '88.

Alumni Honor Student Excellence

ZAC LOCHNER EE; DAYLE HODGE MAE; MICHAEL DRAY DONOR GROUP; JANINE ZIELINSKI MAE

The Engineering Alumni Association again honored distinguished students with the EAA Scholarship. The 2006 award was presented by Michael Dray, BS CBE '04 EAA Board Member and former EAA scholarship winner. The scholarship recognize "Leaders in Excellence" and encourage students develop a "spirit" and a sense of loyalty to the School.

In Memoriam

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

Robert Blakely, BS ME '67

Frank Bonnevier, BS IE '51 BS ME '56

Russell Clark Jr., BS IE '50

Paul Dellinger, BS ES '87

George Evans, Jr., BS ME '51

David Kogel, BS EE '56

Rudolph Kubek, BS EE '51

Milton Kuhn, BS ME '53

Ronald Leff, BS ES '73

John McGroder Sr., BS ME '49

Peter Millard, BS CIE '93

George Pitliangas, BS ME '89

Robert Ruben, BS EE '62 MS EE '64

Dennis Rynne, BS EE '66

Peter Shephard, BS ES '75

Felix Smist, BS ME '65

Willis Taylor, BS ME '53

Louie Tresino, MS EE '63

Newton West, BS ES '74

Frank Wilson, BS ME '49

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 Sytems Engineering
Mechanical and Aerospace Engineering

Fall 2006 courses are starting now and Spring 2007 courses are being planned. See our website http://www.eng.buffalo.edu/EngiNet/ for class lists and more program information.

For more information, contact Marge Hewlett, EngiNet™ Administrator at UB Engineering: 716/645-2768 x1106 or enginet@eng.buffalo.edu

20th Anniversary of Challenger Accident

In 1986, **Gregory Jarvis,** BS EE '67, lost his life when space shuttle Challenger exploded after launch. Jarvis was a payload specialist who served in the U.S. Air Force and worked for Hughes Aircraft. As a Communications Payload Engineer, he worked on advanced tactical communications satellites. He was also involved in the concept definition for advanced UHF and SHF communications for the strategic forces before working on advanced satellite designs for NASA.

He was honored by a UB senior class with a sculpture, now located in the Science and Engineering library in Capen Hall. His memory also lives on through an undergraduate scholarship established by his wife, Marcia, Moog Controls, Inc. and the general public. He was posthumously awarded the Congressional Space Medal of Honor.

Homecoming Calls Alumni Back to UB

The 2006 UB Bulls Homecoming weekend on October 6-8 offers alumni, students and friends of the University many opportunities to enjoy exciting events.

UB Engineering will be one of several featured schools taking part in the Alumni College on Friday, October 6. **Gilberto Mosqueda**, assistant professor of civil engineering, will speak about his investigation at the Gulf Coast following Hurricane Katrina.

The Structural Engineering and Earthquake Simulation Laboratory will also be opening its lab to the public to view the latest research on the NEESWood project in Ketter Hall (see Research section).

Saturday's football game will give you an opportunity to support the 2006 UB Bulls football team under the new leadership of head coach Turner Gill. Before coming to UB, Gill was the Player Development Director and Offensive Assistant with the Green Bay Packers. He was part of three national championships as a coach and a Heisman Trophy finalist as a player for the University of Nebraska and has been lauded as one of the nation's top recruiters as an assistant coach.

Details about all events will be posted at the UB Alumni Association website (http://alumni.buffalo.edu) or you can call the Office of Alumni Relations at 1-800-BUILD-UB.

Klein (cont. from pg. 4)

builds devices which increase computer processing speed.

The mainstay of ATTO's product line is its "small computer systems interface" (SCSI) or "skuzzy." The accelerator card works eight times faster than Apple Macintosh's own built-in system. Therefore, it is heavily sought by computer manufacturers for use in their products. Other products now include SCSI expanders, video and pre-press electronic publishing devices and silicon caches, which provide instant access to a computer's most often-used data.

An indication of ATTO's success under Klein's leadership is the breadth and depth of ATTO's customers. ATTO components are sold throughout the U.S. and to companies in 35 countries throughout the world. Tim describes his accelerator product as the "Mercedes of the market" and the industry standard. Companies using ATTO devices in their computer, image and video systems read like a Who's Who among major corporations: Apple Computers, Motorola, Disney, Nikon, Kodak and Avid Technology. ATTO has delivered more than an estimated 1.5 million products to the market, in a broad range of storage applications and environments.

ATTO Technology originated from the innovation of its two founders, Klein and his partner David Snell. Beginning with a loan from the Erie County Industrial Development Agency, ATTO chose to begin in the UB Incubator as a start-up company and to date is one of the Incubator's outstanding successes. Having grown to the point of independence, ATTO once again chose a local environment and located in Amherst's Audubon Technology Park. The company now employs over 100 people.

Klein and his ATTO leadership have deep loyalties to UB, with 25% of their employees coming from UB. They support the School of Engineering's internship program, allowing students to work at their company and sending company executives to teach at the Engineering Career Institute. Klein also actively participates on the UB Engineering Dean's Council and was awarded the 1998 Thorn Award from the UB Alumni Association. This award recognizes graduates under the age of 40 for their outstanding national and international contributions to their career field or academic area.

Pillars Society Comes Together

PAUL KREPPEL AT PILLARS SOCIETY LUNCHEON

UB graduates of 50 or more years met June 15 and 16 to attend the fourth annual Pillars Society luncheon and Niagara-on-the-Lake Day Trip. The luncheon welcomed the Class of 1956 into the Pillars Society and gave attendees a chance to reunite with classmates and meet new UB friends. UB Engineering alumni attending the event included **John Daniels**, BS ME '50, **John Dicky,** BS ME '50, **Charlie Fogel**, BA Physics '35, MA Physics '38, **Paul Kreppel**, BS ME '55, and **William Rittman,** BS EE '56.

UB ALUMNI ASSOCIATION PRESIDENT CHUCK SWANEKAMP WELCOMES WILLIAM RITTMAN INTO THE PILLARS SOCIETY

Hire UB Engineering Co-op and Intern Students

We encourage our alumni and industrial partners to consider employing UB Engineering students through our Co-operating 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
415 Bonner Hall, (716) 645-2768 x1112
dcmillar@eng.buffalo.edu, www.eng-intern.buffalo.edu

Five UB Engineering students were chosen for the SUNY Louis Stokes Alliance for Minority Participation summer research internship program for students majoring in sciences, technology, engineering and mathematics. The program is designed to acquaint underrepresented, minority undergraduates with research and graduate study to encourage them to attend graduate school. Students were paired with faculty advisors for their research projects.

Oluwaseyi Akinbode worked with **Alexander Cartwright**, EE, on performing photoluminescence experiments. **Anne-Marsha Joseph** worked with **John Crassidis**, MAE, to construct a space craft test bed model and install fans to simulate thrusters. **Vincent Koomson** studied cyber-infrastructured based engineering repositories with **Kemper Lewis**, MAE. **Bernard Onyenucheya** worked on speed controllers in direct current motors with **Jennifer Zirnheld,** EE. **Moses Vaughan** worked with **Bina Ramamurthy,** CSE, on a project named simply ".net."

ABBREVIATIONS USED IN UB ENGINEERING NEWS

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

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

The UB Engineering Alumni Association invites you to the Fall Football Tailgate on Saturday, October 14 at 11 a.m. prior to the UB Bulls game against Miami University of Ohio.

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

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, 415 Bonner Hall, University at Buffalo, Buffalo, NY 14260

Students & Education

UB Engineering Commencement '06

Chancellor's Award for Student Excellence

Graduating with degrees in mechanical engineering and aerospace engineering, **Danelle Schrader** has been extremely active in and outside of the engineering field. She was the recipient of several awards including the Barry M. Goldwater Scholarship, the UB Engineering Alumni Scholarship, the Rachel Rosen Award and the Michael J. Bauda Engineering Award. Schrader has gained two years of engineering experience at Moog, Inc. and has been the president of American Institute of Aeronautics and Astronautics. She is also a member of Sigma Gamma Tau Honor Society, Tau Beta Pi and Phi Eta Sigma.

Students who participated in the UB Engineering commencement ceremony included:

Banner Carrier

Judah Eisenhandler, BS EE '06

Salutation

David Frankenfield, President, Alpha Pi Mu, Omega Rho, BS IE '06

Student Address

Daniel Gajewski, President, New York Nu Chapter, Tau Beta Pi, BS ME '06

Farewell

Lindsay Mroz, President, UB Chapter of Chi Epsilon, BS CE '06

TBP Honors Advisor

TAU BETA PI NEW YORK NU CHAPTER FORMER PRESIDENT DAN GAJEWSKI AND FORMER VICE-PRESIDENT JANINE ZIELINSKI WITH ADVISOR ROBERT BARNES AT THE ANNUAL PI THE DEAN EVENT

Robert Barnes, associate dean for external affairs and adjunct associate professor of industrial and systems engineering, has been named 2006 National Outstanding Advisor of Tau Beta Pi, the engineering honor society. The award recognizes members nationwide who make an important contribution to Tau Beta Pi students and college chapters. Barnes is chief advisor to UB's New York Nu Chapter and meets often with chapter officers to advise and discuss programming and participates in chapter events.

