



FALL 2010



Novel Bridge Test

Faculty Win Major Accolades



Govindaraju

Karwan

Lewis

Wen

Faculty

- Govindaraju, IEEE Technical Achievement Award
- Karwan, SUNY Distinguished Teaching Professor
- Lewis, ASEE Design Award
- Nagi and Singh Made Fellows
- Takeuchi, UB Norton Award
- Wen, Humboldt Research Award

Students

- AIAA Flight Team at NASA
- Commencement 2010
- Kourtney Brown, Chancellor Athlete

Development

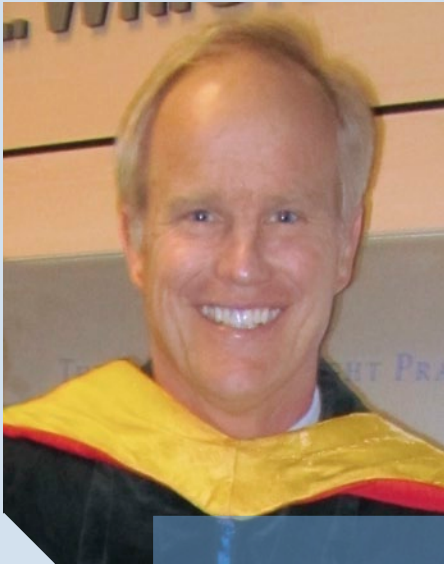
- National Grid: BME Grant
- Keller Lab Gift
- Klein Gift

Alumni

- Agrusa, Dean's Award Winner
- Dray, Elsenbeck, McCombs, Wild: Alumni Awards



Agrusas' Gift Names Auditorium (p. 24)



Dean Stenger at Engineering Commencement

In continuing the tradition of our top-level engineering school, UB Engineering is building opportunities while meeting current challenges.

I am often asked how our school is doing financially. In response to considerable budget pressure, we have reduced expenses in some areas and simultaneously identified new revenue. This has resulted in an ability to maintain our faculty tenured/tenure-track staffing at 135, an important measure of school health. When it comes to our new hires, we are very satisfied with our ability to attract top talent from leading engineering schools.

Our quality faculty have achieved top distinctions: **Venu Govindaraju**, IEEE Computer Society 2010 Technical Achievement Award; **Mark Karwan**, a SUNY Distinguished Teaching Award; **Kemper Lewis**, an ASEE Fred Merryfield Design Award; **Chang Wen Chen** a prestigious Humboldt Research Award. Please see the Top Stories and Faculty sections for more.

We are also undergoing several leadership changes in the school, with faculty moving to university posts. **A. Scott Weber** goes from being CSEE Chair to the position of UB's Vice Provost of Undergraduate Education, while BME and EE Chair **Alexander Cartwright** is now Interim UB Vice President for Research. We are pleased that our faculty members are viewed as university leaders. Also, Associate Dean for Research **Stella Batalama** will take on an additional role as Interim EE Chair; CBE Chair **David Kofke** and **Albert Titus** are our new BME co-chairs; and **Andrew Whittaker** is our new CSEE chair.

Another aspect of our success is visibly taking shape in the new building. In April 2010 – when the last beam was placed, the Dean's Advisory Council celebrated with a tour and beam signing. The building is on schedule to open in the third quarter of 2011.

A generous contribution to the new building comes from Paula and **Russell L. Agrusa**, to name the main auditorium. Keller Technology has given a gift to a computer science laboratory; Denise M. and **Timothy J. Klein** have given a gift to the new building; and National Grid has again supported the School of Engineering, this year with a Grid Access grant that will spur BME academic and regional partnerships.

I encourage you to read on to learn more about the school's many exciting achievements, activities, and events.

Sincerely,

Dean Harvey G. Stenger Jr.

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On the cover:

Top: Main Figure: MCEER Segmental Bridge Specimen tested in the Structural Engineering and Earthquake Simulation Laboratory (SEESL). The deck, as well as each pier, consists of precast concrete segments post-tensioned together with high strength steel tendons. Photo: Tom Albrechcinski

Middle: School of Engineering faculty members who earned prominent awards (l to r): CSE's UB Distinguished Professor Venu Govindaraju; ISE's Praxair Professor in Operations Research Mark Karwan; MAE Professor Kemper Lewis; CSE Professor Chang Wen Chen

Bottom: Paula and Russell L. Agrusa

Departmental Research Highlights:

- CBE:** Koffas Yields Isoflavonoids, Possibly Cancer-Inhibiting, p. 18
- CSE:** Corso is PI on CSE/MAE Team ISTAR Project, p. 21
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- CSEE:** Hurricane Katrina: Jensen Assesses Some Lessons Learned, p. 20
- EE:** Bird: Nanotechnology Research with Innovative Japan Collaboration, p. 18
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Prasad: Gold Nanorods a Potential Antiviral Delivery System, p. 21
- ISE:** Wu Studies EEG's to Predict Numerical Typing Errors, p. 23
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- MAE:** Chung Advances Smart Concrete, p. 19
Lordi: BioBlower Startup Earns Recognition, p. 22
Kesavadas on RoSS Surgical Simulator, p. 20

Join **UB Believers** and help create the future of our communities – at the university, local and state levels. UB Believers is an advocacy group that supports the University at Buffalo's 2020 growth plan. Your voice will be part of a growing chorus dedicated to strengthening Western New York's economy and quality of life. To learn more, please visit: ubbelievers.buffalo.edu/ubbelievers/home.



CSEE's Aref and Filiatrault on Federal Highway Administration Bridge Test

CSEE Professors **Amjad Aref** and **Andre Filiatrault** were the principal investigators on a Federal Highway Administration (FHWA) funded seismic test of the largest bridge specimen ever tested on a shake table.



Amjad Aref

The scale model incorporated a rapid and cost-effective construction method called Accelerated Bridge Construction (ABC). The tests, conducted on a 70-ton, 60-foot-long concrete bridge in the university's Structural Engineering and Earthquake Simulation Laboratory (SEESL), illustrated that ABC bridge systems may perform well in seismically active regions. CSEE PhD student **Petros Sideris** and SEESL Structural Engineer **Myrto Anagnostopoulou** were part of the project team.

Unbonded post-tensioned tendons allowed the test bridge maximum freedom of movement, according to Professor Aref, and a good way to dissipate seismic energy. "You could think of the deck and piers as held together by elastic bands," added Filiatrault. "The elements deform under seismic loading, and then re-center themselves after the earthquake is over."

"The elements deform under seismic loading, and then re-center themselves after the earthquake is over."

Over a three-week period, the 70-ton test structure underwent more than 150 minute-long simulated earthquakes. The tests gradually increased in intensity, with varying levels of horizontal, transverse, and vertical motion. In some tests, the shake tables were moved in unison, while in others, seismic waves were simulated.

Between seismic tests, white-noise identification tests were conducted for signs of structural fatigue. The final two tests replicated a magnitude-7.0 earthquake (the maximum capacity of the shake tables), resulting in only minor spalling on the segments, but no damage to the superstructure, said Aref, noting that "the segments returned to place with no more than a 1/16-inch sliding offset" even at maximum credible earthquake for vertical motion.

Sensors attached to the bridge deck and piers collected data during the 150 seismic tests conducted



The simulations illustrated that this design "would perform well in a severe seismic environment, a credit to the post-tensioning, which held up extremely well," but revealed an unexpected interaction between rocking and sliding of the segments, indicating more tests are needed. The FHWA will use the data collected to begin developing standards for getting the best performance from ABC in seismically active areas.



Andre Filiatrault

Faculty Win Major Accolades



Venu Govindaraju

IEEE's Technical Achievement Award to Govindaraju

CSE's UB Distinguished Professor **Venu Govindaraju** (MS '88 PhD'92 CS) has earned IEEE's 2010 Technical Achievement Award for pioneering contributions to biometrics systems.

Govindaraju is founder and director of the Center for Unified Biometrics and Sensors and Associate Director of the Center of Excellence for Document Analysis and Recognition. He has authored over 300 scientific papers; given over 100 invited talks, and

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Kemper Lewis

ASEE National Design Award to Lewis

MAE Professor, Executive Director of the New York State Center for Engineering Design and Industrial Innovation (NYSCEDI), **Kemper Lewis** earned the American Society for Engineering Education's Fred Merryfield Design Award for innovations in teaching engineering design. Lewis' contributions include creating a grand challenge-centered senior design methods course, a sophomore product dissection course, and graduate courses in complex systems design and advanced design theory.

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Mark Karwan

Karwan Honored with SUNY Distinguished Teaching Professorship

ISE's Praxair Professor in Operations Research **Mark Karwan**, former dean, earned the rank of SUNY Distinguished Teaching Professor, the highest system tribute conferred upon SUNY instructional faculty. The promotion recognizes mastery of teaching and superior commitment to students.

Karwan's 30 years with UB Engineering also include service as ISE chair and as UB Engineering's associate

Continued on page 17



Chang Wen Chen

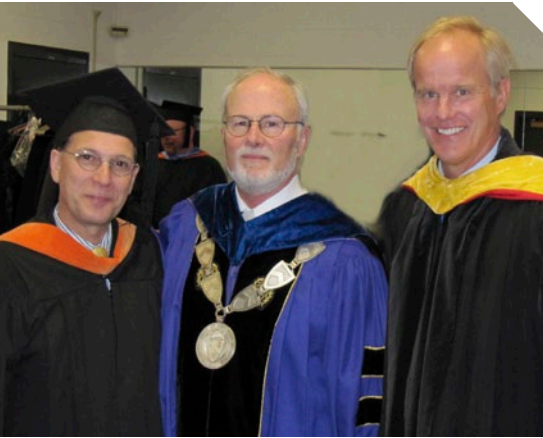
Chang Wen Chen Earns Prestigious Humboldt Award

CSE Professor **Chang Wen Chen** has earned a prestigious Humboldt Research Award from the Alexander von Humboldt Foundation, for his lifetime research achievements. The award allows foreign scholars to conduct research at German research institutes to promote international scientific cooperation.

Wen's research will be conducted at the Institute of

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2010 Dean's Award Recipient Russell L. Agrusa



(L to R): Russell L. Agrusa, President John Simpson, and Dean Stenger, before the commencement ceremony

Dean's Advisory Council member and Delta Society donor **Russell L. Agrusa** (BS EE '76) was honored by Dean **Harvey Stenger** at this year's Engineering Commencement, with the Dean's Award for Achievement – the school's highest honor. Agrusa is Founder, President, and Chief Executive Officer of **ICONICS** (Foxborough, Mass.) a leading international software developer of web-enabled visualization, human-machine interface (HMI) and supervisory control and data acquisition (SCADA) applications for industrial automation and manufacturing.

After graduating, Agrusa began his career at Westinghouse Electric Corporation (Pittsburgh, Penn.). There he developed software for turbine control and distribution control systems for coal fired and nuclear power plants, and the company's first distributed control system, the Westinghouse Distributed Processing Family (WDPF). In 1983, he joined the Boston, Massachusetts-based Foxboro Company, leading the HMI product development of the Foxboro Intelligent Architecture series (IA) Distributed Control System, an important aspect of many industrial automation systems today.

Since its 1986 launch, under Agrusa's leadership, **ICONICS** has been a major supporter of open-connectivity via open standards in manufacturing and building controls. With over 250,000 installations worldwide and 70 percent of the *Fortune* 1000 companies as its customers, **ICONICS'** global sales have enjoyed double-digit growth for nearly ten years. Its awards include *Inc.*'s 500 Fastest Growing Company award (1991, 1992) and Microsoft's Partner of the Year Award in Independent Software Vendors/Software Solutions (2008) for its **GENESIS64™** HMI/SCADA solution.

Agrusa serves on the Board of Directors of the non-profit OPC Foundation, an automation industry dedicated to open connectivity via open standards, where he is also the Marketing Steering Committee Chair.

Please see the Development section for an article about an important gift from Agrusa and his wife, Paula.

UB Engineering Alumni Association Scholarships



The UB EAA scholarship committee presented the Engineering Alumni Association Scholarships, which recognize "Leaders in Excellence" and encourage students to develop an Engineering School spirit. Committee members **Michael Dray** (BS CBE '04) (far left) and **Brian Peer** (BS CE '05) (far right), with awardees (l to r): **Ron Heichman**, MAE; **Kelly Duval**, CSEE; **Wesley Burkman**, MAE.

UB Engineering Alumni Association Board of Directors

Officers:

- ***James D. Boyle**, President (BS CIE '78)
- ***Joseph S. Frandina**, PE, Vice President (BS CIE '78)
- ***Stephen P. Buechi**, Treasurer (BS CIE '93, MEng '95)
- ***Michael J. Dray**, Secretary (BS CE '04)

Members:

- ***Michelle C. Barker** (BS CE '99, MS CIE '07)
- ***Peter Buechi**, PE (BS '68 MS '70 CIE)
- ***Jeffrey Dudek** (BS CIE '00)
- ***John T. Kociela**, PE (BS CIE '68)
- ***Anthony S. Markut** (BS IE '80)
- ***Brian J. Peer** (BS CE'05)
- ***Richard A. Rink**, PE (BS CIE '80)

In Memoriam

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

- Vincent P. Barbera Jr.**, BS ME '49
- Stanley R. Bartosiak**, BS ME '60
- David P. Benua**, BS EE '79
- Soonita Bratton**, BS CS '93
- David J. Cassell**, BS EnvE '07
- William C. Federick**, BS EE '72
- Ralph M. Frisch**, BS IE '64
- Thomas M. Hajduk**, BS EE '80
- James D. Hammond**, BS IE '67
- George M. Hardy**, BS ME '58
- Paul M. Hennig**, BS EE '56
- Nemat Heydari**, BS CIE '82



Cornelius G. Jurns, Sr., BS IE '55, father-in-law of **SENS' Brian Mirand**, was a past president of the UB Engineering Society, a World War II Navy veteran, and a retired professional engineer in New York and Vermont. He was a manager of the manufacturing and facilities departments at Linde Company (UCC/Dow).

- John P. Kajdas**, BS '89, MEng '90 IE
- James R. Lawrence**, BS ME '70
- Norman E. Layer**, BS EE '61
- John J. Lee**, BS CIE '76
- Dr. John E. Leffler**, PhD CE '69
- Thomas F. Leney**, BS EE '59, MS EE '64
- Richard J. Leitrick**, BS ME '53
- Howard J. Lieberman**, BS EE '86, MEng ME '96
- Daniel J. Mordell**, BS ME '53
- Frederick J. Muraco**, BS EE '49
- Ronald James Neck**, BS ME '57
- Horst R. Schoene**, BS EE '58
- James M. Schuster**, BS ME '94
- Frank C. Setlik**, BS EE '82
- Charlotte F. Stoutamire**, BS ME '91
- Edward M. Sullivan**, MS ME '63
- Richard J. Weiler**, BS IE '50



The UBAA recognized the achievements of Michael Dray (BS CE '04), Dennis Eisenbeck (MEng ME '96, Dean's Advisory Council Chair), Norman R. McCombs (BS ME '68), and William G. Wild Jr., SEAS Director of Special Student Programs (BS IE '83, MA English '85, MS IE '87).

UB Alumni Association Recognizes Engineering Alums

Michael Dray: Volunteer Recognition Award



In appreciation of outstanding volunteer contributions to the university

***Michael J. Dray** (BS CE '04), a 2004 winner of a UB Engineering Alumni Association (UBEAA) Scholarship, generously gives his time and energy to promote and support his *alma mater* and its students, while working and travelling for his career. Dray was a Process Engineer at Praxair and is now with ZeroPoint Clean Tech, a startup biomass gasification company.