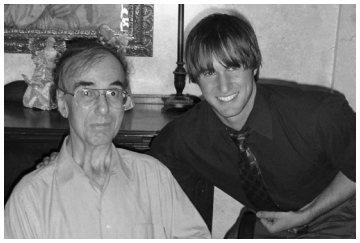
Tau Beta Pi Inducts New Members

Tau Beta Pi New York Nu chapter inducted 10 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.

New members include:

Yuen Cheng, IE
Eric Thomas Fischer, EE
Abhijeet Kohli, CE
Renee Grace Manez, CE
Kelly Renee Miller, CIE
Frank Mufalli, IE
Christopher Kyle Nebelecky, ME
Sanjay Rajan, CompE
Jeremy Daniel Tarrian, IE
Andrew Widjaja, IE

Tau Beta Pi Honors Educators



PROFESSOR OF THE YEAR WAYNE BIALAS WITH TBP VICE PRESIDENT FOR EXTERNAL AFFAIRS WILLIAM STUBLER

ERIK BARDY AND MICHAEL PFETSCH, TA'S OF THE YEAR

UB's New York Nu Chapter of Tau Beta Pi recognized its Professor and TAs of the year as voted by its members during the Spring 2006 induction dinner. The group selected **Wayne Bialas**, associate professor of ISE, as its Professor of the Year. Erik Bardy, ME graduate student, and Michael Pfetsch, EE graduate student, were chosen as the group's TAs of the Year. The group also inducted **John Van Benschoten**, professor of CSEE and associate dean of undergraduate education, as an Eminent Engineer.

William Stubler, student in EE, won a prestigious Tau Beta Pi scholarship for undergraduate study for the 2006-07 academic year. The scholarship was awarded based on competitive criteria of high scholarship, campus leadership and service, and promise of future contributions to the engineering profession. Stubler will serve as vice president for external affairs for the New York Nu Chapter of Tau Beta Pi during the 2006-07 academic year.

21st Annual UB Engineer

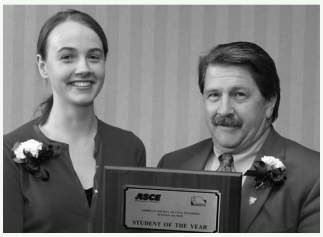
Each year the UB Engineering community comes together to honor student excellence and achievement. This spring 300 people celebrated the students and the generous donors who make these awards possible. The evening included 122 awards and $188,000 in scholarship prize money. Awardees are pictured with faculty mentors and some of the donors who made the scholarships possible. Awardees' names are bolded. Photos by Nancy Parisi.

American Institute of Chemical Engineers Awards

Outstanding Senior Award: **Lindsay Mroz** CBE; David Kofke chair, **CBE;** Outstanding Junior Award: **Christopher Wirth** CBE

American Society of Civil Engineers Juliun Snyder Endowment Fund Scholarship

Charles Ekiert CSEE; John Danzer donor group; **Greg Nelson** CSEE



American Society of Civil Engineers Student of the Year Award

Kelly Finn CSEE; John Danzer donor group

Robert P. Apmann Award

Robert Buchan CSEE

Joseph and Adele Augustyn Memorial Book Award

Jamie Olsen ISE; Michael Madonia donor

David M. Benenson Memorial Scholarship

Zac Lochner EE; not pictured: **Ahmad Zakari** EE

Beth Cheshire Moran Award

Ted Moran donor; **Jason Abofsky** CSE

Association of Old Crows Scholarships

Kenneth Camann CSE; **Tim Burns** CSE; Mike Hardy donor group; Dan Ehrenhalt donor group; **Brian Urbanczyk** EE; **Jason Cieri** EE

Chuang Family Scholarship

Rohan Sood MAE; **David Manchester** MAE

Civil, Structural and Environmental Engineering Chair's Graduate and Undergraduate Recognition Awards

Graduate: **Mohd Foad Abdul-Hamid** CSEE; A. Scott Weber chair, CSEE; Undergraduate: **Jeremy Burger** CSEE

CSX Transportation Scholarship

Kerry Collins-Gross Assistant Dean of Undergraduate Education; **Bilal Hanif** ISE; not pictured: **Joseph Mahan** EE

Engineering Undergraduate Fellowships

Ryan Lange EE; **Darryl McCune** EE; **Adriana Crippen** MAE; **Carlos Buitrago** CBE; **Edward Demauro** MAE; not pictured: **Jonathan Bapst** MAE; **Kyle Brenzel** CSEE; **Christine Cortes** CSE; **Peter Havener** EAS; **Adam Keller** MAE; **Renee Manez** CBE

Richard E. Garman Undergraduate Scholarship

Jeremy Gworek CSEE; **Lauren Gorgol** CSEE; **Andrew Lenox** CSEE **Greg Duell** CSEE; **A. Scott Weber** CSEE; not pictured: **Masamichi Ikeda** CSEE

Matthew Grappone Book Awards

Jonathan Bruneau CSE; not pictured: **Collin Tedlock** CSE

Matthew Grappone Memorial Scholarship

Tony Kew CSE

Gregory B. Jarvis Scholarships

James O'Connor CSEE; **Nadine Roberts** CSEE; **Laura Przbylski** CSEE; **Danielle Kubicki** CSEE

Yong H. Lee Scholarship

Phil Cormier MAE

ing Scholarship Awards

Dr. Sophokles E. Logiadis Prizes

Yin-Nan Huang CSEE;
Ioannis Kalpakidis CSEE; not pictured:
Jeffrey W. Berman CSEE

Joseph Markle Dinner Memorial #4 Scholarship

Dan Gajewski
MAE

James W. and Nancy A McLernon Superior Student Award

Matthew Henchey
ISE

James W. and Nancy A. McLernon SAE Engineering Scholarship

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

Moog Graduate Fellowship

Erich Devendorf
MAE

S.P. Prawel Award

Dave Keller CSEE

Praxair Fellowship Award

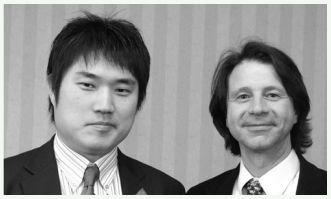
Zach Fowler CBE; David Kofke chair, CBE; Daniel Kehoe CBE

Presidential Fellowships

Michael Pfetsch EE; Adam Halstead EE; Lye-Theng Lock CBE; Chase Murray ISE

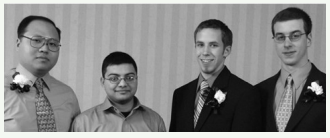
R. R. Rumer Award

Laura Przybylski CSEE;
Danielle Kubicki CSEE



Senior Scholar Awards Applied Sciences Group

Minsuk Cha CSE;
Tom Fischer donor group



Motorola Corporation

Tam Nguyen CSE; Sandipan Kunda EE; Tim Burns CSE; Jonathon Walczak CSEE; not pictured: Emre Colak CSE; Victor Ho Hang Fung EE; Dung Quoc Vo EE

UB Engineering

Kyle Jacobs CSE; Daniel Wahl MAE; Ysinying Gloria Chu CBE; Charles Ekiert CSEE; not pictured: Phil Gott MAE; Seung-Ho Hwang ISE

Not pictured: John W. Danforth Company: Mike Andrle MAE

Irving H. Shames Outstanding Teaching Assistant Award

Graeme Ballantyne
CSEE; not pictured:
Maureen Mayer CSEE

Schomburg Fellowship

Shola Olabisi EE

Silent Hoist and Crane Materials Handling Prize

Elizabeth Henry
ISE; not pictured:
Jeany Oh ISE

Felix Smist Scholarship

Rachel Styn EE and family

Frederick Thomas Award

Andrew Widjaja ISE; Gabriel Abdella ISE; Yuen Cheng ISE

John Zahorjan Memorial Scholarship

Mylinda Snyder ISE; Joe Matthew ISE

Gustav and Greta Zimmer Research Scholar Awards

Phil Cormier MAE; Mark Huntington MAE; not pictured: Mike Andrle MAE; Devan Bhatia MAE; Tze-Jan Lin MAE; Andrew Stuntz MAE; Wern Marcus Yam MAE

Other Awards Presented

R. P. Shaw Award

Jonathan Walczak CSEE

Zimmer Special Project

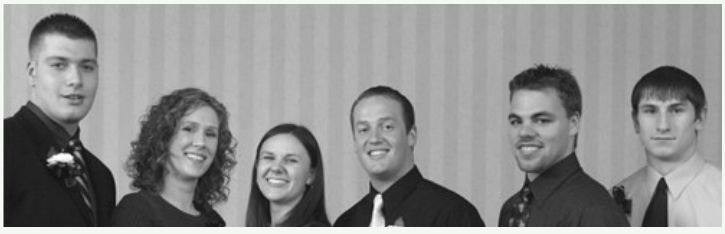
Myrnal D'Arcangelo MAE

Xerox/SHPE Scholarship Award

Thomas Andino CSEE, Erica Diaz CBE, Linda Jules CSE, Jason Rivera CSE

For additional scholarship winners, see the Alumni and Development sections of the newsletter.

If you would like to learn more about becoming involved in the UB Engineering Scholarship Program, contact Tim Siderakis or Mike Madonia in the Development Office at (716) 645-2133.



Elbridge N. and Stephana R. Townsend Scholarship

Brian Belmont MAE; Amy Caporusso EE; Kristie Struzik EE; Jeremy Kruger MAE; Mark Huntington MAE; Chris Nebelecky MAE; not pictured: Mike Andrle MAE; Jonathan Missel MAE

Student News

Matthew Bell, graduate student in EE, was featured on the Nature Conferences blog for his presentation at the American Physical Society meeting. Bell spoke about his research using niobium nitride nanowires to detect photons. He was part of a panel on using superconductors as cameras for ground-based and space-based telescopes. More information can be found at http://blogs.nature.com/news/blog/2006/03/aps_superconducting_eyes_on_th.html.

James Kingsley, a graduating IE student, set a UB record for RBIs as a member of the UB Bulls baseball team. Kingsley finished the year with 70 hits and a .343 batting average.

Thomas Leach, student in ME, has published photos from his semester studying at INSA Toulouse, France. Leach is participating in one of the many study abroad opportunities available to UB Engineering students. View the photos and read about his experiences at http://inted.oie.buffalo.edu/studyabroad/Newsletter/2006_Spring/abroad_news_3/page1.html

Advanced Laboratory for Undergraduates

The Department of Electrical Engineering has established a new Interdisciplinary Nanoelectronics Laboratory for the engineering and science undergraduate curriculum. A large group of undergraduate students who are enrolled in the course EE 240 "Nanotechnology, Engineering and Science" will be able to acquire practical skills in the most advanced area of nanotechnology not only from lectures, demonstrations or virtual experiments, but from personal hands-on experience based on knowledge of various advanced nanotechnology techniques. The lab was funded by the National Sciences Foundation CCLI program. The lab is equipped with three Scanning Probe Microscopes (SPM) and one Atomic Force Microscope (AFM).

Essentially, the SPM tools deliver to students the feeling of nanoscale and nanoworld via the shortest pathway of experience. These instruments already are the standard tool in any modern semiconducted, bio-tech, and bio-medical laboratories. The students will be able to perform a variety of experiments which combine an introduction to practical Scanning Probe Microscopy and theoretical elements on atomic physics and solid-state physics, including quantum tunneling phenomena. Experiments are being developed which ask students to define the main parameters of the force probe in the AFM and obtain surface topography and phase image of the investigated sample or to study several types of lithography performed using the SPM. Students will also be asked to acquire practical skills in processing and analyzing SPM images.

CBE Revises Curriculum

The Chemical and Biological Engineering department recently completed a revision of their undergraduate curriculum to improve capstone design, increase the role of biology in the program, remove inefficiencies and better address the needs of employers for highly-skilled graduates. To inform this process, the department met with industry focus groups, participated in national discussions on curricula, and solicited input from students, friends and alumni.

The new program includes optional tracks for students wishing to specialize in process engineering, biological engineering, or materials engineering. According to CBE Chair **David Kofke**, "Chemical engineering is a profession undergoing change. There are many exciting new areas where it is being applied, and many old ones where it remains very important. We have been working actively for more than a year to revise our undergraduate curriculum to reflect these realities." The changes will be phased in over four years as the 2006 matriculating class moves toward graduation in 2010.

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 my profession, conscious always that my skill carries with it an obligation to serve humanity by making the best use of Earth's precious wealth." The ceremony was convened by the UB Engineering Office of Undergraduate Education.

Computer Scientists Present Their Research

The Computer Science and Engineering Graduate Student Association held its 19th annual Graduate Conference in April. Students from around the University presented papers and poster displays demonstrating the significant computer science research they are undertaking.

One of the many highlights and new features of this year's conference was the "academia-industry" panel discussion, which featured leading local figures in the computer sciences field. Conference chair and Ph.D. student in CSE, **Joy Gosh** noted, "Overall, this conference aims to generate awareness regarding [computer science] and related research at UB… We hope that this can inspire [attendees] in their own work, and can lead to more minds getting together to solve interesting problems."

The conference also featured a lecture by **Krishna Sivalingam,** MS CS '90 Ph.D. CS '94, currently an associate professor at the University of Maryland-Baltimore County. He is a leader in computer networking and wireless communication and presented on his research as it has progressed from his days as a UB student to his current work.

The National Science Foundation recently ranked UB #21 for funding in computer sciences.

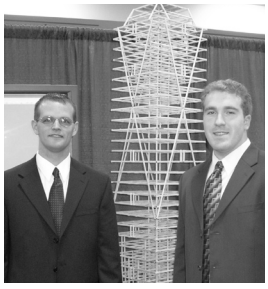
UB Alumni Association Honors Engineering Student

Bonnie Bielec, student in EnvE, won the 2006 J. Scott Fleming Merit Award given by the UB Alumni Association for students who demonstrate leadership, pride and spirit both in the University and the community. Bielec is an active student who recently completed a study abroad program in France where she studied world civilizations and statistics. She is a member of the University at Buffalo Scholars and has been honored with an Anheuser-Busch Scholarship and recognition from the Female Charitable Society of Baldwinsville, NY. She is a member of the women's rugby team, the French Club, Students for United Progress and Schussmeister's Ski Club. She is a founder of the Buffalo Chapter of Engineers for a Sustainable World.

Student Teams Shake Things Up

STUDENT TEAMS COMPETE AT MCEER

Teams from the University of Nevada-Reno, Florida A&M University, New Jersey Institute of Technology, and UB competed in the regional Undergraduate Seismic Design Competition sponsored by MCEER and organized by MCEER's Student Leadership Council. Student teams designed a wooden structure based on prescribed specifications and came to UB to present their designs and test their wooden models under seismic loadings. The students also attended an awards banquet where Doug Taylor from Taylor Devices, Inc. gave an invited talk entitled, "Innovative Use of Dampers to Protect Buildings from Shock and Vibration Effects from Earthquakes."



EKIERT AND KELLER AT NATIONAL COMPETITION IN SAN FRANCISCO

UB's team, comprised of **Charles Ekiert** and **David Keller**, CIE students, won the competition with points for innovative design, performance during seismic testing and their presentation. They went on to represent CSEE and MCEER at the national competition in April, taking third place out of eight competing groups. Ekiert and Keller also visited over 250 sixth graders at Hamburg Middle School to describe their project and the work done by CSEE.

The MCEER event was organized and judged by CSEE graduate students **Michael Polino** and **Jeffrey Berman**, respectively. Additional assistance was provided by **Scot Weinreber** and **Chris Budden**, members of the SEESL staff, and members of the CSEE faculty, **S. Thevanayagam**, **Gilberto Mosqueda** and **Andre Filiatrault**.

New Electrical Engineering Program

The Bachelors of Electrical Engineering Online Degree program will begin in Fall 2006 with limited course offerings. The BEE program is a new undergraduate online degree program which will extend the education of people getting associates degrees in electrical engineering by providing upper-division courses. The program is the first of its kind and was initiated through the State University of New York system in Albany. It spans three campuses, UB, SUNY-Binghamton, and SUNY-Stony Brook. It is encouraged and funded by the Alfred P. Sloan Foundation. The academic coordinator for the program is Pao-Lo Liu, EE professor, and Marge Hewlett, distance education administrator, will serve as UB's coordinator.

For additional information about the BEE Program, please see http://le.suny.edu or contact Marge Hewlett at mhewlett@eng.buffalo.edu or (716) 645-2768 x1106.

Faculty & Staff

UB and SUNY Honor Faculty Members

Paschalis Alexandridis, professor of chemical engineering, was awarded the 2006 SUNY Chancellor Award for Excellence in Teaching for his consistent demonstration of superb teaching at the undergraduate, graduate or professional level. Alexandridis conducts pioneering research on the self-assembly and directed assembly of polymers, supramolecules and nanoparticles.

Alexander Cartwright, professor of electrical engineering, has been selected to participate in UB's Faculty in Leadership Program for 2006-07. This program provides UB faculty with a unique opportunity to learn about university administration and enables them to determine whether they have an interest in pursuing university administration in addition to their traditional faculty responsibilities.

Igor Jankovic, assistant professor of civil engineering, and **Albert Titus,** assistant professor of electrical engineering, have been awarded a 2006 UB Young Investigator Award. Lucinda Finley, vice provost for faculty affairs, praised the winners, saying, "These outstanding junior faculty are a credit to the School and to UB. They provide the model for continued research growth and recognition for their respective departments and the university.

Wayne Anderson, professor of electrical engineering, and **Andrei Reinhorn**, Clifford C. Furnas Professor of Structural Engineering and Director, Structural Engineering and Earthquake Simulation Laboratory, have been awarded a 2006 UB Sustained Achievement Award. They were honored at the UB Scholars, Inventors and Entrepreneurs reception.