His wide-ranging contributions include ongoing service as a UBEAA board member, where he is currently the Board Secretary and chairs two selection committees, for Scholarship and Engineer of the Year selection. He actively participates in

coordinating and attending university events, including UB Business Partners Day and UB Alumni's Corporate Reception. His involvement with student receptions and ceremonies speaks of his commitment; he has presented scholarships at the UBEAA Scholarship Reception, interviewed candidates at Student Interview Night, and presented pins to graduating students at commencement. Mike has also been a CBE representative alumnus for the department's bachelor's degree recruitment promotional materials.

Dennis Eisenbeck: Community Leadership Medal



For outstanding volunteer accomplishments, making the community a better place to live and work

Dennis Eisenbeck (MEng ME '96, Dean's Advisory Council Chair), now Energy Solutions Services Regional Executive of National Grid's Western Division, has generously contributed and volunteered to advance UB and Western New York.

In addition to contributing to the Engineering School's Delta Society, Eisenbeck has fostered National Grid company sponsorship and involvement in many ways, assisting in establishing a National Grid five-year award that augments UB Engineering's existing programs, including BEAM (Buffalo-area Engineering Awareness for Minorities). Eisenbeck helped National Grid and UB Engineering

to establish a masters-level degree for the modern electrical utility industry, and was instrumental in bringing National Grid CEO, Steve Holliday, to speak at the 2007 UB Business Partners Day; he also

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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
412 Bonner Hall, (716) 645-0971
University at Buffalo
dcmillar@buffalo.edu
www.eng-intern.buffalo.edu

Since the early 1990s, the **UB Engineering Alumni Association** has carried on a tradition of giving scholarships to deserving undergraduate students through the **UB Engineering Alumni Association Scholarship Fund**. Please consider continuing this tradition with your donations. Together, we can all work to promote UB Engineering's excellence.

Checks should be addressed to the **UB Foundation** with "School of Engineering & Applied Sciences" noted in the memo, and sent to:

External Affairs
UB Engineering Office
412 Bonner Hall
University at Buffalo
Buffalo, NY 14260-1900

See this year's winners on page 4.

UB Career Services: An Alumni Resource

- **Job hunting?** Get job search assistance and access to online postings and interviewing opportunities.
- **Seeking top candidates for your company?** To arrange on-campus interviews or showcase your organization, e-mail jobs@buffalo.edu.
- **Have advice for current college students?** Join the **Meet-a-Mentor** program.

Please visit: www.ub-careers.buffalo.edu.
Career Services Office, 259 Capen Hall, North Campus, University at Buffalo (716) 645-2231

UBAA Recognizes Engineering Alums *(Continued from page 5)*

organized two energy-related CEO Roundtables led by Holliday. Elsenbeck accepted the school's 2005 Vital Partner Award for National Grid and has championed a relationship between his company and the University's New York State Center of Excellence in Bioinformatics & Life Sciences (COE), where National Grid is a COE corporate partner.

Dennis' community engagements include Board Chairman, Amherst Chamber of Commerce; Executive Board of Directors, Buffalo Niagara Partnership; Board of Directors, Buffalo Niagara Enterprise; Board of Directors, Buffalo Urban Development Corporation; Member, Advisory Council of USA Niagara Development, Niagara Falls, NY.

Norman R. McCombs: Clifford C. Furnas Memorial Award



For distinguished engineering, natural sciences, or mathematics alums in a science field

2007 UBAA Engineer of the Year and 2008 Dean's Award winner ***Norman R. McCombs**' (BS ME '68) progressive patents, notably in pressure-swing adsorption (PSA) technology, have made oxygen tanks ever more portable and affordable, greatly improving life quality for sufferers of chronic obstructive pulmonary disease — chronic bronchitis, emphysema, and other lung diseases. The technology has also been applied to many uses in the commercial sector. Through his industry, McCombs has created thousands of jobs locally and globally.

McCombs, a product of Western New York and its educational system, is a leader in its technical community. He is Senior Vice President of Amherst, New York's AirSep Corporation. McCombs holds over 40 US patents and hundreds more internationally; he is a member in the Society of Automotive and Aeronautical Engineers; a fellow of the American Society of Mechanical Engineers (ASME), and earned its Thomas A. Edison Patent Award in 2007; and he received a Lifetime Achievement Award from the Intellectual Property Law Association (IPLA) in 2005. He has been married to his wife, Grace (Seitz), for over 47 years.

William G. Wild Jr.: Dr. Richard T. Sarkin Award



For excellence in teaching

Committed teacher-educator **Bill Wild** (BS IE '83, MA English '85, MS IE '87), UB Engineering's Director of Student Excellence Initiatives, studied factors affecting learning, and applied what he learned to create a successful suite of programs targeted at improving freshmen learning and retention. The programs are: Impact on Society Program (in which students develop leadership skills through projects promoting the well-being of people or the environment); the Mentoring Program; Opening Day; and Small Groups.

Since Wild began in 1998, UB Engineering's student success rate, *i.e.*, undergraduate students completing BS degrees in five years or less, rose from 32% to 54%. The methods have been expanded to reach all entering freshman through the engineering course EAS 140.

Wild's work on understanding the predictors of success for engineering students was cited in "Colleges Mine Data to Predict Dropouts" (*The Chronicle of Higher Education*, May 2008), and it has garnered generous gifts and recognition from our engineering accreditation board.



Alumnus Li Named a *Time* Top Influential Person of 2010

On the list of *Time* magazine's 2010 top 100 most influential people is **Robin Yanhong Li** (MS CS '93), CEO and founder of Baidu, Inc., China's dominant Internet search engine. The ten-year old company may be considered China's Google. Baidu has also announced plans to expand through a separate company that will offer online video (comparable to YouTube).

Alumni Membership – One Amount Pays All

DID YOU KNOW? A member of the UB Engineering Alumni Association automatically joins the UB Alumni Association (UBAA)!



NOT A MEMBER? Join now to begin saving on events, online shopping, UB merchandise and much more. When you join the alumni association, you're making a statement that you're True Blue, you support UB and you want to make a difference. (And, you'll get all the benefits membership has to offer!) Show your pride and support an organization whose purpose is to provide support for you.

Find out more online at http://www.eng.buffalo.edu/alumni_membership.php or call UBAA at 1-800-284-5382.

THANK YOU MEMBERS

Thank you to all Engineering School alumni who have joined the UB Engineering Alumni Association and the UB Alumni Association. Your support allows us to program both alumni and student events and activities.

Wherever this symbol * appears in *Buffalo Engineer*, a dues-paying alumni member has been named.



Become an Alumni Ambassador

If you hold an undergraduate degree from the School of Engineering, and you would like to share your experiences and help attract the best students to the school, you can volunteer as an Alumni Ambassador. Ambassadors represent UB by attending college fairs, hosting receptions, or by sharing their experiences with potential students. To register and learn more, please visit www.ubambassadors.ning.com.

Current Engineering School Alumni Ambassadors are: **Adriane Cavanagh** (BS ME '83); **Chincy Matthew** (BS EE '05); ***Gregg McDonald** (BS IE '94); ***Matthew Miller** (BS CS '07); ***Karianne Paolo** (BS IE '00); **Christopher Richard** (BS ME '95); **John Rog** (BS IE '85); **John Wilkinson** (BS CBE '98); and **Mark Zabaldo** (BS ME '94).

Sport Your School Pride with Alumni Apparel

The UB Engineering Alumni Association and the UB Alumni Association are proud to share the www.iLoveUB.com web store, your source for UB School of Engineering gear. Please visit to see a new line of School of Engineering apparel, t-shirts, caps, hoodies, and more!



UB SAE Clean Snowmobile Wins for Innovation and Quiet

At the SAE Clean Snowmobile Challenge, a collegiate design competition of the Society of Automotive Engineers, engineering students take a stock snowmobile and reengineer it to reduce emissions and noise while maintaining or boosting performance. This year's event was held at Michigan Technological University.

The UB SAE chapter's entry was the only diesel-powered sled in the challenge. UB SAE finished fourth in the internal combustion category and took the PCB Group Award for Quietest Snowmobile, the Caterpillar Corporation Award for Innovation, and the Aristo Catalysts Inc. Award for Most Improved Snowmobile.



The UB SAE clean snowmobile entry during the race



Marina Tsianou



Nikita Petrosyan

AICHe Student Chapter Honors CBE's Tsianou and Student Petrosyan

When the UB student chapter of the American Institute of Chemical Engineers (AICHe) held its annual banquet, the group presented CBE Assistant Professor Marina Tsianou with its Professor of the Year award and CBE student Nikita Petrosyan with its Student of the Year award.

Engineering Commencement 2010

Outstanding students participated in Engineering's commencement ceremony, representing the excellence of the student body and the school's many successes. Pictured here, they are: **Jacob S. Joyce** (BS CS '10), Banner Carrier; **Pryadarshini R. Pennathur** (PhD IE '10), Student Address; **Nicholas N. Fortenbery** (BS IE '10), Farewell; **Christopher J. Llop** (BS EE '10), Salutation.

President John Simpson conferred degrees to UB Engineering graduates at UB Engineering's commencement ceremony. Continuing his tradition of speaking in the form of a letter, Dean **Harvey Stenger** addressed the parents of graduates, expressing pride in the inspiring accomplishments of the School of Engineering's alumni, faculty, and students, and "bragging" about them while reporting on the successful job and graduate school placements of this year's graduating class, and on the School's student retention and graduation rate, which has doubled in the past ten years, under the guidance of the Student Excellence Program.

For speeches from the event, please visit: www.eng.buffalo.edu/Commencement/2010



Pictured here (L to R): Jacob S. Joyce, Pryadarshini R. Pennathur, Nicholas N. Fortenbery, and Christopher J. Llop.

CBE Students Lo and Madabhushi Receive American Heart Association Fellowships

CBE graduate students **Chi Lo** and **Sri Madabhushi** were awarded competitive, prestigious pre-doctoral fellowships from the American Heart Association for research and training as students initiating careers in cardiovascular disease and stroke. Both students are mentored by CBE Professor **Sriram Neelamegham**.



Chi Lo works on the mechanism by which white blood cells bind to blood vessel walls in the human body. Her goal is to identify important reaction pathways that lead to the formation of specific sugar structures on the surface of white blood cells. These carbohydrates regulate critical molecular interactions that contribute to human inflammatory diseases.



Sri Madabhushi's research examines the largest protein in blood called van Willebrand Factor (VWF). Sri is interested in identifying structural changes in VWF that are regulated by fluid shear forces. Such changes aid the binding of human blood platelets to blood vessel walls. Platelet cell adhesion contributes to both the stoppage of bleeding following injury, and cardiovascular diseases like myocardial infarction and stroke.

Prentice Family Foundation WNY Prosperity Scholarship Winners

Nine engineering students were selected to receive the Prentice Family Foundation's Western New York (WNY) Prosperity Scholarship this year, three of whom are second-time winners.

Awardees are selected on the likelihood that they will contribute to the economic growth and prosperity of the WNY region.

The 2010-11 Prentice Family Foundation awardees are:

Brandon Brown, MAE (second-time winner)

Derrek Drass, CSEE
Mark Fenzl, ISE

Michael Kandefor, CSE (second-time winner)

Deven McMaster, ISE (second-time winner)

Corey Lown, IE & Business
Shaun Setlock, CBE
Antonio Upia, EE
Connor Walsh, CSEE

25th Annual Scholarship Reception

The 2010 School of Engineering and Applied Sciences Scholarship Reception was an evening dedicated to recognizing our students who won scholarships and awards during the Academic Year 2009–2010.

Congratulations to the exceptional students honored, and their families. Our sincere appreciation goes to the donors for their support.



CBE student awardees and faculty



ISE student awardees and faculty

Award List

American Institute of Chemical Engineers (AIChE) Awards: Outstanding Junior: **Ryan Barton**, CBE; Outstanding Senior: **Kyle McHugh**, CBE

American Society of Civil Engineers (ASCE) Julian Snyder Endowment Fund Scholarship: **David P. Welch**, CSEE

American Society of Civil Engineers (ASCE) Buffalo Section Student of the Year Award: **Kyle A. Eudene**, CSEE

Robert P. Apmann Award: **Matthew J. Widay**, CSEE; **Kelly A. Duval**, CSEE

Joseph and Adele Augustyn Memorial Book Award: **Meredith Canty**, MAE; **Tara Feuerstein**, CBE

Association of Old Crows (AOC) Scholarships: **Zach Bergquist**, CSE; **Rachel Styn**, EE
Michael Bauda Memorial Scholarship: **James Dobler**, CSE

BEAM Scholarship: **Michael Dane Alexander**, EE; **Jacob Biltkoff**, MAE; **Derek Brim**, EE

David M. Benenson Memorial Scholarship: **Jenna Curry**, MAE; **Aaron Nichols**, MAE; **Eben Piazza**, CSEE; **Tyler Simmons**, ISE; **Andrew Tamchyna**, EE

Joan G. Bennett Memorial Scholarship: **Meredith Canty**, EE; **Collin Mandris**, EE

Adarsh Bhagat Memorial Scholarship: **Christopher Van Loon**, MAE

Beth Cheshire Moran Award: **Alexander Haynie**, CSE; **Leslie Pierrot**, CSE

Bird Technologies Fellowship Program: **Xiaoyu Cheng**, EE; **Melroy Machado**, EE; **Vivek Shirvante**, EE; **Kyoung-Tae Kim**, EE; **Jun Shi**, EE

Chemical and Biological Engineering (CBE) Academic Excellence Awards: **David Galuski**, CBE; **Brett van Groenewoud**, CBE; **Michael Langdon**, CBE; **Lye Lin Lock**, CBE

Civil, Structural and Environmental Engineering Chair's Graduate and Undergraduate Recognition Awards: Graduate: **Pierre Paul J. Fouche**, CSEE

Undergraduate: **Nicholas L. Montaldi**, CSEE
Cobham Mission Systems Mechanical and Aerospace Engineering Scholarship: **Alex N. Byrley**, EE; **Lucas Mesmer**, MAE; **Thomas Ryan**, MAE; **Shane R. Sanfilippo**, EE

Dean's Scholars: **Ivie Aifuwa**, CBE; **John Cole**, CBE; **David Kennedy**, CBE; **Kayla Kisenwether**, MAE; **John McGreevy**, MAE; **Paul Nixon**, CSE; **Randolf Zingo**, MAE; **Kathleen Gajewski**, CSEE; **Lindsey Garay**, MAE; **Jonathan Jones**, MAE; **Steven Kapturowski**, MAE; **Garth Lester**, SEAS; **Steven Powell**, MAE; **Aaron Selkridge**, MAE; **Andrew Wise**, MAE; **Laura Ziegler**, MAE

Richard E. Dollinger Energy Systems Institute (ESI) Graduate Scholarship: **Michael DiSanto**, EE

Electrical Engineering Chair's Recognition Award: **Erin Marika Jacklin**, EE

Engineering Alumni Association Scholarships: **Wesley Burkman**, MAE; **Kelly Duval**, CSEE; **Ron Heichman**, MAE

Engineering Cooperative Society (ECS) Award: **Erin Kraus**, EE; **Mark Muffoletto**, EE; **Raheeb Kased**, CSEE; **Antonio Upia**, EE

D. Richard Ferguson Memorial Scholarship: **Michael DiSanto**, EE

Rozalyn Z. Gammerman Award: **Donald Miller**, MAE; **Michael Moskal**, ISE; **Michael Rausch**, MAE

Richard E. Garman Undergraduate Scholarship: **Anthony DeSantis**, CSEE; **Elizabeth Hennessy**, CSEE; **Emily Landesberg**, CSEE; **Walter Kaniecki**, CSEE; **Nathan Oberhaus**, CSEE