David Forliti, assistant professor of mechanical and aerospace engineering, is the recipient of a prestigious Department of Defense Office of Naval Research (ONR) Young Investigator Program Award. Forliti is one of just seven engineers and scientists across the United States to be honored with award this year. Forliti will use the grant to conduct research aimed at boosting combustion efficiency for the U.S. Navy's Ramjet engine, a supersonic, flight propulsion system used for anti-ballistic missile systems. His research is geared toward developing an innovative method of stabilizing combustion without producing drag.

"My concern is, 'How do we get the most out of one kilogram of fuel? We want to reshape the inside

CONT. ON PG. 16

Kemper Lewis, associate professor of mechanical and aerospace engineering, was recently listed as a member of Business First's 15th annual 40 Under Forty honor roll which spans the Buffalo Niagara region and recognizes the achievements and contributions of young professionals.

Additionally, Lewis has been named executive director of UB's New York State Center for Engineering Design and Industrial Innovation. He has served as interim director and director of education and training. He is also the director of the Design of Open Engineering Systems Research Lab in MAE and has research grants from sources such as the National Science Foundation, NASA Langley Research Center, the U.S. Department of Transportation, New York State, Rolls Royce-Allison Engineering Company and Praxair Corp.

Department Chairs Lead UB Engineering Into the Future

Rakesh Nagi will become new chair of the Department of Industrial and Systems Engineering effective fall 2006 and commence a regular three-year term. Nagi's research interests include facilities design, production management, and agile and information-based manufacturing.

UB Engineering would like to express its appreciation to **Colin G. Drury** for his service during his term as ISE Department Chair. Drury will continue his teaching and research duties centered on human factors, industrial ergonomics, human error, quality control.

Bharat Jayaraman and **Vladimir Mitin** have each accepted a second term as department Chair of CSE and EE respectively.

UB Faculty Earn National Recognition and Grants

Jan Chomicki, associate professor of computer science and engineering, received a Fulbright Award.

John Crassidis, associate professor of mechanical and aerospace engineering, has been selected to receive the Society of Automotive Engineers International's Ralph R. Teetor Educational Award. Crassidis is one of four aerospace engineers chosen to receive the award at the SAE 2007 AeroTech Congress & Exhibition. The honor recognizes outstanding engineering educators and offers them a chance to meet and exchange views with practicing engineers in their field.

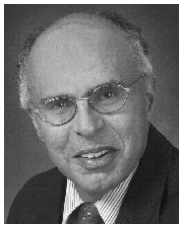
Ismael Regis de Farias, Jr., assistant professor of industrial and systems engineering, won second place in the 2005 Institute for Operations Research and the Management Sciences paper competition for his work "Semi-Continuous Cuts for Mixed Integer Programming." de Farias was recently named an IBM Fellow.

Daniel Fischer, associate professor of computer science and engineering, received a National Institute of Health grant for bioinformatics research.

Thenkurussi Kesavadas, director of UB's Virtual Reality Lab and associate professor of mechanical and aerospace engineering, was interviewed about his "Fingertip Digitizer" on "As It Happens," a popular radio show heard throughout Canada and in parts of the U.S. a description of the interview can be read at http://www.cbc.ca/radioshows/AS_IT_HAPPENS/20060801.shtml under "Haptic Cursor."

Aidong Zhang, professor of computer science and engineering, was honored for the patent she recently received for a wavelet-based clustering method for managing spatial data in very large databases. Collaborators include Surojit Chatterjee, MS CS '99, and Gholamhosein Sheikholeslami-Esfahani, MS CS '95 MS EE '96 Ph.D. CS '99, both formerly of UB.

AFTER 14 YEARS AT UB, JIM KEPTNER RETIRED FROM HIS POSITION AS MANAGER OF THE ENGINEERING ELECTRONICS SHOP.



Rajan Batta, professor of industrial and systems engineering and associate dean for graduate studies, has received the Institute of Industrial Engineering (IIE) Fellow Award. The Fellow award is the highest classification of membership in IIE and is in recognition of outstanding leaders of the profession that have made significant, nationally recognized contributions to industrial engineering. Batta uses industrial engineering techniques, such as operations research, to develop and analyze mathematical models of systems critical to society. His research areas range from transportation planning and analysis of urban crime patterns to military logistics, telecommunications and homeland defense.

Batta received UB's 2002 Sustained Achievement Award and he won the Best Paper Award from Military Operations Research Journal in 2004. He has published more than 80 journal papers in the premier journals in his field and serves on the editorial boards of IIE Transactions and Computers & Operations Research.

Deborah Chung, National Grid professor of materials, has edited the inaugural volume of a new book series entitled The Road to Scientific Success: Inspiring Life Stories of Prominent Researchers. The book features authoritative scientists such as Nobel Prize laureates and US National Medal of Science including UB's **Eli Ruckenstein**, Distinguished Professor of chemical engineering, describing how success was attained, how their careers were developed, how their research was steered, how priorities were set, and how difficulties were faced. The focus on the road to success and on personal experience aims to inspire and encourage readers to achieve greater success themselves.

SERVICE AWARDS

The following faculty and staff were recognized for their years of service to UB—

30 YEARS OF SERVICE:

DARLENE INNES CBE, DEAN MARK KARWAN, THERESA KLUBEK DEAN'S OFFICE

20 YEARS OF SERVICE:

KENNETH SMITH CSE, BARBARA SHERMAN CSE, ELLEN BENNETT MAE, DEAN MARK KARWAN, SANDRA KING DEAN'S OFFICE, DANIEL COOK UB ENGINEERING LABORATORY MECHANICIAN.
NOT PICTURED: BETTY BROWN EE, RUSS MILLER CSE, CHU RYANG WIE EE, CHING (CARL) CHANG ISE.

10 YEARS OF SERVICE: FRONT:

ZHIXIN SHI CEDAR, JINCHENG QI CSEE, DEAN MARK KARWAN, JAMES LLINAS ISE, VLADIMIR RZHEVSKY CSEE, DAVID YEARKE SENS, ALEXANDER CARTWRIGHT EE, STELLA BATALAMA EE, PHILIP GANZE SENS

Chengwei Shang, CBE – postdoctoral associate
Diane Van Natter, CSE – keyboard specialist
Robert Wynne, CTC – communication assurance & TA manager

Goodbye and thank you to:

Yaniv Azaria, CSE
Molly Brower, Node Services
Margaret Evans, CSE
Paul Goodman, Dean's Office
Nader Heyat, CSEE
Sallie Reed, TCIE
Chin-Pei Tang, MAE

Greetings & Promotions
UB Engineering Congratulates:

Promoted to professor:
Kemper Lewis, MAE
Cyrus Madnia, MAE

Promoted to associate professor:
Jeffrey Errington, CBE
Igor Jankovic, CSEE
Jinhui Xu, CSE

Promoted to:
Kathy Bernard, Center for Technical Communication - Director
JoAnn Glinski, CSE - Business Manager
Michele Sacco, External Affairs - Secretary 1

UB Engineering welcomes new faculty:
Tuba Aktaran-Kalayci, ISE – visiting assistant professor
Vipin Chaudhary, CSE – associate professor
Liana Lorigo, CSE – assistant professor
Kwang Wook Oh, EE – assistant professor
Sheldon Park, CBE – assistant professor
Puneet Singla, MAE – assistant professor
Yong-Kyu Yoon, EE – assistant professor

UB Engineering welcomes new staff:
Kevin Cleary, CSE – senior programmer/analyst
Jinseok Heo, MAE – postdoctoral associate
Deepak Jayakumar, CBE – senior research support specialist
Therese Meagley, MCEER – administrative assistant
Christian Miller, CSE – supervising programmer analyst
Margaret Poniatowski, CSEE – staff assistant

In Memoriam

UB Engineering extends condolences to the family and friends of J. Gordon Hall, retired professor of aerospace engineering. Hall passed away in April. Hall joined the UB faculty as a professor in 1969. During his career, he conducted pioneering research on the complex chemistry and aerophysics of high temperature airflow, such as what occurs when a spacecraft enters Earth's atmosphere. In 1979, he won the Niagara Frontier Aerospace Pioneer Award. As a researcher and professor, Hall taught a variety of graduate and undergraduate courses, spoke at seminars, wrote numerous scientific papers and served on many committees. He also served as chairman of the MAE department's graduate studies program. In addition, Hall worked as a consultant and was a member of the American Institute of Aeronautics and Astronautics, the American Society of Mechanical Engineers and the American Physical Society.

UB Engineering extends condolences to the family and friends of Dennis Malone, SUNY Distinguished Service Professor of electrical engineering. Malone earned a bachelor's degree in physics magna cum laude from UB and returned to begin his career at UB in 1965 as an associate professor in the Department of Interdisciplinary Studies in Research. He served as chair of EE from 1968 until 1983 and directed the Engineering Physics Program from 1988 until 2006. In addition, he was chair of the Intercollegiate Athletics Board; Faculty Senate and its Academic Freedom and Responsibility and Academic planning committees; Middle State Accreditation Review Committee; and the New York State Education Department Review of Undergraduate Programs. He also served as NCAA Faculty Athletic Representative. Malone also served as a consultant to the National Oceanic and Atmospheric Administration (NOAA), on the National Research Council's Panel on Minority Graduate Fellowships and the board of directors of the Northeast Radio Observatory Consortium affiliated with the MIT Haystack Observatory.