Robert H. and Catherine H. Goldsmith Fellowship: **Ari Fogel**, CSE

Matthew R. Grappone Book Awards: **Mohit Bansal**, CSE; **Laurie Dening**, CSE; **Claire McTaggart**, CSE

Matthew R. Grappone Memorial Scholarship: **Austin Miller**, CSE

Graduate School Ambassador Award: **Nijo Abraham**, MAE; **Chaitrali**

Agashe, CSE; **Anish Antony**, EE; **Chandrakanth Boliseti**, CSEE; **Kiarash Mohtashamdowlatshahi**, CSEE; **James Evanko**, CSE; **Theresa Guarrera**, ISE; **Pitfee Jao**, EE; **Qaiser Jeelani Khan**, MAE; **Sha Liu**, CBE; **Yijun Liu**, ISE; **Hassan Masoud**, MAE; **Rajagopal Panchapakesan**, EE; **Shilpa Patil**, CBE; **Venkataraman Ravi**, CBE; **Gayatri Venugopal**, EE; **Lei Xu**, CSE; **Nasi Zhang**, CSE; **Zilan Zhong**, CSEE; **Rajagopal Panchapakesan**, EE; **David Myers**, ISE; **Dapeng Cao**, ISE; **Priyvardhan Chavan**, MAE; **Bargav Srinivasan**, MAE; **Andrew Hazlett**, MAE; **Shreeganesh Sudhindra**, MAE

Professor William R. Greiner Engineering Scholarship: **Mitchell Slomowicz**, MAE

International Society of Automation (ISA) Award: **Dennys Eng Gan**, MAE

Robert B. Kleinschmidt Memorial Scholarship: **Ryan Barton**, CBE; **Christopher Owen**, CBE; **Cara Sweeney**, ISE

Paul J. Koessler Memorial Scholarship: **Petros Sideris**, CSEE

Yong H. Lee Scholarship: **Christopher Van Loon**, MAE

Society of American Military Engineers (SAME) Scholarship Dinner Dance Committee Award: **Andres Alzate**, CSEE

James W. and Nancy A. McLernon



CSEE student awardees and faculty



CSE student awardees and faculty

Engineering Scholarship: **Nicholas Catalino**, MAE; **Dan Snitzer**, MAE; **Robert Finton**, EE; **Marcia Torrico**, EE; **Jennifer Lai-Ting Chen**, ISE; **Meagan Wilkinson**, ISE; **Joanne White**, CSEE; **Nicholas Tomkinson**, CSEE; **William Seychew**, CSEE; **Steve Powell**, CSEE

The Samuel R. McLernon and the Nancy Stillwell McLernon Memorial Scholarship: **Damian Ogbonna**, CSE

Mechanical and Aerospace Engineering Award: **Corey Hmiel**, MAE

Dean Paul E. Mohn Memorial Book Award: **Raheeb Kased**, CSEE

Lawrence and Amanda Megan Scholarship: **Bich Vu**, CSE

Moog Graduate Fellowship: **Jordan Matthews**, MAE; **Jessica Tornabene**, EE

Niagara Specialty Metals: **Colton D. Steiner**, MAE

S.P. Prawel Award: **Lucas S. Cotterell**, CSEE

Presidential Fellowships: **Andrew Hughes**, CSE; **Mahdi Maghrebi**, CSEE; **Donald McFarland**, EE; **John Robinson**, MAE; **Gregory Tauer**, ISE

R. R. Rumer Award: **Kyle Doyle**, CSEE

Senior Scholar Awards: Applied Sciences Group: **Matthew Heavner**, CSE; **John W. Danforth** Company: **Kevin Suffoletto**, MAE; **UB Engineering**: **Khamdan Alrobaie**, EE; **Kent Carolus**, MAE; **Atul Chittora**, EE; **Mark Fenzl**, ISE; **Nicholas Fortenbery**, ISE; **Scott Frentzel**, ISE; **Gonca Hadimoglu**, CSEE; **Lye Lin Lock**, CBE; **Jordan Matthews**, MAE; **Kyle McHugh**, CBE; **Eric Nagler**, CSE; **Brian Terranova**, CSEE; **Wai Lun W. Tsang**, CSEE; **Matthew Widay**, CSEE

George G. Schenk Scholarship: **Eric Mikida**, CSE

Irving H. Shames Outstanding Teaching Assistant Award: **Carrie Hinners**, CSEE; **Jay Ring**, CSEE

R. P. Shaw Award: **Wai Lun W. Tsang**, CSEE

Schomburg Fellowship: **Kevin Bryant**, EE; **Ellen Cardone**, CBE; **Sabrina Noel Casucci**, ISE; **Maria Cortes-Delgado**, CSEE; **Margaret Devendorf**, ISE; **Hila**

Dvora, CBE; **Daniel Gavahi**, CSEE; **Tolanya Gibson**, EE; **Megan Hannigan**, ISE; **Carrie Hinners**, CSEE; **Vera Neroni**, CSEE; **Jose Alberto Sanchez-Ferreira**, CSEE; **Katherine Schadel Shaul**, CBE; **Man Wa Wu**, CSEE

Naida Irizarry Shaw and **Max Kay** Scholarship – In Loving Memory of **Eleanor Kay**: **Regina May**, CSE; **Christopher Malec**, CSE

Bhaw D. Shukla Scholarship: **Jenna Curry**, MAE; **Chih Yong Lee**, MAE

Silent Hoist and Crane Materials Handling Prize: **Daniel Arnold**, MAE

Felix Smist Scholarship: **Donald Besecker**, EE; **Stephen Briggs**, MAE; **Kenneth Dawley**, MAE; **Anthony Grisafi**, CSE; **Kristina Kolp**, CBE; **Daniel Kromphardt**, MAE; **Christina Pinzone**, SEAS; **Vivek Shirvante**, EE; **Rachel Styn**, EE; **Charles Tabone**, MAE

Frederick Thomas Award: **Mark Fenzl**, ISE; **Scott Frenzel**, ISE; **Emily Landesberg**, ISE; **Nevin Mutlu**, ISE

Thomas/Karwan Industrial Engineering Undergraduate Scholarship: **May Cheung**, ISE

Elbridge N. and Stephana R. Townsend Scholarship: **Andrew Engelbach-Schaefer**, MAE

United Illuminating (UI) Company Scholarship: **Michael Sylvester**, EE

Watts Engineering and Architecture Minority Scholarship: **Brianna Clark**, EE

Thomas G. Wilde Family Scholarship: **Marcelo Mazzetto**, IE

Xerox/SHPE Scholarship Award: **Christopher Barone**, MAE; **Alvaro Giron**, CSEE; **Ronald Heichman**, MAE; **Mariano Hernandez**, MAE; **Carl Javier**, MAE; **Regina May**, CSE; **Osaka Shepard**, MAE

Gustav and Greta Zimmer Research Scholar Awards: **Jeffrey Ackerman**, MAE; **Colin Lea**, MAE; **Christopher Van Loon**, MAE; **Ping Wong**, MAE



MAE student awardees and faculty

Graduate Poster Competition

The Engineering School's annual student poster competition event is designed to enhance student participation and recognize doctoral students' progress and academic quality. The posters are authored and prepared exclusively by students, and are judged by the directors of graduate studies and by Graduate Student Association presidents of all engineering departments. The three best posters receive an award.

CBE:

Lye-Theng Lock: "Generation of Pancreatic Islet Precursor Cells from Human Embryonic Stem Cells in a Bioreactor"; **Chia-Ying Lee**: "A New Concept for Tuning the Energy Content of Rechargeable Batteries"; **Katherine Shaul**: "Computation of Virial Coefficients: A Powerful Tool for Development of Accurate Molecular Models"

CSE:

Mohammad I. Husain: "SPLASER: A Space-Efficient Latency-Aware Simple Encryption for Secure Architecture in Embedded Systems"; **Murat Ali Bayir**: "Mobility Profiler: A Framework for Discovering Mobility Profiles of Cell Phone Users"

CSEE:

Maria Koliou: "Seismic Protection of Electrical Transformer Bushing System by Stiffening Techniques"; **Jinge Hu**: "Commercial Vehicle Travel Patterns in Urban Areas"; **Liya Guo**: "Game Theoretic Parking Choice Model"

EE:

Peter Mersich: "Metal Induced Growth of Thin Film Si and Si Nanostructures"; **Eric Kozarsky**: "High Capacity Nano-Composite Electrodes for Rechargeable Lithium-Ion Batteries"; **Huina Xu**: "Wound Oxygen & Protein Sensing with Photonic Bandgap Structure Enhanced Xerogel-Based Sensor"

ISE:

Ibrahim Ozbolat (third place): "3D Engineered Porous Wound Constructs for Improved Wound Healing"; **Xiaojun Shan**: "Game Theory or Not Game Theory? Robustness of Hybrid Defense Resource Allocation"; **Neeraja Subrahmaniyan** (first place): "A Visual Haptic System for Children with Learning Disabilities: Design Considerations"

MAE:

Richard Linares (second place): "Nonlinear Sequential Methods for Impact Probability"; **Jason Rahimzadeh**: "The Role of Actin Cytoskeleton in Regulatory Volume Decrease"; **Madusudanan Sathia Narayanan**: "Symbolic Workspace Analysis of a Specialized 6-PUS Parallel Manipulator"



EE student awardees and faculty



Kourtney Brown
photos by Paul Hokanson



Kourtney Brown, Engineering Athlete

Kourtney Brown, a record-setting basketball player for the UB Bulls, is also a remarkable engineering student who is majoring in CSE and intends to earn a dual degree in EE. Kourtney is a winner of the SUNY Chancellor's Scholar-Athlete Award.

Her accomplishments on the court include finishing last season with per game averages of 17.8 points and 11.5 rebounds. The latter was sixth in the nation in rebounding and led the Mid-American Conference (MAC). The mark also set the UB school record for single-season rebounds with 346 and was third in MAC history. Additionally, Brown leads the league with 63 blocked shots (2.1 per game), second in school history.

We salute Brown's classroom and court accomplishments and encourage everyone to see her and the women Bulls play this year.

A video about Kourtney can be seen at:
<http://tinyurl.com/2vfv4vk>.

**Congratulations
Class of 2009–2010**

**461 Bachelors • 298 Masters
42 PhDs**

UB AIAA Flight Team at NASA

This summer, a UB American Institute of Aeronautics and Astronautics (AIAA) team spent a week at the National Aeronautics and Space Administration's (NASA) Johnson Space Center (Houston, Tex.) to test an experiment of their own design in simulated weightlessness, aboard NASA's microgravity aircraft, the "Weightless Wonder." The aircraft produces periods of weightlessness lasting 18 to 25 seconds at a time by flying a series of about 30 parabolas, a steep climb followed by a free fall, over the Gulf of Mexico.

The UB students' research was part of NASA's Reduced Gravity Education Flight Program, a highly selective program that gives undergraduate students the opportunity to propose, design, build, fly and evaluate a reduced gravity experiment.

The team members were: **Bradley Booth** (ME); **Sandra Czarnecki** (AE); **Thomas Guile** (Physics); **Nikeale Haynes** (AE); **Carl Javier** (BS AE & ME '10); **Dave Pohl** (ME); **Nathan Roscup** (BS AE & ME '10); and AIAA President **John Sisti** (AE). MAE Professor **John Crassidis** and MAE graduate student **Richard Linares** are advisors.

The students' research, entitled, "Relative Attitude Determination for Satellite Formation Flying," also included an outreach effort to South Park High School students (Buffalo, NY).



A UB AIAA team member experiences weightlessness

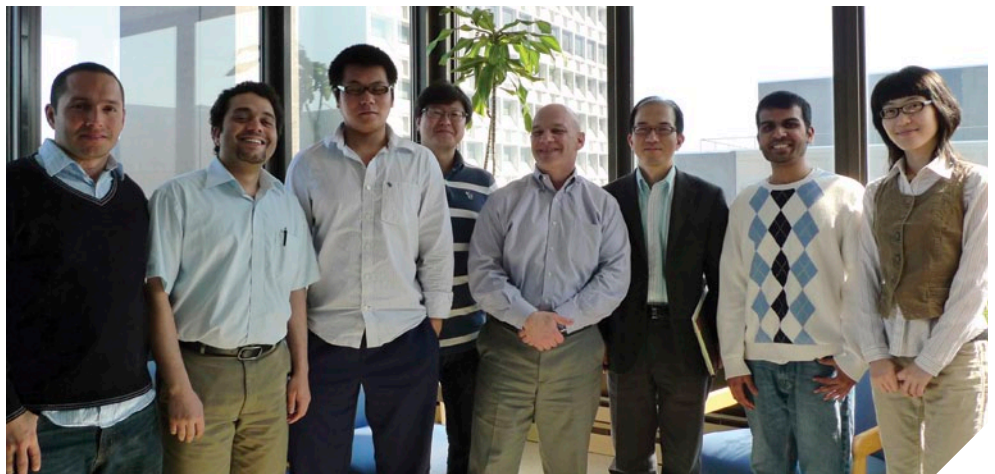
Rube Goldberg Team

2009–2010 UB Rube Goldberg team and machine

This past year's team came in first at the regional competition at Onondaga Community College (Syracuse, NY). This enabled them to compete at the national event, at Purdue University (West Lafayette, Ind.). Pictured at Purdue are (l to r): **Eva Greenfield** (CSEE), **Tawfiq Afif** (CBE), **Michelle D'Lima** (CBE), **Brett van Groenewoud** (BS CBE '10), and **Nicholas Decker** (CSEE). Not pictured: **Yalei Song** (CompE), **Alexis Wong** (AE), and **Christopher Noll** (ME).



Bird Technologies Fellows



2009-2010 Bird Technologies Fellows, with Michael Fetto (BS EE '83), fifth from left. To Fetto's left is Yong-Kyu Yoon.

The New York Nu chapter was formed at the UB School of Engineering and Applied Sciences in 1967.



Tau Beta Pi NY Nu Chapter Recognition and Induction

Friends and family gathered to congratulate Tau Beta Pi NY Nu chapter's new members and its Professor and TA of the Year. (Photo captions are in alphabetical order; photo may not include all inductees.)



Graduate Students: *Jaelyn Alfano; Christoph Bernhard Hoog Antink; Sabrina Casucci; Paul Cronin; Anas Delane; Thomas M. DiSanto; Tolanya Gibson; Theresa Guarrera; Corey Hmiel; Michael Jenkins; Richard Linares; Nicolette McGeorge; Munish Kumar Sharma; Sidhant Sharma; Neeraja Subrahmaniyam; Sumit Tripathi*



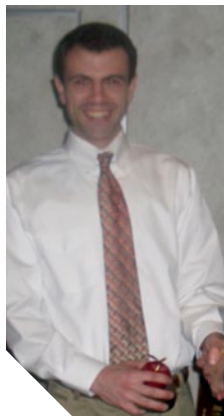
Juniors: *Molly Baker; Peiwen Chen; Joseph Ferrar; Wesley Frechette; John Gerber; Steve Hsieh; Daniel Kent; Claire Mctaggart; Ayesha Merchant; Michael Mercurio; Steven Powell; Andrew Ring*



Seniors: *Andrea Belair; Wai-Fong Chan; Joseph A. Cosentino; Kristina Kolp; David Mastriano; Alexander Mills; William Seychew; Gurbax Singh; Simarbir Singh; Xun Tang*



2010 Professor of the Year:
MAE Assistant Professor Matthew J. Ringuette



2010 T.A. of the Year:
CSEE's John Roach



(L to R): *Back row: TBP Chief Advisor Robert Barnes; Dean Harvey Stenger; Recording Secretary Nicholas Fortenbery; External Vice President Elect Gregory Maloney; Corresponding Secretary Elect Brian Dolan. Front row: Marcia Torrico, Corresponding Secretary; President Elect Brandon Tarney; and Jenna Curry, President.*

The UB ASCE student chapter with their concrete canoe (l to r): Jason Havens (adviser), Fei Xie, Joanne White, Karlee Oehlbeck, Luke Scannell, Carl Hempel, Dan Gifford, Kyle Eudene, Kathleen Gajewski, Kip Wittchen, Tim Sugrue, Charlie Corio, and Andrew Benkleman.



ASCE Students in National Concrete Canoe and Steel Bridge Competitions

The UB American Society of Civil Engineers (ASCE) student chapter participated in both the Concrete Canoe and Steel Bridge regional competitions, and based on their excellent regional scores, made it to the national level competitions of each.

The annual National Student Steel Bridge Competition, held this summer at Purdue University (West Lafayette, Indiana), is a cooperative effort between the American Institute of Steel Construction and the ASCE.

The annual ASCE National Concrete Canoe Competition was held at California Polytechnic State University, San Luis Obispo. The team is pictured with their entry.



Study Abroad: University of Darmstadt, Germany

Professor Winfried Heinzl (right), Director of the Technical University of Darmstadt, Germany gave a presentation and answered questions about study abroad opportunities at Darmstadt for undergraduates and graduate engineering students. Here he is speaking with MAE Professor and Director of ME Undergraduate Studies, **Robert C. Wetherhold**.

EngiNet™ Offerings

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

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

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

For additional information, contact the EngiNet™ Office at (716) 645-0956 or msacco@buffalo.edu.

Havens Earns ASCE Awards

CIE adjunct faculty member and Clark Patterson Lee Project Manager **Jason Havens** (BS CIE '05) is Vice President of the American Society of Civil Engineers' (ASCE) Buffalo Section. UB Engineering students nominated Havens, who won the ASCE's 2010 Practitioner Advisor of the Year (ExCEED). Havens also earned ASCE's 2009 Volunteerism Award.

Ghana's KNUST Visitors at MCEER

A delegation from Ghana's Kwame Nkrumah University of Science and Technology (KNUST) recently visited MCEER to discuss collaboration between the two institutions.

CSEE Professors **Michael Constantinou** and **Andrei Reinhorn** hosted the group on behalf of MCEER. The collaboration was initiated and coordinated by Ghanaian native **Joseph Quarshie** (PhD CSEE '98), a Project Engineer at Caltrans, Fresno (Cal.).

The KNUST-MCEER partnership seeks to address potential dangers posed by seismic activity in Ghana, a developing West African nation. Developing countries often have no formal codes, standards or quality control procedures relating to seismic protection.

Last fall, a formal memorandum of understanding (MOU) was signed by KNUST Professor Adarkwa and by the MCEER Director and CSEE Professor **Andre Filiatrault**. The MOU allows for the establishment of collaboration, the initial exchange of ideas, sharing of materials and discussion towards the development of bi-national student/staff exchange visits to facilitate research and aid in the development of earthquake engineering as a discipline in Ghana and West Africa.



From left: CSEE's Andrei Reinhorn, Clifford C. Furnas Eminent Professor of Engineering and Founding Director, Structural Engineering and Earthquake Simulation Laboratory; KNUST CIE Department Head and Geotechnical Engineering Sectional Head Samuel Ampadu; Caltrans' Project Engineer Joseph Quarshie; KNUST Vice Chancellor Kwasi Adarkwa; CSEE Professor Michael Constantinou; and KNUST Senior Lecturer and Sectional Head of Structural Engineering Mark Adom-Asamoah



Banaras Hindu University Visitors

Dean Stenger took visitors from India's Banaras Hindu University on a tour of the School.

BME Program Gains Momentum

The new Biomedical Engineering (BME) program, co-chaired by CBE Professor and Chair **David Kofke** and EE Associate Professor **Albert Titus**, received official approval from the New York State Department of Education to offer a BME B.S. degree, and plans to submit applications for master's and doctoral BME programs.

The department, a collaboration with UB's School of Medicine and Biomedical Sciences, was conceived in 2008 to advance research in the growing BME field and to have impact on WNY's robust medical device industry. The BME department received significant developmental funds from the John R. Oishei Foundation.

This fall, three new faculty members were hired: Assistant Professors **Chulhong Kim** and **Debanjan Sarkar**, and Research Scientist **Julian Lippmann**. They join 14 full-time existing faculty members who hold dual appointments. For more about our new faculty, please see the article in the faculty section.



BME Co-Chairs David Kofke and Albert Titus

Students entering this fall will be the first to take a four-year program, graduating in 2012. The program's fall 2010 enrollment is as follows: freshman – 24; sophomores – 10; juniors – 13; and seniors – 5.

The department will work with local companies to develop opportunities for joint research and senior design projects, to be required of all BME students, either working with faculty in a lab or in an industrial setting. Industry relationships will be enhanced by a planned Access Grid facility in Bonner Hall, thanks to a grant from National Grid. Please see related article in Development section.

Current research projects in the department are focused on development of "smart" band-aids, which sense the wound microenvironment and release wound-healing compounds when needed; artificial skin that regenerates after severe burns; next-generation X-ray imaging systems; stem cells for treating diabetes and cardiovascular disease and batteries to power implantable biomedical devices.

CSEE's/MCEER's Filiatrault Helps Haiti's Engineers Begin New Chapter of Study on Seismic Design and Construction



Seminar participants in Port-au-Prince, with Andre Filiatrault (seated, center front) and Pierre Fouché (standing, far right, in green and gray striped shirt)

Structural engineers in Haiti have begun a new course of study in earthquake design and construction, with the help of UB's MCEER (formerly the Multidisciplinary Center for Earthquake Engineering Research). In May, MCEER with UB's Office of International Education and the Université Quisqueya, (UniQ) (Port-au-Prince, Haiti) conducted the first in a series of seminars to help Haiti rebuild following January's devastating earthquake. This first program received an overwhelming response, and was attended by over 200 Haitian engineers, architects, and other professionals. CSEE Professor and MCEER Director **Andre Filiatrault** was joined by CSEE PhD candidate and Haitian native, **Pierre Fouché**, in conducting the seminar. **Sofia Tangalos**, MCEER's education and outreach officer and information service director, who had lived in Haiti as a child, provided on-site organizational support.

The seminar series was developed out of a memorandum of understanding signed between MCEER and UniQ, which is focused on helping instruct Haitian engineers in earthquake engineering design principles. The credit-bearing seminars are good toward a master's of earthquake engineering degree, which UniQ is also developing with MCEER's support.

Subsequent seminars will focus on the specific calculations that are required to construct safe buildings, a segment that is largely missing from current engineering curricula in Haiti.

Architectural Record and *Engineering News-Record* reported on MCEER's work at UniQ.

Faculty Inventors Honored by STOR, Kesavadas Cited



The UB Office of Science, Technology Transfer and Economic Outreach (STOR) sponsored the annual Inventors and Entrepreneurs Reception, where MAE Professor and Simulated Surgical Systems LLC Founder **Thenkurussi “Kesh” Kesavadas** received the UB Entrepreneurial Spirit Award, which recognizes researchers who founded a company to license a UB technology. For more about Kesavadas’ recent innovations with Simulated Surgical Systems, please see the Research section.

Faculty members recognized for being named on newly issued patents were:

- MAE Professor **Joseph C. Mollendorf**, with collaborators: Engineering School Lab Design staff member **Roger Teagarden**, **Peter Kovachi** (BS ME/AE ‘06) and **Chee Main Heam** (BS ME ‘05) – patent for Height and Width Adjustable Saddle Sling Seat Walker with Controllable Directional Tracking and Optional Arm Supports.
- SUNY Distinguished Professor **Sargur N. Srihari** and UB Distinguished CSE Professor **Venu Govindaraju** (with an appointment in EE) (MS ‘88 PhD ‘92 CS), both of the Center of Excellence for Document Analysis and Recognition (CEDAR), and collaborators: **Yong-Chul Shin** (MS ‘89 PhD ‘93 EE), **Sangjik Lee** (MS CSE ‘00), **Sung-Hyuk Cha** (PhD CSE ‘01), **Catalin I. Tomai** (PhD CSE ‘04), **Bin Zhang** (MS ‘00 PhD ‘03 CSE), **Ajay Shekhawat** (MS ‘89 CS PhD ‘98 CSE), **Dave Bartnik** (BS CS ‘88), **Wen-Jann Yang** (MS ‘92 PhD ‘98 EE), **Srirangaraj Setlur** (MS ‘95 IE), **Phil Kilinskis** (BS CS ‘93), **Fred Kunderman** (BS CS ‘95), **Xia Liu** (Mathematics alum), **Zhixin Shi** (MS CS ‘95) and **Ramanaprasad Vemulapati** (MS CS ‘93), all formerly of CEDAR – patent for Method and Apparatus for Analyzing and/or Comparing Handwritten and/or Biometric Samples.
- BME Co-Chair, EE Associate Professor **Albert H. Titus** (BS ‘89 MS ‘91 EE), and collaborators **Kiriti Bhagavathula** (MS EE ‘05), and Christopher Mullin, a non-UB inventor – patent for Low Power Glare Sensor.
- CBE UB Distinguished Professor **Paschalis Alexandridis**, and collaborators **Georgios N. Karanikolos** (PhD CE ‘05) and Triantafillos J. Mountziaris – patent for Synthesis of Nanostructured Materials Using Liquid Crystalline Templates.
- CSE teaching assistant professor **Kris Schindler** (BS ‘93 MS ‘96 PhD ‘01 EE) – patent for the UB Talker.

“Visionary Innovators” recognized were:

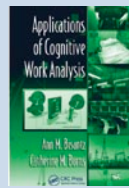
- MAE Professor Thenkurussi Kesavadas, and collaborators **Ankur R. Baheti**, **Sridhar Karimpuzha Seshadri**, **Amrish Kumar**, and **Govindarajan Srimathveeravalli**, all of MAE, and James Mohler and Khurshid Guru, both non-UB inventors – System for Robotic Surgery Training (RoSS). Industrial Partner is Simulated Surgical Systems LLC.
- CSE Assistant Professor **Jason Corso** and CSE Associate Professor **Jinhui Xu**, and Kenneth Hoffmann and Alan Walczak, both of Neurosurgery, and collaborator **Peter B. Noel** (MS ‘07 PhD ‘09 CS) – GPU Based Reconstruction Algorithm for CT Data. Industrial Partner is Ionizing Radiation Imaging Systems LLC.

Takeuchi Earns Norton Medal, UB’s Highest Award



NAE member, SUNY Distinguished and Greatbatch Professor in Power Sources Research **Esther S. Takeuchi** received the annual Chancellor Charles P. Norton Medal, UB’s top honor, recognizing achievements that dignify the region. Takeuchi has pioneered developments of sophisticated power sources for implantable devices, and recently received the National Medal of Technology and Innovation at a White House ceremony.

Achievements



ISE Associate Professor **Ann M. Bisantz** co-edited *Applications of Cognitive Work Analysis* (CRC Press), with Catherine M. Burns. By delineating a work-centered conceptual framework that guides the design of technology, the book provides the understanding necessary to apply these robust techniques to real world, large-scale system design problems in a variety of domains.

CSEE Professor **Michel Bruneau’s** novel, *Shaken Allegiances*, has earned the Grand Prize for Fiction from the Next Generation Indie Book Awards.

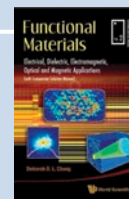


ISE Adjunct Professor **Ching M. Chang** published *Service Systems Management and Engineering: Creating Strategic Differentiation and Operational Excellence* (Wiley). This instructional guide supplies career seekers in the service field with essential techniques, including how to apply scientific, engineering, and business management principles effectively to integrate technology into the workplace.



MAE Professor **Deborah D. L. Chung** published *Composite Materials: Science and Applications*, second edition (Springer), a tutorial-style reference book that examines both structural composite materials and functional composite materials, with a substantial range of applications.

Chung also published *Functional Materials: Electrical, Dielectric, Electromagnetic, Optical, and Magnetic Applications* (World Scientific), which provides a comprehensive and up-to-date treatment of functional materials. Materials concepts covered are strongly linked to applications.



CSEE Professor, MCEER Director, and SEESL Deputy Director **Andre Filiatrault** presented a lecture at the UB This Summer series, on “The Haiti Earthquake: Overview and MCEER Response,” in which he discussed his work with a team of French-speaking engineers in Port-au-Prince, Haiti after the earthquake there.

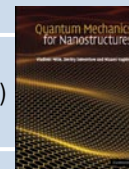
CSE Professor **Bharat Jayaraman** is leading stress-reduction workshops on fundamentals of the Integrated Amrita Meditation Technique (IAMT) technique, through UB’s Employee Assistance Program Education Workshops series.

James Llinas, ISE and MAE Research Professor and Executive Director of the Center for Multisource Information Fusion, presented on “Information Fusion: the Concepts, the Technology, the Community, and Modern Research Challenges” at the 13th International Conference on Information Fusion (ICIF), Edinburgh, Scotland.



Assistant Dean and Director of the Engineering Career Institute **Dean C. Millar** published *Ready for Takeoff! A Winning Process for Launching Your Engineering Career* (Prentice Hall) is appropriate for engineering professionals and as a companion text for engineering courses. The book uses plain English, specific examples, and insights from industry experts to explain the steps needed to identify and pursue an engineering job that’s right for the reader.

EE’s SUNY Distinguished Professor **Vladimir V. Mitin** published *Quantum Mechanics for Nanostructures*, (Cambridge University Press) with Dmitry I. Sementsov and Nizami Z. Vagidov as co-authors.



ISE Chair, Professor **Rakesh Nagi** was awarded Institute of Industrial Engineers (IIE) Fellow designation.

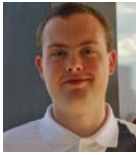
Nagi also presented a talk at ICIF on “Multidisciplinary Research in Hard and Soft Information Fusion,” with David L. Hall, the Pennsylvania State University (primary); Professor James Llinas; John Lavery, Army Research Office/Army Research Laboratory; and Amir Shirkhodaie, Tennessee State University.

Comings & Goings

UB Engineering welcomes its new members and thanks its departing staff for their years of dedicated service.

Comings

STAFF



Academic Information Specialist **Kyle Anderson** joined the School of Engineering's Office of Undergraduate Education. He had been an Assistant Hall Director at UB's University Residence Halls and Apartments since 2007.



Cheryl Michalowski has joined BME as its first Assistant to the Chair. She had been a Project Assistant with Buffalo State College's Center for Development of Human Services Research Foundation for 16 years.

BME



BME Assistant Professor **Chulhong Kim** earned a PhD in BME at Washington University, St. Louis, Missouri (2009). His research interests are in developing non-ionizing and non-invasive novel biomedical imaging techniques, including photo-acoustic tomography, ultrasound-modulated optical tomography, fluorescence imaging, laser speckle contrast imaging, and ultrasonic imaging.



BME Research Scientist **Julian Lippmann** earned an MS (2004) and PhD (2008) in ME from the University of California, Berkeley. His research focuses on fabrication, manufacturing and packaging of micro-electromechanical systems (MEMS) for biosensing and drug delivery. Prior to joining UB, he was a senior process engineer at Proteus Biomedical, where he developed biostable packaging for integrated circuit-enhanced pacemaker leads.



BME Assistant Professor **Debanjan Sarkar** earned a PhD in Chemical and Biomolecular Engineering, and Biomaterials Research, from the University of Akron, Ohio. His research interests are in biomaterials and stem cells in regenerative medicine.