Research

New Bridge Design Protects Against Terrorist Attacks

Michel Bruneau, director of MCEER and CSEE professor, has developed a new "multi-hazard" design for bridges which will make them more resistant to terrorist attacks and earthquakes. The new structural design for bridge piers will protect bridges from both seismic and blast forces, helping to keep them from collapsing in the event of earthquake or terrorist attack.

Bruneau's design is intended for small- and medium-sized bridges commonly constructed over major highways or across bodies of water. The bridge-pier design uses corrosion-resistant steel tubes filled with concrete, but without reinforcing bars. The steel and concrete bind together, forming a composite structure, which gives the piers superior strength and ductility. For the bridge's pier footing, additional structural shapes are embedded in concrete to resist the large flexural (bending) forces developing at the base of the bridge piers.

In field tests performed at the U.S. Army Corps of Engineers Research Facility in Vickburg, MS, one-quarter scale prototypes of Bruneau's bridge piers were subjected to blast forces. Permanent bends, but not significant damage, were experienced by the bridge piers as a result of the test blasts.

UB Hosts Computing Workshop and Symposium

Buffalo is fast becoming a center for research, education and new practices in cybersecurity and computer forensics, as demonstrated by a recent workshop and symposium hosted by the Center of Excellence in Information Systems Assurance Research and Education (CEISARE).

The workshop "Computer Forensics, Wireless Security, e-commerce Security and Security Infrastructure Development in the Academic and Business Environment" was co-hosted by UB, the FBI, Erie Community College and the National Science Foundation and provided private companies and educational institutions in Western New York background in the growing areas of computer security and forensics, with an eye toward helping organizations capitalize on the area's emerging expertise in these fields.

Keynote addresses were given by David Thomas, chief of the Computer Intrusion Section of the Cyber Division of the U.S. FBI, and Tim Clancy, project director of the U.S. House Committee on Science.

"There is still a growing need in companies and in government agencies for people who specialize in computer security," according to **Shambhu Upadhyaya,** associate professor of computer science and engineering and member of the workshop organizing committee. "The idea here is to develop new initiatives and curricula at local colleges and universities so students start taking these courses and to inform local companies interested in branching out into the computer security field."

A symposium was also held which addressed the cyber threats to intellectual property. Intellectual property rights violations include the theft of trade secrets, copyright infringement, trademark infringement and signal theft.

To better examine the issue, CEISARE held an Intellectual Property Rights Symposium. Co-sponsors of the event were the FBI's Buffalo Cyber Task Force and InfraGard, an FBI-sponsored association of businesses, academic institutions, state and local law enforcement agencies, and others dedicated to sharing information and intelligence to prevent hostile acts against the United States.

The symposium featured keynote speaker Leslie Bryant, chief of the Intellectual Property Rights Unit in the FBI's Cyber Division. Other speakers included representatives from Microsoft Corp., the Entertainment Software Association, the Motion Picture Association of America, the Recording Industry of America and the Business Software Association.

Advances in Using Fingerprints to Secure Networks

UB researchers say they have put their fingers on a way to improve security of wireless handheld devices and Web sites. The findings could also help to eliminate the need to remember a dizzying array of passwords and aid forensics specialists, according to Venu Govindaraju, professor of computer science and engineering and director of the Center for Unified Biometrics and Sensors (CUBS).

The research specifies how big a keypad sensor needs to be and how big a fingerprint image should be, as a key shortcoming of biometric systems now is that sensors often only can take partial fingerprints. Enabling more complete fingerprinting will let companies better gauge the level of security they can provide.

"For the first time, we have determined the minimum surface area required for fingerprint scanning in order to achieve a level of security that is roughly comparable to the security achieved with a six-letter password," Govindaraju said in a statement regarding the researchers' Automated Partial Fingerprint Identification algorithm.

The algorithm also takes into account the fact that even a legitimate fingerprint doesn't always look the same due to the way a person presses on a pad or because of moisture or other factors.

Forliti (cont. from pg. 14)

of the engine so that the flame is stabilized but there's also less drag. We will use flow control techniques to stabilize the flame while avoiding drag penalties," he explained.

In addition to the high-speed propulsion engines, Forliti's research will be applicable to improving the efficiency of other energy-conversion devices, as well as controlling the emission of harmful pollutants.

Department of Defense Funds Information Fusion Center

A new U.S. Department of Defense-funded center based at CUBRC and UB will provide the U.S. armed forces with critical technologies to enhance major national security initiatives, such as aiding the hunt for weapons of mass destruction and providing accurate intelligence information to support operations and decision-making.

The National Center for Multisource Information Fusion Research will centralize research and development efforts in the field of "information fusion." Information fusion allows users to assess complex situations more accurately by combining effectively the core evidence in the massive, diverse and sometimes conflicting data received from multiple sources, ranging from remote satellites and sensors to personnel, such as commanders and intelligence agents in the field. The research also has potential for diverse applications in the medical and business fields.

The awarding of the center to CUBRC/UB as the lead institution stems from its strong history as a pioneer in information fusion, starting with the Center for Multisource Information Fusion Research at the Department of ISE, launched with funding from the Air Force in 1996 by James Llinas, ATA professor of industrial and systems engineering. Llinas will be the executive director of the new center.

Microfluidic Device to Measure Cell Volume

Susan Hua, assistant professor in MAE, and Frederick Sachs, professor in the Department of Physiology and Biophysics, have developed a microfluidic device that rapidly tests live cells for responses to any stimulus by using electrical resistance to measure changes in cell volume. The device can measure the volume of organelles, vesicles and any other insulating objects such as the latex beads used in various biochemical assays. The chip has numerous potential applications, including the detection of drug/cell interactions, bacterial sensitivity to antibiotics and cancer cell susceptibility to chemotherapeutic agents.

"Cells are electrical insulators." said Hua. "When they are immersed in electrically conductive salt water within the sensor, the cells displace some of the water and reduce the current. If the cells swell, as might happen in the presence of a toxin, the sensor resistance increases providing a quantitative measure of the cellular response."

The project is funded by a grant from the New York State Office of Science, Technology and Academic Research (NYSTAR), and matching funds from Reichert, Inc. of Depew, which is licensing the technology.

On the "Home Front," Earthquake Engineering Goes High-Tech

For homeowners in California and other earthquake-prone regions, seismic safety has not exactly been rocket science. Retrofitting measures typically are limited to properly securing anchor bolts to foundations and nailing and connecting wood shear walls to a structure's ground floor.

But residential earthquake engineering is about to get a boost from, well, "rocket" science.

The landmark testing is part of an international project called NEESWood, funded by the National Science Foundation's George E. Brown, Jr., Network for Earthquake Engineering Simulation. A technology first used during the Cold War to isolate ballistic missile silos from vibrations will undergo testing to see if fluid seismic dampers would minimize earthquake damage to wood-frame homes. The dampers are manufactured by Taylor Devices in North Tonawanda, NY, a company led by UB alumnus **Douglas Taylor.**

Andre Filiatrault, professor of civil, structural and environmental engineering, Deputy Director of MCEER, and lead researcher on the four-year research project, said it took the 1994 earthquake in Los Angeles for researchers to realize they needed to study wood structures during a seismic event. About half of the $40 billion in property loss from that earthquake came from wood structures.

Additionally, wood structures were to blame for all but one of the 25 deaths. The multi-month project is particularly exciting because it brings research to address residential construction. These dampers have been implemented on taller commercial structures, such as the Petronas Twin Towers in Malaysia, the Beijing Railway Station in China, and California's San Francisco-Oakland Bay Bridge, but never on wood structures. The findings will impact personal safety concerns as well as the personal investment people make in their homes.

To find out why wood structures are so prone to collapse, UB researchers are in the middle of a nine-month series of unprecedented seismic tests on a full-scale wood frame townhouse. Workers from Hartland Builders in Gasport and Niagara Truss & Pallet in Lockport, NY have built a two-story, three-bedroom, 1,800 square foot home atop two shake tables in the earthquake simulation laboratory, the largest wooden structure to undergo seismic testing on a shake table in the U.S.

The researchers are currently in the process of conducting a series of experiments which will shake the house at incrementally greater levels. The final test will come in November when researchers will intentionally destroy the house by simulating a massive, 8-plus-point seismic event. That kind of quake only happens once every 2500 years, but researchers say that future wood structures should be ready to handle anything.

The UB tests are the first step in moving toward performance-based design for wood-frame structures. NEESWood will culminate with the validation of new design processes using a six-story, wood-frame structure that will be tested on the world's largest shake table in Miki City, Japan, early in 2009.

You can watch live broadcast from the laboratory on the Web at http://nees.buffalo.edu/projects/NEESWood/video.asp.

You can also view a video segment on the Discovery Channel online at http://dsc.discovery.com/beyond/player.html?dcitc=w99-502-ah-0021. click on "Discovery News" at the top of the page, then click on "Latest News, show clip listings" on the right and click the "watch clip" button on "Scientists Create Earthquake House."