CBE & EE



CBE and EE Professor **Edward Furlani** earned a PhD from UB in Mathematical Physics (1982). Furlani was a Senior Principal Scientist at Eastman Kodak's (EK) Microsystems Research Laboratory, where he worked on multiscale modeling and device simulation and, more recently, on microsystems, designing novel MEMS light modulators, microactuators and microfluidic droplet ejectors. He was a Research Professor at the Institute for Lasers, Photonics and Biophotonics (ILPB), where he is now a senior investigator on an ILPB funded five-year research project.

CSE



CSE Assistant Professor **Steven Ko** earned an MS in CSE from Seoul National University, Seoul, Korea (2002), and a PhD in CS from University of Illinois, Urbana-Champaign (UIUC) (2009). His research interests are in distributed systems and networking, with a current emphasis on cloud computing.

CSEE



CSEE Assistant Professor **Salvatore Salamone** earned a Laurea (MS) in CIE (2002) and a PhD in Structural Engineering from the University of Palermo (2007). His research interests are in structural health monitoring, non-destructive evaluation, ultrasonic sensing methods for smart structures, and digital signal processing and pattern recognition.

EE & PHYSICS



EE and Physics Associate Professor **Steven Durbin** earned MS (1989) and PhD (1994) degrees in EE from Purdue University, West Lafayette, Indiana. He was an Associate Professor at the University of Canterbury in Christchurch, New Zealand.

His research interests in the area of solid state materials and devices include: electrical characterization and device modeling; oxide and nitride semiconductors; photovoltaic and thermoelectric energy conversion; metamaterials for optical wavelengths; molecular beam epitaxy and pulsed laser deposition; and nanotemplated growth of semiconductor crystals.

ISE



ISE Assistant Professor **Alexander Nikolaev** earned an MS in Applied Physics and Mathematics from Moscow Institute of Physics and Technology (2001) and a PhD in Operations Research from UIUC (2008). His research interests include resource allocation and assignment problems with sequential arrivals, statistical inference based on observational data, and mathematical modeling of social network dynamics.

MAE



MAE Assistant Professor **Iman Borazjani** earned an MS in ME from Georgia Institute of Technology, Atlanta, Georgia (2005) and a PhD in ME from University of Minnesota, Minneapolis (2008). His primary research is in developing advanced numerical tools for simulating biological flows.



MAE Assistant Professor **Michele Milano** earned an MS in EE with a concentration in control systems from Federico II University, Napoli Italy (1996), and a PhD in Technical Sciences from the Swiss Federal Institute of Technology (2002). His research interests concern modeling, optimization, and bio-inspired propulsion systems/insect flight.

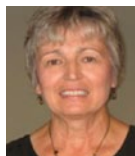


MAE Assistant Professor **David Salac** earned an MS and PhD in ME from the University of Michigan, Ann Arbor (2007). His current work is on two main activities involving interfacial phenomena and multiple length scales: motion of lipid bilayer vesicles; and the freezing of foams, leading him to develop of a new numerical method.

Goings



ISE Graduate Affairs Secretary **Patricia Brock** has retired after 40 years at UB, the first half of which was in the School of Nursing. After over 20 years there, her assistance and skills went to the School of Engineering and its students.



CBE Secretary **Irene Brubaker** worked with the department for 23 years, and assisted CBE SUNY Distinguished Professor **Eli Ruckenstein**. During retirement, she plans to enjoy new adventures, including travelling to dote on her seven grandchildren, and tackling various house projects. Her pleasant and patient demeanor will be greatly missed.



ISE's **Kathleen Dunphy** retired with over 40 years of service to UB. She was always helpful and gracious to the department's faculty and students, and as an enthusiastic animal lover, she loved to share stories about animals.



CBE Clifford Furnas Eminent Professor **Vladimir Hlavacek's** research focuses on reaction engineering and ceramic engineering. His consulting work included corporations and US Department of Defense agencies. Since joining CBE in 1981, his recognitions include: AIChE Fellow; AIChE's Wilhem Award; two Fulbright Fellowships; and the Alexander Von Humboldt Research Award. Hlavacek and his wife Zdena will pursue their extracurricular interests, including sailing and ocean fishing.



CSE Lecturer and Assistant Chair **Helene Kershner** has been with CSE for 27 years and won the Milton Plesur Award for Excellence in Teaching. Her contributions to CSE undergraduate education were in computers, ethics and the law, and software engineering, and she worked with students involved with developing the UB Talker.



CSEE Lab Technician **Gary Majewski** has retired after 24 years with UB Engineering. Majewski oversaw CSEE's Materials and Soils labs and advised the American Society of Civil Engineer's UB student chapter's (ASCE) on concrete canoe and steel bridge construction. He earned the ASCE's Faculty/Staff of the Year Award (2009). He will be spending time as Vice President of Finance, St. Matthews Lutheran Church and School (N. Tonawanda, NY) and contracting in concrete countertops. He also enjoys northern pike fishing and plans to live in Mesa, Arizona's Valley of the Sun.



MAE Professor **John Medige** joined UB Engineering in 1962, specializing in plates and shells, numerical methods, plasticity, dynamics, and applied mathematics. In the 1970s his research activities shifted to biomechanics, emphasizing bone remodeling, tissue properties and joint mechanics. He was often seen going to his popular course on musculoskeletal biomechanics accompanied by the hanging human skeleton that still shares his emeritus office. He held a joint appointment with Orthopaedics and was long-time director of the School of Medicine's Biomechanics Lab. During his 50-year UB career, Medige authored or co-authored over eighty technical publications and conference papers.



CSEE Professor **Rowland Richards, Jr.**, PE joined CSEE in 1980. An active consultant to entities including the National Cathedral (Washington, D.C.), his research interests are in solid mechanics, experimental model analysis, soil mechanics and foundations, structural analysis and design, systems design and structural aesthetics. He authored *Principles of Solid Mechanics* (CRC Press).



MAE Professor **Dale Taulbee** joined UB Engineering in 1963. A winner of the university-wide Milton Plesur Award for Excellence in Teaching, his teaching and research focuses in fluid mechanics, computational methods, and turbulent flows had applications ranging from aerospace sciences to bioengineering. Taulbee taught 24 different graduate and undergraduate courses throughout his tenure. He was major professor to 17 PhDs and over 40 masters and was MAE Graduate Studies Director and was MAE Department Chair. In his leisure, he is an expert sailor.

Professors **Gloria Kim** (BME), **Michael McKittrick** (CBE), **Gottfried Strasser** (EE and Physics), **Aleksandr Verevkin** (EE), and **Yong-Kyu Yoon** (EE) have resigned for other positions.

Fam Joins Advisory Council of Egyptian Scholars Abroad



EE Professor **Adly Fam** attended an Egyptian Scholars Abroad meeting at the Egyptian Embassy (Washington, D.C.), where he was appointed to the Advisory Council of Egyptian Scholars.

In Cairo, Fam gave two workshops at the National Authority of Quality Assurance and Accreditation of Education (NAQAAE): one on accreditation, which included overviews of the Accreditation Board for

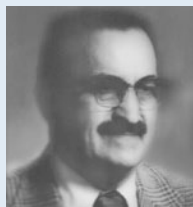
Engineering and Technology (ABET) accreditation process and of the International Engineering Alliance; and one on patents and inventions, which highlighted UB's STOR structure and activities. In related work, Fam appeared several times as a panelist on Egyptian national television, to address issues related to NAQAAE's activities. Professor Fam was also invited to participate in a four-member international accreditation team for the American University in Cairo (AUC).

Dr. Magdy Kassem is president of NAQAAE, the accrediting body for all Egyptian institutions of learning, including higher education institutions. NAQAAE's mission is to apply uniform accreditation standards that promise to improve and enhance the performance of learning institutions at all levels. Several agreements and memos-of-understanding between NAQAAE and its international counterparts (including ABET) are in place.

Obituaries

The School of Engineering extends condolences to the friends and family of our colleagues.

We deeply mourn the loss of **Phillip E. Ganze** (BS CS '93) (photo right). During his thirteen years with Science and Engineering Node Services, Phil's computer skills and endless good nature were a great help to many.



The School of Engineering remembers University Scholar and CBE Professor Emeritus **Robert J. Good**, who joined UB in 1964. Good was a visiting professor at several universities in London (University of Bristol, City University, and Imperial College), and was a chemist for Dow and Monsanto, in addition to consulting for other firms. His awards include the 1979 Jacob R. Schoellkopf Award and the American Chemical Society's 1976 Kendall Award for his work in surface and colloid chemistry. He was a member of the American Chemical Society, National Association of Corrosion Engineers, and the Adhesion Society. His wife of 45 years, the former Maud Hopkins, also died recently.



The School of Engineering is sorry to lose EE Professor **Raj K. Kaul**, who passed away after a prolonged illness. Professor Kaul's 42-year tenure was distinguished by several teaching awards, numerous publications, and a career of dedicated service to the university, to the school, and to the department. In 2002, he was the EE's Director of Graduate Studies.

Professor Kaul was advising and guiding dissertation and thesis research work for three students and authoring a mathematics book at the time of his passing.

Achievements *continued from pg 14*

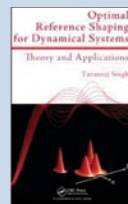
CBE's SUNY Distinguished Professor **Eli Ruckenstein** published *Nanodispersions: Interactions, Stability, and Dynamics* (Springer), with co-author Marian Manciu (University of Texas, El Paso).



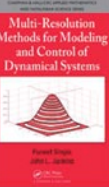
EE Research Professor **Mohammed Safiuddin** contributed to a conversation on remodeling electricity grids at CommentVisions: <http://tinyurl.com/344n2kz>.

MAE Professor **Tarunraj Singh** was promoted to Fellow of the American Society of Mechanical Engineers (ASME), in recognition of his contributions to the areas of control and estimation.

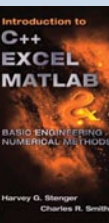
Singh recently published *Optimal Reference Shaping for Dynamical Systems: Theory and Applications* (CRC Press), which presents the theory and numerical techniques used to shape control system inputs for achieving precise control, when modeling uncertainties exist. It includes up-to-date techniques for the design of command-shaped profiles for precise, robust, and rapid point-to-point control of under-damped systems.



MAE Assistant Professor **Puneet Singla** published *Multi-Resolution Methods for Modeling and Control of Dynamical Systems* with John L. Junkins. Unifying important methodology, the book explores existing approximation methods and develops new ones for the approximate solution of large-scale dynamical system problems.



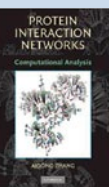
CBE Professor, Dean **Harvey Stenger** published *Introduction to C++, Excel, Matlab, and Basic Engineering Numerical Methods* (Prentice Hall) on DVD, with co-author Charles R. Smith. The book offers a pragmatic approach to computational tools and techniques, through a unique integrated electronic learning system that allows for quick and efficient navigation to a multitude of examples, exercises, projects, and over ten hours of audio lectures.



BME, CBE, and EE Greatbatch Professor **Esther Takeuchi** was interviewed in Smartplanet.com about her work with innovative energy storage devices. Her research has received wide media attention, including articles in *PhysOrg*, *R&D Magazine*, *Science Daily* and *Life Sciences World* to name a few. A slide show on her BME research is on YouTube at: <http://tinyurl.com/375w4z5>, and she participated in a panel on women in science, at BoingBoing: <http://tinyurl.com/2dszvj1>.



CSE Professor, UB Provost **Satish Tripathi** was a co-author on *3D Online Multimedia & Game: Processing, Transmission and Visualization* (World Scientific Publishing), with co-authors Irene Cheng (University of Alberta, Canada & University of Pennsylvania); Guido M. Cortelazzo (University of Padova, Italy); and Anup Basu (University of Alberta, Canada). The book addresses some of the scientific techniques involved in developing efficient 3D online systems.



CSE Professor and Chair **Aidong Zhang** published *Protein Interaction Networks: Computational Analysis* (Cambridge University Press). The book provides a comprehensive understanding of the computational methods available for the analysis of protein-protein interaction networks and offers an in-depth survey of a range of approaches and the fundamental principles underlying each of these.

President Simpson recognized the following faculty members for their book publications at the 2010 Anthology of Recognition ceremony: CBE's Ruckenstein and Shulgin; CSE's Tripathi, Provost, Upadhyaya, and Zhang; CSEE's Bruneau; EE's Bird and Su; MAE's Chung.

UB Engineering Appointments



Stella Batalama



Alexander Cartwright



David Kofke



Albert Titus



Timoleon Siderakis



A. Scott Weber



Andrew Whittaker

Professor **Stella Batalama** accepted the position of EE Chair for a one-year term, during which she will continue as the Associate Dean for Research. Professor Batalama was an acting director at the Rome Air Force Research Laboratory for a year, and she serves in several roles in the IEEE Communications Division. She has provided exceptional leadership for UB's EE Wireless Communication Group.

Professor **Alexander Cartwright** will step away from his BME and EE Chair posts to become UB's Interim Vice President for Research. Many thanks go to Professor Cartwright for his year of dedicated service as chair of both departments.

For a two-year period, CBE Professor and Chair **David Kofke** and Associate Professor **Albert Titus** will act as BME Co-Chairs. Professor Kofke will continue in his role as CBE chair.

Timoleon Siderakis has been promoted. In addition to Senior Development Director and Assistant Dean for Engineering, his duties have been broadened to include supervising development activities in Architecture and Planning and in Athletics.

CSEE Professor **A. Scott Weber** has been named UB's Vice Provost and Dean of Undergraduate Education. During his five years as CSEE chair, he helped establish UB's transportation engineering research program and oversaw the department's rise to 27th in *U.S. News and World Report's* national rankings of civil engineering programs. He also helped craft and implement a new shared vision and direction for the department and MCEER. His presence generated energy and excitement in the department. Weber has also served as UB's Center for Integrated Waste Management Director since 1998.

Professor **Andrew Whittaker** has accepted the position of CSEE Chair for a three-year term. Whittaker leads the NSF-funded UB-National Earthquake Engineering Simulation program as Director, PI, and Safety Coordinator of the Structural Engineering and Earthquake Simulation Laboratory (SEESL). He is President of the Consortium of Universities for Research in Earthquake Engineering; on the Management Council of MCEER; and on the World Seismic Safety Initiative's Board of Directors. Many thanks to CSEE's outgoing chair, Professor **A. Scott Weber**, for his dedicated and outstanding service since 2005.

Simon Promoted to TCIE's Business Development Director



Gary Simon is now The Center for Industrial Effectiveness's (TCIE) Director of Business Development. Simon has been with TCIE since 2005 as a business development officer. His responsibilities include custom student programming and certificate programs that serve the business community, and promoting business process excellence, engineering solutions and UB research throughout the region and state.

TCIE, a program of the School of Engineering, provides a dynamic link between UB's expert resources and the region's business community.

Service Recognition Ceremony

UB Engineering's Service Recognition Ceremony honored UB Engineering faculty and staff employed at UB for 10, 20, 30 or 40 years as of calendar 2009.