UB Engineering has started a new series of promotional materials to inform people of important happenings within our departments and the School. Please view the announcements at http://www.eng.buffalo.edu/announcements.php.

CSE Distinguished Speakers

The Department of Computer Science and Engineering continued their Distinguished Speaker Series through the spring semester with three experts.

Michael Kearns, professor of computer and information science from the University of Pennsylvania, spoke about behavioral experiments which asked human subjects to perform distributed graph coloring using a system that controls network structure, information conditions, and a variety of other variables of interest.

Eugene Spafford, professor of computer sciences and professor of electrical and computer engineering at Purdue University, addressed key aspects of the cyber security problem and provided suggestions for "cyber self-defense."

John McCarthy, professor of computer science at Stanford University, addressed the group on formalizing common sense knowledge and reasoning.

The Price of Managerial Neglect

What does it cost a company when a manager neglects to improve a supply-chain or other manufacturing process over a three-year period? According to conventional management wisdom, such sins of omission are commonplace but difficult, if not impossible, to quantify in dollars and cents.

Until now.

A new method for putting a price tag on the cost of "managerial neglect" has been developed by **Alfred Guiffrida**, adjunct instructor of industrial and systems engineering, and **Rakesh Nagi**, chair and professor of industrial and systems engineering. The method, and how it would be applied to a two-stage supply chain, has received national attention in venues such as "The Engineering Economist" and The Washington Post.

"Management theory says to improve a process you have to first improve its variability. We've developed a way to put a price tag on the expected costs of failing to improve variability, for failing to improve a process," Guiffrida says.

Adds Nagi, "In this context, managerial neglect is something that a manager should be doing, but is not doing, and it's costing the company something. It's seldom that managerial neglect is quantified in financial terms."

The method finds the net present value of improvements that could be done over a period of time, but are not done. The method factors in the learning rate of a process, which is the rate by which a process would improve naturally, without intervention, through repetition.

Earthquake Engineering Center Changes Name, Expands Focus

To better reflect its mission of developing solutions to improve resilience against extreme events of all sorts, the Multidisciplinary Center for Earthquake Engineering Research headquartered at UB has shortened its name to MCEER. The Center's new moniker and logo will include the banner "Earthquake Engineering to Extreme Events" to emphasize this broadened focus which will include events such as the 9/11 attacks, the Asian tsunami, and Hurricane Katrina.

Stenger (cont. from pg. 1)

Stenger said he sought the deanship because of the School's "reputation as a world-class research institute with outstanding undergraduate and graduate education programs." Additionally, he noted that the School has potential "to climb rapidly in the national rankings."

Although specific goals for the School will be set in consultation with its stakeholders, his vision is that "every UB engineering student has a rewarding experience that positively influences their life, that every faculty member achieves their personal and professional goals, and that every staff member has a long and fulfilling career. Every alumnus should continuously feel proud of their alma mater. Every constituent—parents, legislators, community members, corporate partners—should enjoy, benefit and profit from their relationship with UB."

Stenger has been affiliated with Lehigh University since joining the faculty as an assistant professor of chemical engineering in 1984 after earning his doctorate. He was promoted to associate professor in 1988, named co-chair of the Department of Chemical Engineering in 1989 and appointed professor and director of the university's Environmental Studies Center in 1991. Stenger was named associate dean of the College of Engineering and Applied Sciences in 1992 and dean of the college a year later. He served as dean from 1993 until stepping down in 1999 and returning to the faculty as a professor.

Stenger has been investigator or co-investigator on 27 research grants and contracts, and has authored or co-authored more than 60 scientific articles. His research focuses on reacting heterogeneous systems, including work in natural products processing, semiconductor materials manufacturing, emission control processes and synthetic fuels research.

Among Stenger's accomplishments as dean was working with Lehigh's advancement office to secure a $27.5 million gift from Lehigh alumnus Peter C. Rossin to name the college.

Under his leadership, the college established an award-winning Integrated Product Development Program, the Pennsylvania Infrastructure Alliance, the Anderson Faculty Fellows Program and the Dean's Scholar Program for exceptional undergraduates. Freshmen engineering courses were revamped, the cooperative education program was expanded and ties with key corporate partners were strengthened.

His work as a faculty member has been recognized at Lehigh with such awards as they University Teacher of the Year and University Graduate Advisor of the Year. He is a three-time recipient of the College Teacher of the Year award. He also is a past president of the Association of Engineering Colleges of Pennsylvania.

Business Partners (cont. from pg. 1)

Additionally, the company is a generous corporate sponsor of UB, donating hardware and software to UB engineering laboratories. For example, they were an initial investor in the Center for Computational Research (CCR). IBM also consistently demonstrates its support for UB by advocating for the University and providing advice through volunteer committees and the UB Engineering Dean's Council. The award was accepted by Michael Cadigan, BS ME '79, General Manager, Sales and Solutions, IBM Systems and Technology Group/Technology Collaboration Solutions.

The Engineering Alumni Association gave their Engineer of the Year award to Tim Klein, BS EE '84. (See Alumni section.)

The University gave Igniting Ideas awards to Dale Volker, New York State senator, and Paul Tokasz, New York State assembly majority leader. Together they have energized university, industry and community partnerships that point to our region's future success. As advocates for education, research and UB, they have secured millions in helping expand Western New York's new knowledge-based economy. Their leadership has brought $50 million for a new UB School of Engineering and Applied Sciences facility. Their focus on the New York State Center of Excellence in Bioinformatics and Life Sciences has been critical to completing the new facility. They also have funneled $20 million to the Pioneer of Science Initiative, which will provide vital funds for recruiting world-class scientists and improving the infrastructure of the Buffalo Niagara Medical Campus. Additionally, Sen. Volker has championed UB's Institute for Local Governance and Regional Growth, affiliated with UB Law School, while Majority Leader Tokasz has supported the University's women's athletics program. The legislators were in Albany attending a session of the legislature and so could not attend Business Partners Day. Sylvia Tokasz accepted the award on behalf of her husband, Paul. Stanley Keysa accepted the award on behalf of Volker.

The event was held in conjunction with the grand opening of the New York State Center of Excellence in Bioinformatics and the Frontiers in Biological Systems Symposium. Center sponsors, nationally renowned scientists, and entrepreneurs taking the scientific concepts and processes to market met for several sessions such as "Innovation in Bioengineering Technologies," a panel which featured several speakers including Stelios Andreadis, associate professor of CBE.

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

Taylor (cont. from pg. 1)

Established in 1955 by Doug's father Paul, Taylor Devices is a leading manufacturer of vibration and shock absorbing and isolation products. For more than 50 years, the company has been a leading provider of precision equipment including full analysis, development, manufacturing and testing capabilities to satisfy the most exacting of customer requirements, including those of the U.S. Department of Defense and the National Aeronautics and Space Administration.

Taylor and his company have truly helped write an incredible chapter of success for this School and its connection and contributions to business and community. In the late 1980's Taylor began a relationship with UB's then National Center for Earthquake Engineering Research that has revolutionized civil engineering's design of buildings and bridges in seismically-prone regions worldwide. The success of this venture has not only transformed civil engineering practice, it has added a substantial new revenue stream to his company's business, and it has spurred significant job growth at his local manufacturing facility. Today, Taylor dampers can be found on the world's tallest of buildings and most monumental of structures including Malaysia's Petronas Towers, Mexico City's Torre Mayor building, and Los Angeles' City Hall, as well as London's Millennium Bridge. (See "Earthquake Engineering," pg. 17)

But the story and the association with UB do not begin or end with these successes. Taylor and his company have long mentored UB's civil and mechanical engineering students through internships. He generously gives of his time to meet and speak with students whenever he is called upon to do so. He actively participates in the Engineering Career Institute, speaking on the annual panel "Industrial Perspectives from Engineering Executives." He also shows a preference toward hiring UB graduates, with almost his entire engineering staff earning their degrees at this institution.

Taylor is also a generous contributor to the Department of Civil, Structural and Environmental Engineering's Structural Engineering and Earthquake Simulation Laboratory and the School's Multidisciplinary Center for Earthquake Engineering Research, serving on the latter's Industry Advisory Board. Beyond these contributions, and in the midst of tireless world travels for business, he also makes time to give back to his community, serving in civic and cultural capacities. Presently, Doug is chairman of the Lumber City Development Corporation and is a board member of the Chamber of Commerce of the Tonawandas.

He holds more than 30 U.S. and international patents on mechanical and hydraulic systems. He is also the author or co-author of more than 45 publications and presentations on shock and vibration control.

Taylor is a member of the U. S. Department of Commerce Passive Energy Dissipation Devices Oversight Committee, as well as the American Society of Civil Engineers' Committee to Evaluate the Seismic Performance of Bridges.

Among his honors, he is a recipient of the Clifford C. Furnas Memorial Award (1999) from the University at Buffalo Alumni Association, the Franklin and Jefferson Medal (1998) from the Small Business High Technology Institute, and the Henry C. Pusey Best Paper Award (1996) at the 67th Shock and Vibration Symposium.