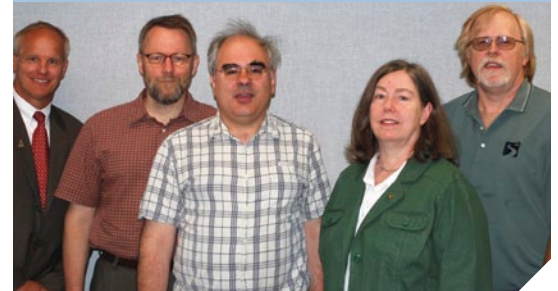
30 Years



30 Years: With Dean Stenger at left, (l to r): **Andrei Reinhorn, Meta Reuse, Wayne Dussault**

20 Years: With Dean Stenger at left, (l to r): **David Kofke, Kenneth Regan, Connie Beroza, Roger Teagarden. Not pictured: Ann Bisantz, Marlin Gillette, Bharat Jayaraman, Li Lin, John Schneider, Albert Titus**

20 Years



10 Years: With Dean Stenger at right, (l to r): **Margie Hewlett, Carole Dentico, Yvette Pardee, Linda Tallau. Not pictured: Kathy Bernard, Lee Gearhart, Hui Meng, Scott Thorpe, Jennifer Tworkowski, Diane Vannatter**

10 Years



ASEE National Design Award to Lewis *Continued from page 3*

Lewis's research focuses on decision modeling in design, including distributed design, design visualization, reconfigurable systems, and multi-objective optimization.

He was on the National Academies Panel on Benchmarking the Research Competitiveness of the U.S. in ME and received a National Science Foundation (NSF) CAREER Award. His teaching awards include TBP's Professor of the Year twice, the Milton Plesur Excellence in Teaching Award, the SUNY Chancellor's Award for Excellence in Teaching, and the Society of Automotive Engineers' Ralph R. Teator Educational Award.

Karwan-SUNY Distinguished Teaching Professor

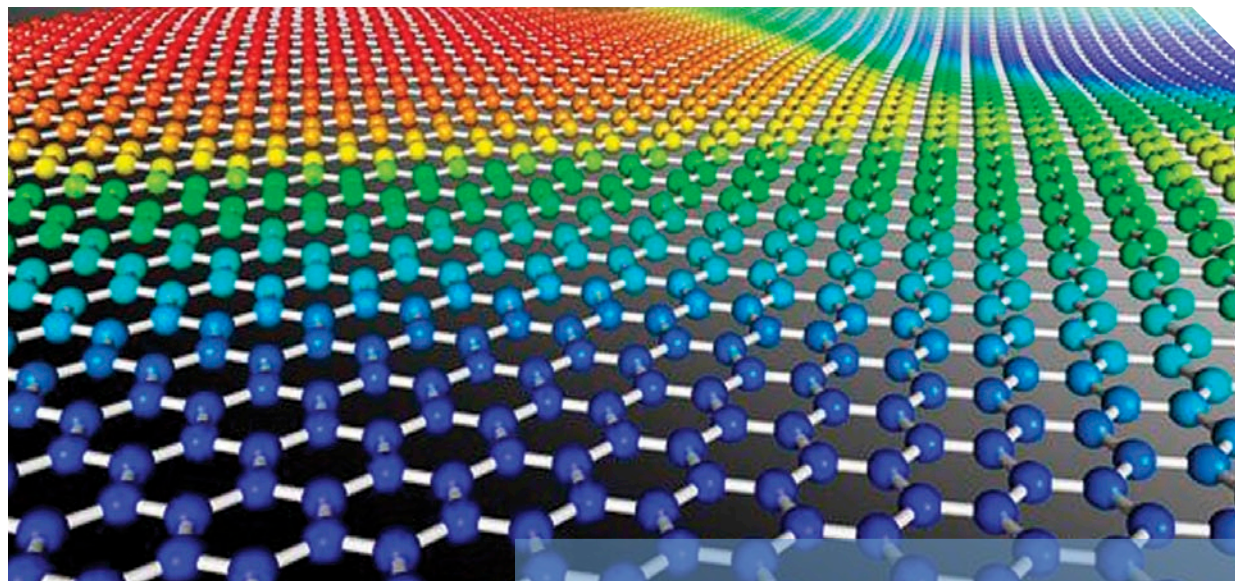
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dean for research and graduate education. A prolific researcher, Karwan's expertise includes discrete optimization, multiple criteria decision-making, multilevel systems, vehicle routing and scheduling, and visual search and industrial inspection.

He employs humor to convey difficult material to his students, and his teaching has earned awards including Tau Beta Pi's (TBP) Professor of the Year award twice and the SUNY Chancellor's Award for Excellence in Teaching. He also earned the school's Dean's Award for Achievement.

EE's Bird: Nanotechnology Research with Innovative Japan Collaboration

EE Professor Jonathan Bird, in collaboration with colleagues at Florida State University, Rice, UB and the University of Oklahoma, Tulsa, received a National Science Foundation Grant to promote



innovative nanotechnology research, while developing new models for effective, large-scale, research collaboration with Japan.

Researchers in the PIRE grant will develop new electronic devices by using the unique properties of graphene, a single layer of carbon atoms just a few nanometers thick.

The program brings together researchers with a broad spectrum of expertise, from terahertz science and nanoelectronics, to international education and linguistics. The program, led by Rice University Professor Junichiro Kono, seeks to develop new, enhanced sources and sensors of terahertz radiation, based on nanomaterials realized from graphene and carbon nanotubes.

The terahertz region of the electromagnetic spectrum promises a broad range of technological applications, including remote sensing of packaging for

explosives, pharmaceuticals characterization, and secure communications. The research project addresses a critical need for electronic devices capable of operating in this elusive region of the spectrum.

Bird's collaborators at UB include SUNY Distinguished EE Professor **Vladimir Mitin** and Linguistics Professor Mitsuaki Shimojo, Japanese Program Director, who will develop an innovative program of technical Japanese instruction for students participating in cutting-edge nanotechnology research in Japan.

CBE's Koffas Yields Isoflavonoids, Possibly Cancer-Inhibiting



CBE Associate Professor Mattheos A. G. Koffas has led research on a versatile, efficient microbial system that produces isoflavonoids (powerful plant compounds) in quantities seven times greater than previously achieved.

Isoflavonoids may promise new pharmaceutical treatments if sufficient amounts can be biosynthesized in pure forms or well-defined mixtures.

New compounds produced by the team were good estrogen receptor binders (ERBs) *in vitro*. ERBs can prevent cancer-causing compounds from binding to estrogen, so they may be able to thwart cancerous tumor growth. According to Koffas, "If further testing in animals is promising, they may become suitable drug candidates for breast cancer."

Koffas' team achieved higher yields because their method optimizes in yeast the combined action of three enzymes that produce isoflavones. The UB researchers also were able to create a small library of non-natural (synthetic) isoflavonoid derivatives.

The research, conducted in collaboration with First Wave Technologies (FWT), was funded by an NSF Phase 1 Small Business Innovation Research (SBIR) grant, and reported in *Chemistry & Biology*. Co-authors were **Joseph A. Chemler** (PhD CE '09); **Chin Giaw Lim** (CBE graduate student); and FWT Technical Director John Daiss. FWT is based at UB's New York State Center of Excellence in Bioinformatics and Life Sciences.

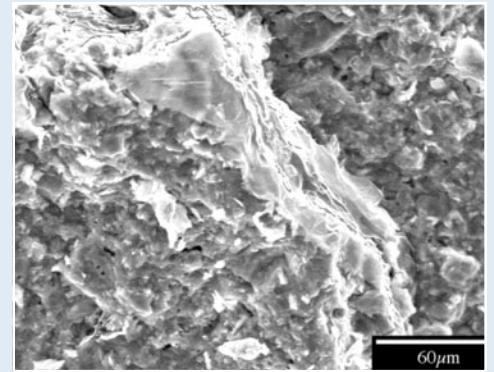
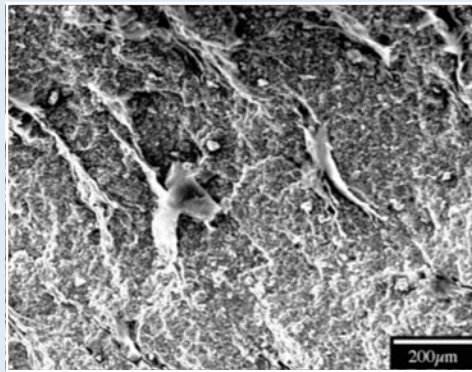
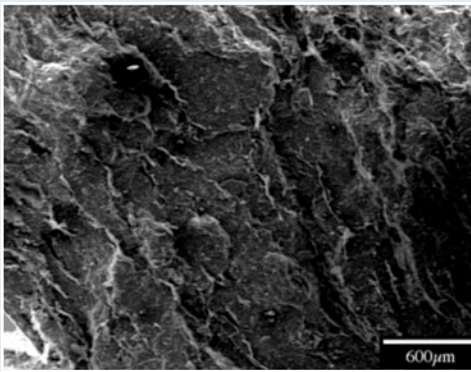
Chang Wen Chen Earns Prestigious Humboldt Award

Continued from page 3

Media at Technische Universitaet Muenchen (the University of Technology, Munich), with German scientist Eckehard Steinbach, who nominated him for the award. He is working toward context-aware media delivery and resource allocation in mobile networks.

Wen has pioneered research in image and video processing, analysis, and communications, and his theoretical and practical contributions to the efficient, secure, and robust transmission of multimedia data over wired and wireless networks.

He was elected an Institute of Electrical and Electronics Engineers Fellow for his contributions in digital image and video processing, analysis and communications, and a Society of Photo-Optical Instrumentation Engineers Fellow for his contributions in electronic imaging and visual communications.



Scanning electron microscope images of the fracture surface.

MAE's Chung Advances Smart Concrete

MAE Professor Deborah Chung has led research in developing a new composite material that reduces the effects of vibration by absorbing energy through an accordion-like movement of its internal structure, with applications in engineering structures from wind turbines, aircraft components, high-speed railroad ties, bridges, to offshore oil-drilling components.

"The damping ability of the new material is superior to any polymer (including rubber) and any metal (including shape-memory alloys)," says Chung, who recently published findings in *Carbon*.

tangent and high stiffness lead to exceptionally high energy dissipation under vibrational stress," adds Chung.

Given the close relationship between vibration damping and sound attenuation, the composite will also be effective in terms of sound proofing too.

A patent on this technology has been filed and the technology is available for licensing.

Chung was recently interviewed about smart concrete on fixr.com.

"The damping ability of the new material is superior to any polymer and any metal"

The material is a cement-matrix graphite-network composite containing 8% by volume of graphite. The graphite ligaments in the network exhibit an accordion-like microstructure and so can absorb vibrational energy upon deformation. The cement component adds overall stiffness to the composite.

"This structure is believed to be responsible for the high value of the loss tangent, i.e., the high value of the damping ratio," explains Chung. "The damping ratio is higher than even that of rubber. Together the high loss



IEEE's Technical Achievement Award to Govindaraju

Continued from page 3

has supervised 20 PhDs. He has served on editorial boards includes *IEEE Transactions on Pattern Analysis and Machine Intelligence*; has co-chaired several technical conferences and workshops; and his awards include the prestigious MIT Global Technovator Award and the HP Open Innovation Award twice. He is a Fellow of the ACM, IEEE, and the International Association of Pattern Recognition (IAPR).

His work in handwriting recognition, used by government and industry, was at the core of the US Postal Service's first handwritten address interpretation system.

ISE's Zhuang Analyzes Haitian Quake



ISE Assistant Professor Jun Zhuang earned an NSF grant as a UB PI for his Rapid Response Research (RAPID) project, to identify some key trends in optimal distribution and sustainable partnership relating to this year's Port-au-Prince, Haiti earthquake.

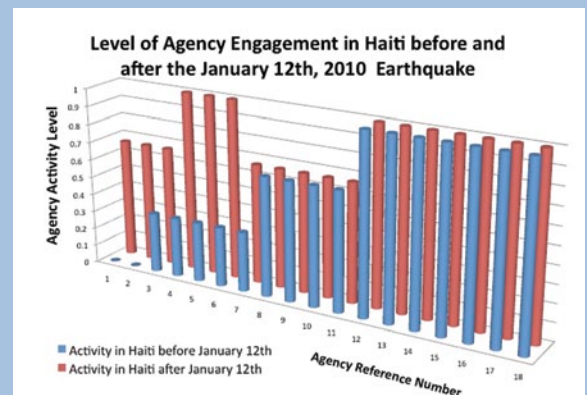
Justin Yates (IE PhD '08), was a Texas A&M University PI on this project. (For more about Yates, please see the Alumni Class Notes article.) **John Coles** (BS IE '09) collected data for the team.

This summer, the research included data collected in Haiti over a 27-day trip. Interviews with 18 agencies and insight from emergency managers and first responders provided data on several key quantitative and qualitative characteristics in effective and problematic inter-agency partnerships that pervaded this particular response operation.

Using naturalistic data collection methods, quantitative and qualitative data on the efficiency of aid acquisition, transportation, and distribution was collected using a knowledgeable researcher embedded within an active local organization.

The information gathered provides practical and testable insight into future response operations across the United States and around the world.

Level of agency engagement in Haiti before and after the January 12th, 2010 earthquake



Hurricane Katrina: CSEE's Jensen Assesses Some Lessons Learned

On Hurricane Katrina's fifth anniversary, CSEE Professor James Jensen says that the disaster's impact indicates some lessons about how we manage in the aftermath of extreme events.



Jensen visited in October 2005, soon after Katrina hit New Orleans, Louisiana, as part of an MCEER-organized, National Science Foundation-funded reconnaissance mission.

Katrina showed that municipalities and citizens must take orders to evacuate more seriously. Hurricane Rita, which hit not long after Katrina, garnered "something like a 95 percent evacuation rate," said Jensen. So, by that time, "people had really gotten the message."

Jensen also discussed the loss of water pressure in distribution systems with public-health officials and with managers from wastewater treatment plants, who "estimated that as many as 1,000 or more breaks occurred in the water distribution pipes due to the damaged fire hydrants. The loss of pressure that resulted led to contaminating the water in those pipes." Pipes were damaged by shifting, by waterlogged houses, and by empty cars on flooded streets that had knocked down fire hydrants.

The Gulf oil spill could complicate hurricanes this season by the potential loss of vegetation in wetlands. As Jensen explained, "If oil kills the vegetation in those wetlands, then you lose the buffer that that vegetation provided."

An upper-middle class community in Slidell, across Lake Pontchartrain from New Orleans; information about water and sewer services was communicated with bare signage after Katrina.

Photo by Assistant Professor Pavani Ram, MD (Social & Preventive Medicine)



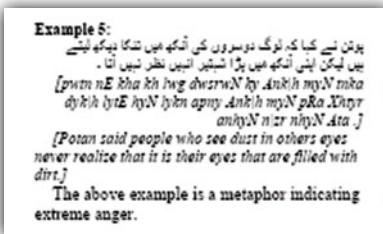
CSE's Srihari: Data Mining of Social Media



In her research, CSE Associate Professor Rohini Srihari addresses the ways that companies and other organizations may mine the data that we exchange online.

Srihari gave an invited talk on "Social Media Analytics: the Value Proposition," at the Social Media Analytics workshop, in conjunction with the 2010 Knowledge Discovery and Data Mining conference, in Washington, D.C. Web content is rising, exchanged by ordinary users via mobile devices and on social media sites like Facebook and discussion forums. These exchanges can become data, to be mined for business-related competitive insight purposes, e-commerce, and citizen response to current issues. The talk addressed commercial and intelligence applications exploiting social media data, the business models driving these, and vendors providing the solutions. Computational techniques used for extracting the information and assimilating it into actionable intelligence were also covered.

At COLING 2010 in Beijing, China, Srihari, with CS PhD student **Smruthi Mukund**, also presented "A Vector Space Model (VSM) for Subjectivity Classification in Urdu aided by Co-Training." The project had as its goal the production of a classifier that can distinguish subjective sentences from objective sentences in Urdu, useful in mining expressions for content. Their work proposed a co-training approach for subjectivity analysis in Urdu that augments the positive (subjective) set and generates a negative (objective) set, devoid of all samples close to the positive ones. Using the data set thus generated for training, the team conducted experiments based on support vector machine (SVM) and VSM algorithms, and showed that their modified VSM-based approach works remarkably well as a sentence-level subjectivity classifier.