Development

Dean's Council Convenes

The UB Engineering Dean's Council convened for their spring meeting under the leadership of Council chair **Kenneth Manning,** BS ES '74. **Dean Mark Karwan** was the group's first speaker, reviewing the meeting's agenda and updating the group on progress at the National Center for Multisource Information Fusion. He also provided the plans for UB Business Partners Day and improvements in the School's US News ranking. **Robert Barnes,** associate dean for external affairs, spoke to the group about recent marketing efforts, including an official change to "UB Engineering" as the principal identifier of the School, website updates for the School's homepage, and the new postcard series established to showcase faculty awards and department accomplishments and highlights.

Dean Karwan reported two $25 million allocations from New York State over the last two years toward a new engineering facility. The School is busy identifying the dream and vision for future research and education programs that will take place in the new space, as well as developing designs and configurations for laboratories and classrooms. **Tim Siderakis,** assistant dean of development, introduced the need to identify individual and corporate partners to complement the resource requirements of the project.

John Van Benschoten, associate dean of undergraduate education, discussed the new Bachelor of Engineering in Electrical Engineering degree program offered completely on-line. (See article in Education.) **Bill Wild** offered an update on the Student Excellence Initiative which has improved graduation yields by 60% and led to a 47% retention rate. **Carl Lund**, associate dean for research, and **Rajan Batta,** associate dean for graduate education, briefed the Council on their activities in the newly created positions.

UB Engineering is heavily involved with the UB2020 Strategic Plan, particularly on four strategic strengths:

- Integrated Nanostructured Systems
- Extreme Events: Mitigation and Response
- Information and Computing Technology
- Bioinformatics and Life Sciences

Karwan presented an overview of the UB2020 process to the Council and several researchers spoke about their work in these areas.

Vladimir Mitin, chair of EE, presented a brief overview in the department and noted that EE is growing in all measures, specifically in the areas of research expenditures and faculty publications. He indicated that EE is one of the four leading departments in the Integrated Nanostructured Systems (INS) strategic strength of the UB2020 plan. EE boasts a number of interdisciplinary initiatives and funding has been awarded from NSF to establish

CONT. ON PG. 23

Development Quiz

Engineering Development works on building relationships with our alumni, friends and corporate partners in order to gain resources for the school to better the education and research of the institution. We are still relatively young in our development efforts as compared to peer AAU institutions and to engineering programs that we often evaluate ourselves against. The challenge we face is that a "culture of philanthropy" wasn't firmly in place until the last decade because the University at Buffalo as late as the mid 1980s received the bulk of its operating budget from the State of New York. By the mid 1990s, the percentage of state support had dropped and there was an increasing need for private gift support - like many of our peers had been doing for decades.

There are many ways to give to the School. Gifts come in as equipment (gift in kind) from a company or organization, multi-year cash gifts and long-term planned gifts (estate plans, CGAs, etc.). If you'd like to get involved, please visit us on our web site at www.eng.buffalo.edu and click on the link for "Alumni, Friends and Donors."

In an effort to keep our donors and friends informed as to the development activities of UB Engineering, we thought it might be interesting to present it in the form of a quiz. Don't worry; the score will not count against your final grade!

1. Of the 18,000 Alumni of UB Engineering that we can contact in some form (phone, mail, email), how many donors supported us in FY '05-'06?

a. ~ 1000
b. ~ 2000
c. ~ 3000

2. What percentage of phone solicitations (actual conversations with a student caller) in FY '05 -'06 resulted in a pledge or gift?

a. 15%
b. 23%
c. 41%

3. What is the average retention rate of donors over the last three years?

a. ~ 50%
b. ~ 65%
c. ~ 75%

4. The University at Buffalo is grateful for the generous support it receives from the State of New York (government and taxpayers). Today, what portion of UB's overall budget comes from the State?

a. 72% b. 49% c. 31%

5. UB Engineering's "Delta Society" ($1000.00 and above annual giving) started in the early 1990's with 13 individual members. What is today's number of individual members?

a. 42 b. 64 c. 85

Answers can be found on page 21 (with short explanations).

Scholarships

One of the highlights on the UB Engineering calendar is our Scholarship Reception that brings together the student honorees and their families, the donors who provide the support and the faculty and staff so instrumental in guiding and supporting the students.

We are excited to award several new scholarships this year.

Thomas/Karwan Industrial Engineering Undergraduate Scholarship

Dave Frankenfield ISE; Bob Hanley, donor

The Thomas/ Karwan Industrial Engineering Undergraduate Scholarship was established by **Robert Francis Hanley Jr.**, BS IE '90, to recognize both **Warren Thomas** and **Mark Karwan** as the two professors who were instrumental in helping Hanley complete his degree in IE. UB Engineering was honored to have Mr. Hanley travel from Chicago to attend the Scholarship Reception.

Watts Engineering and Architecture Minority Scholarship

Pictured with Ed Watts Jr. is the first recipient of the Watts Scholarship, **Brianna Clark** EE. The scholarship was established by the local engineering and architectural firm for an African-American student. The student also has an opportunity to apply for a summer internship at the company.

Bhaw D. Shukla Scholarship

Janine Zielinski MAE; **Robert Barnes** External Affairs; **Dan Gajewski** MAE

This scholarship was established in memory of **Bhaw D. Shukla,** BS ME '74, by his family and friends. It is presented to students who major in mechanical and/or aerospace engineering, are members of Tau Beta Pi, demonstrate hard work and dedication, enjoy what they are involved in, and take pride in themselves and their achievements.

Robert H. and Catherine H. Goldsmith Fellowship

David Swiatek CSEE, Robert Goldsmith, **Kevin Struebel** CSEE, **Boris Weinstein** CSEE

The Scholarship Program brings donors and students together. When **Robert Goldsmith**, BS ME '51, returned to UB to accept his UB Alumni Association award (see Alumni section), he met with the three graduate students sponsored by his Robert H. and Catherine H. Goldsmith Fellowship.

Please consider being a part of UB Engineering's Scholarship Program. If you would like to establish an award, contact **Tim Siderakis** at (716) 645-2133 x1129 or tsiderak@buffalo.edu.

Answers to Quiz (pg. 20):

1. (b. ~ 2000) – UB Engineering has seen an increase in the number of donors in each of the last four years. We are excited about the growing number of younger alumni who have demonstrated the ability and inclination to "get involved." This is promising as we look to the future and the need to build our culture of philanthropic support even more.

2. (b. 23%) - When our student callers get in contact with our alumni and friends and make the solicitation, nearly a quarter result in a pledge. We hope to speak with you this fall!

3. (c. ~ 75%) – This is a tremendous number for a fundraising program of our age and a strong lead indicator of the growth of the program. Data are showing that our donors are proud of their alma mater and are committed to its future success and mission. Although we need to grow the number of donors, we are very encouraged by the number that continue to support us after they start.

4. (c. 31%) - UB's annual budget is over $1 billion annually with over $330 million coming directly from the State. The remaining portion is made up in research, student tuition and fees, and the generosity of our alumni, friends and corporate supporters. In order to achieve and maintain our margin of excellence, the University will require the collaborative efforts and support of all those it serves.

5. (c. 85) - The Delta Society has grown quickly and today boasts over 85 individual members, of which 23 are "Delta Gold," a title which represents annual gifts of $5,000 and above. We want to continuously grow this group in the years to come. Gifts to the Delta Society provide the Dean with the ability to support student initiatives, scholarships and fellowships, student clubs, purchase lab equipment, act on new opportunities outside of the budget cycle, help to recruit strategic faculty with incentives and aid in the recruitment of top students at both the undergraduate and graduate level. The Delta group, named from the engineering term for "the difference," makes a true "difference" to the school and its mission.

Please contact us if you have any questions, comments or suggestions. We'd love to hear from you! Feel free to contact Tim Siderakis or Mike Madonia at 716-645-2133, toll free at 888-205-2609 or email, tsiderak@buffalo.edu or mmadonia@buffalo.edu

Pre-College

Buffalo-Area Engineering Awareness for Minorities

Ten high school students participated in this year's Pre-College Engineering Summer Program. This five-week program, coordinated by **Drexel Gidney**, senior academic advisor, consisted of math enrichment, computer enrichment and introduction to engineering courses. **Ledum Nordee**, an undergraduate student, was assistant program coordinator. **Forlarin Erogbogbo**, CE graduate student, provided instruction in pre-calculus mathematics and **Adam Halstead**, EE graduate student, instructed the introduction to engineering and computer enrichment courses.

In addition, Maureen West and Chris Guerra participated in the Research Honors Summer Program. These research interns were mentored by **Cemal Basaran**, professor of civil engineering, and **Harsh Chopra**, professor of mechanical and aerospace engineering.

The students in both programs toured several engineering locations during their studies, including Cannon Design, the FBI, Mount Morris Dam and several UB Engineering labs.

BEAM AND UB ENGINEERING PARTNERED TOGETHER TO OFFER SEVERAL SUMMER PROGRAMS FOR AREA HIGH SCHOOL STUDENTS.

BEAM Award Breakfast

Members and supporters of BEAM met for their annual awards breakfast at Emerson Commons, Buffalo Public School of Hospitality. The event's guest speaker was William Quinn, personnel director of General Motors Powertrain – Tonawanda Engine Plant.

The awards and recipients were as follows:

Charles Campbell, Sr. Outstanding Service Award:
Founding Fathers 1982; Praxair (Linde Divison of Union Carbide); UB Engineering; Omega Psi Phi Fraternity; Buffalo Public Schools

Educational Achievement Award:
Susan Deacon, Cannon Design; James Wowzynski, Cannon Design

Special Achievement Award:
Richard Hanavan, Wendel Duscherer Architects & Engineers

Industry Award:
EGW Personnel Services

Technical Advisor Award:
Oluwole McFoy, Wendel Duscherer Architects & Engineers

Faculty Advisor Award:
Thomas Moir, School #6 B.E.S.T.

Tony Campagna Memorial Award:
Arthur McKinnon, General Motors Powertrain, Tonawanda, BEAM President

Pathfinder Award:

2005 – Dominic Spano, Moog; David Gromek, Moog

2006 - James Wowzynski, Cannon Design

BEAM 2006 Officers

President: Arthur M. McKinnon, General Motors Powertrain

Vice President - Programs: Karen Armstrong, ATSI, Inc.

Vice President – Finance: Carmen Vella, General Motors Powertrain

Treasurer: Robyn Young, O.P.C.S.F.C.U.

Secretary: Kimberly Lewis, Motorola

UB Engineering is a founding partner and sustainer of BEAM.

UB Engineering sponsored a reception in conjunction with the 2006 Tech Savvy conference hosted by the local chapter of the American Association of University Women. The program brought Dr. Sonya Summerour Clemmons, member of the national board for the Association for Women in Science, to speak to approximately 350 young women and parents. The Tech Savvy program is a project that encourages young females (ages 12 to 15) to consider engineering and science careers. The group plans to make the conference an annual event and are already planning the 2007 conference. The event was coordinated by Tamara Brown, ME CE '03.

BEAM Excellence is Par for the Course

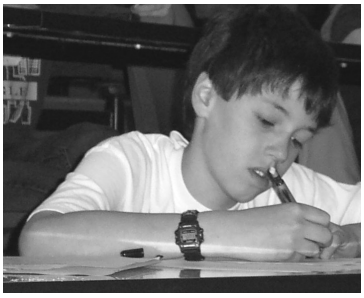
Corporate and individual golfers assembled again this year to celebrate and support the BEAM program. The winners for the event are as follows:

Closest to the pin: Mark Karwan
Closest to the line: Ralph Vastola
Men's Scratch: Brian Armstrong
Men's Calaway Net: Christopher Beckage
Women's Scratch: Kara Gallagher
Women's Calaway Net: Cheryl Dobinski

UB Engineering is proud to be a silver sponsor of the event.

"Real World" Math is Everywhere

A WINNING TEAM POSES WITH THEIR POSTER PRESENTATION FOR THEIR MONKEY BUSINESS PROPOSAL



A STUDENT WORKS ON THE INDIVIDUAL TEST PORTION OF MATH IS EVERYWHERE

Hundreds of elementary and middle school students from around Western New York came to UB in May to test their math skills at the annual Math is Everywhere competition sponsored by Erie 1 BOCES and insurance company Cavan, Dudzinski & Associates, Inc. and supported by UB Engineering and the UB Gifted Math Program. Sponsor Edward Cavan described the "Math is Everywhere" project as a "holistic approach to math," designed to stress the role of mathematics in the real world and incorporate additional skills, such as language arts, into the math curriculum.

Students compete as individuals and teams and earn awards for best mathematical process, best solutions and creativity. According to event facilitator Barbara Mocarski, manager of the Erie 1 BOCES Instructional Resources Team, the blend of fun and learning is evident in the creative costumes students often wear as part of their team presentations. "The kids really enjoy themselves at the event doing math," she said.

Cavan agrees, "It's great to walk into a school and see math trophies in the display case."

For more information about the event, see http://www.eng.buffalo.edu/mathiseverywhere.

Playing Around with Engineering

STUDENTS PARTICIPATE IN A "RIP-DOWN" SESSION WHERE THEY TAKE APART TOYS TO BETTER UNDERSTAND HOW THEY ARE CONSTRUCTED

FISHER-PRICE ENGINEER JIM MEADE SHOWS STUDENTS A PART OF A F-P TOY

A group of twelve high school students from around the area were given a taste of the exciting field of engineering design during the Fisher-Price Cyber-Engineering High School Workshop this summer. Based in UB's New York State Center for Engineering Design and Industrial Innovation (NYSCEDII) and sponsored by Fisher-Price, Inc., the workshop gave high school students the opportunity to design toys while learning state-of-the-art engineering design techniques.

According to **Kemper Lewis,** executive director at NYSCEDII and associate professor of MAE, "The workshop allows students to take a product through the conceptual design process, resulting in both virtual and physical prototypes." During the workshop, groups of students developed a design concept for a robotic toy, modeled that concept using a three-dimensional modeling software package, converted the model into computer-aided design files suitable for rapid prototyping and created prototype parts using rapid prototyping techniques. Ultimately, each group created a finished product which was judged by Fisher-Price designers based on function and aesthetics.

"We are extremely grateful for the generous support of Fisher-Price not only in sponsoring this workshop, but for the company's impact in the Western New York region and its visionary leadership in the global toy market," said Lewis.

Workshop instructors include **Ken English**, deputy director of NYSCEDII, **Bahattin Koc**, assistant professor of industrial and systems engineering, and **Venkat Krovi,** assistant professor of mechanical and aerospace engineering.

David Keller, CIE student, spoke to over 250 sixth graders at Hamburg Middle School about the types of research done at CSEE and his work on the Undergraduate Seismic Design competition. (See "Student Teams Shake Things Up" in the Education section.)

Dean's Council (cont. from pg. 20)

one of the best undergraduate labs in the country. (See "Laboratory" in the Education section.)

Jonathan Bird, EE professor, spoke about his research in nanoelectronics which includes work in his Nanoelectronic Materials and Devices (NOMAD) research group on fundamental phenomena at the nanoscale, nanoelectronic device paradigms, and characterization of novel nanomaterials.

Kwang Oh, EE assistant professor, reported on small (hybrid nano and micro) technology, tools that can be used to answer biological questions. The vision for research in this important area is to create a personal LOC (lab-on-a-chip) device for DNA-based diagnostics, a wireless communication network, and an intelligent system for patient data analysis and personalized therapy.

Chemical and Biological Engineering also plays a prominent role in the UB2020 Strategic Strengths Integrated Nanostructured Systems, Bioinformatics and Life Sciences, and Information and Computing Technology. Chair **David Kofke** presented an overview of the department and its research, including biomedical engineering, (nano)materials, and molecular and multi-scale modeling. He noted that some CBE faculty have space in the new Center of Excellence in Bioinformatics and Life Sciences in the Buffalo medical research corridor.

The Council toured the Bioinformatics Center to see the new facilities there and received a presentation by Bruce Holm, executive director.

During their visit, present and past members of the Dean's Council, associate deans of the School and department chairs honored Karwan for his service as Dean, particularly his instrumental role as originator of the Dean's Council.

Engineers Week 2006

Students and faculty celebrated the 2006 National Engineers Week with a combination of competition and celebration. This year's schedule included some new events as well as annual favorites.

The week got started with a bang at the Mr. Engineer Pageant. Pocket protector fashion was all the rage as the contestants took the stage for the funniest outfit competition.

The Egg Drop contest also tests students' abilities to work within constraints of raw materials and a time limit while producing a finished product that will withstand a three-story fall.

Students work together in the Bridge Building Contest to assemble a structure which will withstand loadings. Engineers Week emphasizes bridge building as both a technical exercise and a metaphor for the teamwork and cooperation needed in today's engineering work.

Students raised money for the American Lung Association by paying to toss pies at faculty members and the Deans of Engineering.

The Battle Bots competition again drew a large and raucous crowd to the Student Union to watch engineering clubs fight their battle bots to the death within a 25 foot by 25 foot battle arena. Clubs worked throughout the school year on their designs and were still perfecting their bots up to the final minutes before the competition.

Engineers Week also highlighted many of the exciting academic endeavors of UB's Engineering community. A group of speakers presented a panel on engineering's response to Hurricane Katrina. Engineering clubs and societies gave project presentations on the work they accomplished during the school year. Students also volunteered at the Buffalo Museum of Science to promote science and engineering to children of all ages. All in all, a successful week gave the UB Engineering community time to celebrate accomplishments and the fun of engineering.

Calendar

UB Engineering Opening Day for Freshmen, Sunday, August 27

UB Bulls Homecoming October 6 and 7. See Alumni section for additional information.

UB EAA Football Tailgate, Saturday, October 14. See Alumni section for additional information.

Honors Employment Dinner, Tuesday, October 17

UB Tech Fair, Wednesday, October 18

UB Engineering Dean's Council, Thursday and Friday, October 19 and 20

UB Engineering and University Fall Open House, Saturday, October 28

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

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