Mukund and Srihari, with co-author Debanjan Ghosh, a Thomson Reuters R&D researcher, also presented "Using Cross-Lingual Projections to Generate Semantic Role Labeled Annotated Corpus for Urdu - A Resource Poor Language."

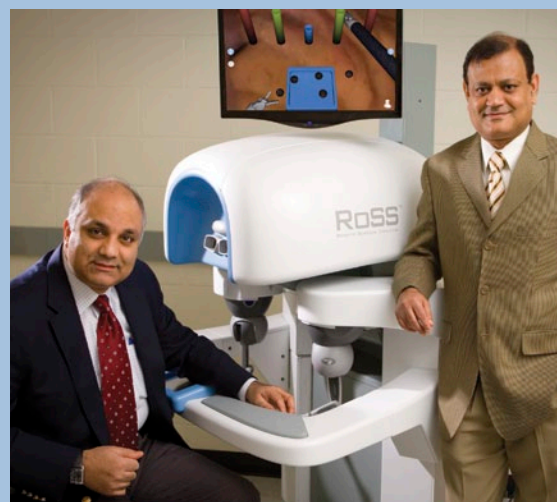
MAE's Kesavadas on RoSS Surgical Simulator

MAE Professor, Virtual Reality Laboratory (VRL) Director **Thenkurussi "Kesh" Kesavadas** and Roswell Park Cancer Institute's (RPCI) MD Khurshid Guru have collaborated to develop the Robotic Surgical Simulator (RoSS), a critical surgical training tool expected to translate into better patient outcomes with robotic surgery, a rapidly expanding field. Guru is an RPCI Urology department attending surgeon and RPCI's Center for Robotic Surgery director.

Kesavadas likened RoSS to "a flight simulator for surgeons," because it allows surgeons to practice robotic surgery in a realistic, virtual environment. RoSS represents a vast improvement on the current training available required for proficiency in robot-assisted surgery, according to Guru.

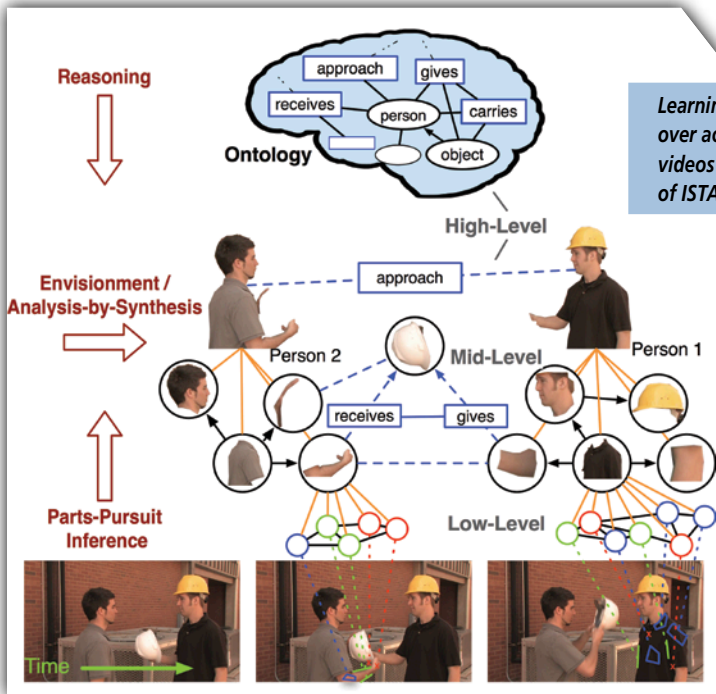
Kesavadas and Guru founded the Western New York-based spin-off company, Simulated Surgical Systems, LLC, to commercialize the simulators. The SUNY Research Foundation and Health Research, Inc., the technology transfer arm of Roswell Park, jointly licensed the RoSS technology to Simulated Surgical Systems, LLC (SSS).

Guru's surgical expertise has made RPCI's robotics program a Center of Excellence and a world leader in physician training in robotics, while Kesavadas' VRL is a leading haptic technologies lab.



(L to R): Guru and Kesavadas; a simulator they developed allows surgeons to practice skills needed to perform robot-assisted surgery without risk to patients.

Corso is PI on CSE/MAE Team ISTARE Project



Learning, recognition of, and reasoning over activities in persistent surveillance videos is the overarching objective of ISTARE.

understanding. While images and videos of the natural world are highly structured and redundant, they exhibit complex appearance and shape, with hierarchical scale-varying nature, and occlusion. High-tech systems may detect instances of objects, the "nouns" of the scene, yet the verbs, or actions (especially human actions) and their underlying motivations, are more elusive. The ISTARE project will build a visual intelligence system capable of dynamically

learning computational representations of these actions and recognizing them in novel video streams in real-time.

Corso's Visual Noun project, a foundation to the ISTARE effort, implements a state-of-the-art suite of object detection routines from the computer vision literature. Object detection is defined as the problem of scanning a novel image for instances of a particular class of objects, in this case, those found in urban and surveillance videos (faces, cars, buildings, etc.), and returning their locations in the image where the object instances have been detected. This project is partially supported by Corso's NSF CAREER award and a DARPA Computer Science Study Group program grant.

CSE Assistant Professor Jason Corso is PI on "ISTARE: Intelligent Spatiotemporal Activity Reasoning Engine," a Defense Advanced Research Projects Agency (DARPA) funded project in the Mind's Eye program. The team, including CSE Assistant Professor Raymond Fu, CSE Assistant Professor Michalis Petropoulos, MAE Associate Professor Venkat Krovi, and Psychiatry Professor Werner Ceusters, is one of just a handful nationwide to win such an award, placing the CSE department's computer vision activities at the forefront of the research and defense communities.

The research addresses a longstanding challenge in computer vision research: comprehensive visual scene

EE's Prasad: Gold Nanorods a Potential Antiviral Delivery System

Two UB research groups and another at the U.S. Centers for Disease Control and Prevention (CDC) are working toward a unique influenza treatment that may prevent future pandemics of drug-resistant viruses

by delivering a potent, immune-boosting payload to cells with gold nanorods.

The team, led by EE SUNY Distinguished Professor Paras Prasad (with appointments in Chemistry, EE, Physics, and Medicine), published its findings in the *Proceedings of the National Academy of Sciences*. The paper describes the single strand RNA molecule, which prompts a strong immune response against the influenza virus by ramping up the host's cellular production of interferons, proteins that inhibit viral replication. Any viruses susceptible to the innate immune response that type 1 interferons trigger could be effectively targeted with this new approach, including seasonal flu and H1N1.

Based on these *in vitro* results, the UB and CDC researchers are beginning animal studies.

The research was funded in part by the John R. Oishei Foundation, the National Institutes of Health, the Air Force Office of Scientific Research, and the National Vaccine Program Office of the U.S. Department of Health and Human Services.

With Prasad, authors on the paper are UB MD/PhD candidate Krishnan Chakravarthy; Chemistry Research Associate Professor Earl J. Bergey; ILPB Research Assistant Professor Adela Bonoiu; ILPB Postdoctoral Associate Hong Ding; former UB ILPB Visiting Researcher Rui Hu; CDC's J. Bowzard, William Davis, Jacqueline M. Katz, Priya Ranjan, and Suryaprakesh Sambhara (Influenza Division).



Human bronchial epithelial cells transfected with nanoplexes, developed by UB and CDC scientists; the nanoplexes are uniformly distributed surrounding the cell nuclei.



Jason Corso (center, in light blue shirt), with students in the Visual Noun research group

MAE's Lordi: BioBlower Startup Earns Recognition

Buffalo BioBlower Technologies, LLC (B³) was noted in a report by The Science Coalition, a national D.C.-based non-profit, as a successful federally funded research company that spurs economic growth and job creation.

B³, which received startup funds from the U.S. Department of Defense (DoD) and additional funding from the New York State Office of Science, Technology and Academic Research, was co-founded by MAE Research Professor John Lordi, with Chemistry Professor James Garvey, who is B³ Chief Technical Officer.

B³ also presented its business plan at the selective statewide Tenth Annual SmartStart UNYTECH Venture Forum, in Syracuse, NY.

B³'s air purification product sterilizes high-volume airstreams of spores, bacteria, and viruses with heat and pressure oscillations. In DoD tests, its product eradicated over 99.9999 percent of the spores of an anthrax surrogate in an airstream. Whereas conventional HEPA (high-efficiency particulate air) filters trap live airborne spores, thus presenting the possibility of further infection. B³'s product kills spores at their source.

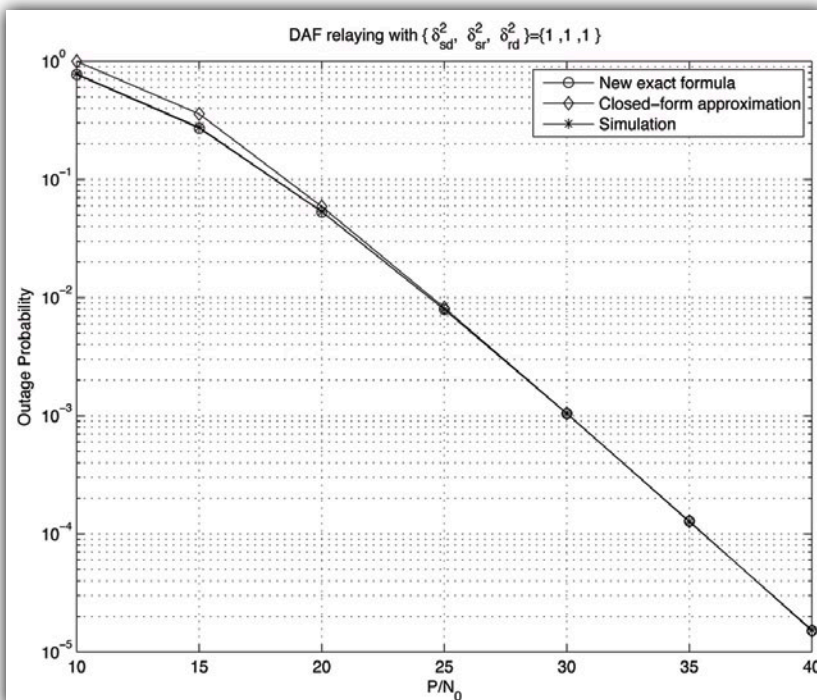
B³'s progress and regional contributions were noted in *The Buffalo News* and *Business First*, and the company was covered in the Spring 2008 *Buffalo Engineer*.



EE Professor Pados

EE's Pados and Su: Cooperative Communications and Networking

EE's Professor Dimitris Pados and Assistant Professor Weifeng Su, with EE PhD candidate Fuyu Chen and alumnus John Matyjas (BS '98, MS '00 PhD '04 EE) received the 2010 IEEE International Conference on Communications (ICC) Best Paper Award in Signal Processing for Communications, for their work on "The Outage Probability and Optimum Power Assignment for Differential Amplify-and-Forward Relaying."



The award ceremony took place during IEEE ICC 2010 in late spring, in Cape Town, South Africa.

The researchers' work is a fundamental contribution to an emerging wireless communication paradigm – cooperative communications and networking. Different from conventional point-to-point wireless communications, cooperative communications empower different users or nodes in a wireless network to share resources and cooperate to establish and maintain sessions through distributed transmissions. Analogous



Assistant Professor Su with award

to the role of members' teamwork in an organization, this new technical cooperative communication concept can significantly increase wireless network capacity and throughput/delay performance. The investigated and analyzed differential cooperative relaying protocol is an appealing choice for next-generation wireless network design due to its simplicity in implementation.

Professor Su will spend the next academic year on a National Research Council fellowship at the Air Force Research Laboratory (Rome, NY) to develop and transition this research. Professor Pados will lead a new UB research effort on cognitive jointly optimal channelization and routing over cooperative links. (Please see Class Notes section for more on Matyjas.)

(Left) An outage probability study for the differential cooperative relaying protocol as a function of the total transmit power to noise ratio

ISE's Wu Studies EEG's to Predict Numerical Typing Errors

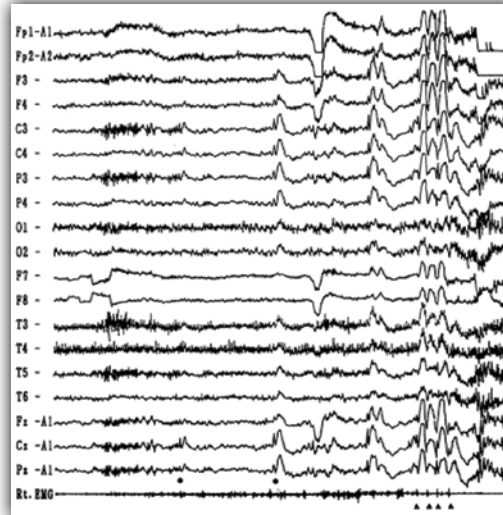


ISE Assistant Professor Sean (Changxu) Wu earned an NSF award for his research entitled, "Computational Framework of Robust Intelligent System for Mental State Identification and Human Performance Prediction with Biofeedback."

In related work, his team has employed electroencephalography (EEG) to predict human mental states and behavior, including human numerical typing errors, whose consequences can be serious in critical systems like financial exchanges, medical databases, or nuclear power plants.

Rutgers ISE Assistant Professor W. Art Chaovalitwongse worked on this research, and ISE PhD students **Cheng Jhe Lin** and **Guozhen Zhao** provided research support. Colleagues ISE Professor and Chair **Rakesh Nagi** and Associate Professor **Ann Bisantz** also provided valuable input.

Wu's team used two data mining techniques – linear discriminant analysis and support vector machine – to classify EEG patterns into a mental state of either: before erroneous keystrokes; or before correct keystrokes. Because they are rare, predicting human numerical typing errors by flipping a coin would not even yield a 50% hit rate. Yet, in contrast to retrospective verification (i.e., checking data after errors are made), Wu's prospective error detection mechanism does not require a thorough rummaging of the entire data set, and can achieve a 75% hit rate in at least 100 milliseconds before errors are made. Wu proposes that the technique could be implemented through an on-line brain-computer interface to proactively predict human numerical typing errors and prevent a portion of severe accidents in several important domains.



A participant wears a cap to measure the EEG (left) during a numerical typing task.



| Development |

THANK YOU, DONORS

We thank our donors for their generosity.

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for a complete list of our July 1, 2009 – June 30, 2010 donors.

Your financial support is critical to the mission of the School.

Should you wish to make a contribution, please visit <http://www.eng.buffalo.edu/alumniFriendsDonors/donors/> and click on the "Donate" link in the left sidebar.

Development staff can be contacted any time at 1.888.205.2609 or directly, below:

- **Tim Siderakis**, Asst. Dean & Sr. Director: tsiderak@buffalo.edu, 716.645.0970
- **Michael Madonia**, Director: mmadonia@buffalo.edu, 716.645.0969
- **Jenine Trzewieczynski**, Asst. Director: jt87@buffalo.edu, 716.645.0968
- **Donna Linenfelser**, Development Associate: dfelser@buffalo.edu, 716.645.0997

Again, we thank all of our donors for their generosity.



Development staff (l to r): **Tim Siderakis**, **Donna Linenfelser**, **Michael Madonia**, and **Jenine Trzewieczynski**

Agrusa Auditorium Named



Paula and Russell L. Agrusa (BS EE '76), loyal donors to the School of Engineering, have made an additional generous philanthropic commitment to the school's new building, where the auditorium will be named in their honor.

Russell is Founder, President, and Chief Executive Officer of ICONICS (Foxborough, Mass.), a leading international software developer of web-enabled visualization, human-machine interface (HMI) and supervisory control and data acquisition (SCADA) applications for industrial automation and manufacturing.

Paula's degree in Accounting is from the UB School of Management, and her MBA in Finance is from Boston University's School of Management. She is ICONICS' Chief Financial Officer, and together the couple's working partnership has brought the company success.

ICONICS has offices throughout the United States, as well as in Australia, China, France, India, Italy, Germany, Netherlands and United Kingdom. ICONICS also has a joint software development and sales office in the Czech Republic.

Beyond their successful work together, Paula and Russell Agrusa enjoy exploring lighthouses, bike riding and boating on Cape Cod, and enjoy the company of their three bichon frieze dogs.

Please see the Alumni section for an article on Russell Agrusa's Dean's Award for Achievement.

National Grid Round Table



National Grid President Tom King (right) presided over a CEO roundtable on regional energy issues convened by the UB Engineering Development team. Dennis Elsenbeck (left) (M.Eng '96, Dean's Advisory Council Chair), Regional Executive Director of Energy Solutions Services of National Grid, was instrumental to the gathering. The event was a forum for questions and concerns regarding energy issues with community business leaders. Issues covered included smart grid, transmission options, energy regulation, the Niagara Mohawk rate case, pending energy legislation, reliability, and infrastructure investment. Immediately following the meeting, NG announced its significant grant supporting the new BME program. For more information on this grant, see story in this section.

Alum Walter at UB Business Partners Day



The keynote speaker at the annual UB Business Partners Day was Global Product Integrity Senior Vice President and Mattel Inc. Chief Regulatory Officer **James J. Walter** (BS CE '78, MBA '92).

During the luncheon, Walter delivered his address on "Crises and Priorities: Mattel's Story When Faced with Industry Challenges." At Mattel, Walter is responsible for worldwide product quality, safety, regulatory compliance, and serves as the primary liaison with relevant government regulatory agencies worldwide.

Keller Family Donation

An important financial contribution to the School of Engineering was made by the Keller family (Amherst, NY), who own and operate Keller Technology Corporation (KT) (Tonawanda, NY, with an office in Charlotte NC). Their generous contribution will name the Advanced Visualization/Networking Systems Laboratory, a CS lab to be located in the school's new building.

Mike Keller is president of KT, a factory automation equipment specialist for over ninety years. The gift is an expression of gratitude for the abilities that the many UB engineers on Keller's staff have long brought to the company, and an acknowledgement that the School of Engineering is of prime importance to the region's economy. The gift supports the top-flight facilities needed to train the future engineers who will grow into a robust work force.

In Mike Keller's family are his wife, Merilee; their children Mark, Libby, and Scott (BA '01 Sociology), who kicked for the UB Bulls. Mike's father, Arthur "Bud" Keller, Jr., is KT Company Chairman and grandson of KT founder, Joseph Keller. Mike's brother and sister are also company officers: Peter is vice president; and Kathie is treasurer. Michael's children and Peter's son, Barnaby, hold management positions.



National Grid Gift: Access Grid Room for Biomedical Engineering

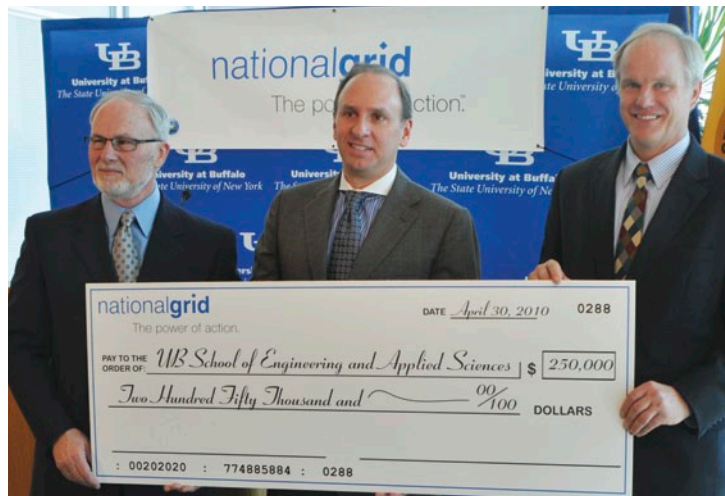
National Grid has made an investment in developing a cutting-edge interactive computerized communications system, the Access Grid, to be located in 414 Bonner Hall.

The high-tech videoconferencing room will allow for research collaborations between sites on all three UB campuses and Western New York industrial partners, linking BME researchers and students to Western New York's BME industry.

Access Grid is an international video teleconferencing system that allows real-time interaction between users at two or more sites. It supports large-format, multimedia displays, presentation and interactive environments, and interfaces with computing middleware and visualization environments.

The grant will also support applied research collaborations and technology transfer opportunities between the university and industry to help New York businesses gain competitive technological advantages.

Dean **Harvey Stenger** called the grant "a powerful catalyst for the economic growth of the Buffalo Niagara Medical Campus and Western New York life sciences companies."



(L to R): President John Simpson with National Grid President Tom King and Dean Harvey Stenger

Beam Signing and DAC Members Visit New Building Site

Dean's Advisory Council members signed a commemorative beam symbolic of the last piece to be placed in the Engineering School's new building, and visited the construction site when on campus for their semi-annual meeting. The beam signing ceremony was a special opportunity to commemorate the completion of the new building's structural frame, and was followed by a tour of the construction site for DAC members and a group of faculty and staff. The visitors donned construction hats while viewing the future premises for the departments of Computer Science and Engineering and Electrical Engineering.

To learn more about the new building, please see the presentation here: <http://www.eng.buffalo.edu/newbuilding/docs/engthefuture/>



Dean's Advisory Council visiting construction site of the Engineering School's new building, and commemorative beam signing (above)



Klein Gift Supports New Building

A generous gift for UB Engineering's new building came from Denise M. (BA Social Sciences '87) and Timothy J. Klein (BS EE '84).

A native of Western New York, alumnus Klein is Co-founder and CEO of ATTO Technology (Amherst, NY), a leader in high-performance computer storage products for digital video/audio, imaging, and back-up markets. Klein is an Engineering Dean's Advisory Council member and an avid supporter of academic programs and students. For his outstanding career, he was recognized with the University at Buffalo Alumni Association's 1998 George W. Thorn Award and by the UB Engineering Alumni Association with its 2006 Engineer of the Year award.



BEAM Trek Goes Green



Local students participating in the 2010 BEAM Trek

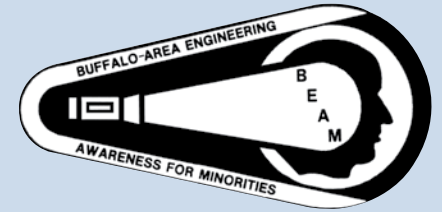
This year's BEAM TREK, an educational "Adventure to Go Green," focused on alternative energy sources to create engineering awareness. High school students competed in teams, in a brain-teasing race around Amherst Campus, as engineering faculty members tested their scientific and mathematical mettle.

Events included the "Who Wants to be an Environmentalist?" game show, hosted by Mercedes Calway of R&P Oakhill. The final competition pitted four teams in a fuel cell car race and obstacle course.

"Buffalo's Best Green Engineering Team of the Future" included: Adriana Naumouski (West Seneca H.S.); Kiera DeBoer (East Aurora H.S.); Denzel Cottrell (Cheektowaga Central H.S.); Nicholas Garner (Tapestry Charter H.S.); and Marcus Alexander (City Honors H.S.).

BEAM TREK 2010, held entirely at UB, consisted of a day program for the students performing in the race, and a Green Social afterwards, where students, parents, UB faculty, sponsors and volunteers had the opportunity to network.

Event sponsors were: the School of Engineering and National Grid; with team and venue sponsors: Technical Societies Council of Western New York, EE Professor Mark Karwan; Erie Community College Career Pathways; Career & Technical Education, Buffalo Public Schools; L&M Financial Services, NYS Society of Professional Engineers, Erie-Niagara Chapter; Turner Construction; Clark Patterson; McCullough Coffee; and Amici's Ristoranti.



Buffalo-area Engineering Awareness for Minorities (BEAM) is a nationally recognized program promoting engineering, math, science, and technical educational excellence for underrepresented school-age youth.

BEAM's Annual Golf Tournament



This summer's Thirteenth Annual BEAM Golf Tournament honored Robert Tom (pictured), Senior Director of Engineering at Fisher Price, with the Tony Campagna Annual Award, given to a highly dedicated BEAM volunteer. Tom was the creator of BEAM TREK and chaired the BEAM TREK

committee. The first place men's and women's trophies went to Mark Szymczak, of DuPont, and Katie Gracie, of Moog, and were presented at a banquet after the competition. The day-long event was held at Chestnut Hills Country Club (Darien, N.Y.). BEAM thanks its sponsors for their generosity, as this event supplies the organization with fifteen percent of its annual budget. The School of Engineering was a sponsor.

Alum Scolese is Keynote Speaker at Science Exploration Day

NASA Associate Administrator Chris Scolese (BS EE '78) gave a keynote address on "Grand Challenges and Space Exploration," at UB's annual Science Exploration Day, an education event sponsored in part by the School of Engineering, and geared to attract science-minded students, ages 14 and up.

Scolesse discussed the challenges NASA addresses in its space missions: understanding the universe, expanding the human presence in the solar system, and improving life on Earth. Scolese explained where we have been and where we are headed in space exploration, and relayed to students important lessons about human spaceflight, robotic exploration, and Earth observing satellites that are integral to our daily lives.

Scolesse's many awards include the UB Alumni Association's 2007 Clifford C. Furnas Memorial Award, for a distinguished alumnus in science or engineering, and the NASA Outstanding Leadership Medal.



NASA Associate Administrator Chris Scolese with students after delivering his keynote address



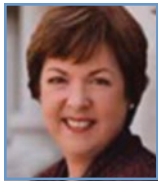
Steven Tsengas

1960s

Charles Michael Allen, PhD Engineering Mechanics '68, is an Associate Chair Emeritus and CS Professor at University of North Carolina, Charlotte.

Ronald Schumacher, BS '66 MS '69 ME, is a Genessee Community College Instructor of Engineering and Mathematics.

***Steven Tsengas**, BS IE '60, has been elected a Ohio Academy of Science Fellow. Tsengas is CEO and President, OurPets Company (Fairport Harbor, Ohio)



Laurie Ford

1970s

***Tony Eberhardt**, PE, BS '73 MS '75 PhD '92 CIE, is Manager of the U.S. Army Corps of Engineers' International Water Resources Program, and U.S. Manager of the International Upper Great Lakes Study. His professional affiliations include Diplomate, American Academy of Water Resource Engineers; ASCE fellow; and SAME fellow.

Laurie (Wilson) Ford, MS '73 PhD '75 IE, of Critical Path Consultants, in Columbus, Ohio, is an author, speaker, and consultant in organization design, management, and communication. Her book, *The Four Conversations: Daily Communication that Gets Results* won the Best Management Book award for 2009 from CEO-Read.

David J. Fruchtmann, BS ME '79, is Founder and President, Fruchtmann and Associates, Consulting Mechanical Engineers. He was appointed to California's Board of Registration of Professional Engineers and Land Surveyors.

Sung-Mo "Steve" Kang, MS EE '72, a Professor at University of California, Merced's (UCM) School of Engineering has been the UCM Chancellor since 2007. Kang, a Foreign Member of Korea's National Academy of Engineering, is a fellow of IEEE, ACM, and AAAS. His many awards include IEEE's Third Millennium Medal (2000) and the Alexander von Humboldt Award for Senior US Scientists (1997).

Richard N. Miller, PhD EE '79, has been Associate Dean of Engineering at University of Central Florida's College of Engineering since 1989.

Joseph T. Pezzino, BS CE '70, is a Director at PIRA Energy Group, (NY, NY). Before joining PIRA in 2000, he enjoyed a 30-year career at Mobil.

Russ Porter, PE, BS CIE '75, is a Project Manager at Costich, an engineering consulting firm. He is a member of the Institute of Traffic Engineers and is the American Society of Civil Engineers Region 1 Governor.

***John R. Pustulka**, BS '74 CIE, has been named President of National Fuel Gas Supply Corporation.

James Scinta, MS '75, PhD '78 CE, a ConocoPhillips Company Manager, Heavy Oil R&D, was named Chairman of the Industrial Research Institute (IRI) board of directors.

Kannankote Sriram, BS EE '79, is now on the management team of Above, Inc. He has over 25 years of experience in marketing the semiconductor and telecommunications industries, and has also been involved in three startups.



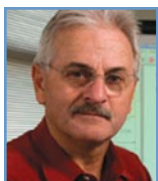
Sung-Mo Kang



Russ Porter



Kannankote Sriram



Joseph Tront



Joannes Westerink



Manoj Chopra



Jeanette Garr



John Howell



Monica Johns



Brian Kleiner



Javaid Laghari



Aldo Morales



Levent Onural



Michael Roemer

Joseph G. Tront, PhD EE '78, Professor of electrical and computer engineering in the College of Engineering at Virginia Tech (Blacksburg, VA), is now the V.S. "Pete" White Chair for Innovation in Engineering Education. His awards include a National Science Foundation Successful Innovator award in Science, Mathematics, and Engineering Education.

Joannes J. Westerink, BS '79 MS '81 CIE, is a University of Notre Dame (Indiana) Civil Engineering and Geological Sciences Professor, and a Mathematics Professor.

1980s

Manoj Chopra, MS '88 PhD '92 CIE, is Stormwater Management Academy Director and Civil, Environmental, and Construction Engineering Associate Professor at the University of Central Florida.

Jeanette M. Garr, PhD CE '89 is a Youngstown State University (Ohio) CE Professor.

John C. Golombek, BS EE '81, with Northrop Grumman since 1981, is now its Western Region Engineering and Manufacturing, Navigation Systems Division Vice President. Golombek gave the 2010 keynote speech at Penn State Erie Behrend College's School of Engineering 15th annual Richard J. Fasnemeyer Design Conference.

John Howell, MS IE '82, is a Product Marketing Director at Cadillac (Detroit, Mi.).

James Herrmann, BS EE '81, is an Applied Logix, LLC Principal Engineer and Managing Partner. He presented at IEEE's Electromagnetic Compatibility and Product Safety Engineer Joint Chapters Meeting.

***Monica D. Johns**, BS IE '83, President and CEO of Clarity Management Consulting, will serve on the Technology Alliance of Central New York Board of Directors, a nonprofit that advances technology education.

Brian M. Kleiner, MS '83 PhD '90 IE, received the two-year Ralph H. Bogle Professor Fellowship in ISE at Virginia Tech (Blacksburg, Va.).

Javaid Laghari, PhD EE '86, is now a Chairperson of Pakistan's Higher Education Commission. He was a Pakistani Senator and President of the Institute of Science and Technology (Karachi, Pakistan).

Steven Little, BS '86 MS '89 IE, is now Director, Emerson-Wide Human Centered Design Center of Excellence, part of the Carnegie Institute of Technology, the engineering college at Carnegie Mellon.

Aldo Morales, MS '86 PhD '90 EE, recently received the Central Pennsylvania Engineers Week Council's Technical Achievement Award. He is an EE Associate Professor at Pennsylvania State University's Harrisburg Campus. He is a senior member of IEEE and a member of ASEE.

Levent Onural, PhD EE '85, is a Bilkent University (Ankara, Turkey) Electrical and Electronics Engineering Professor. He was a Fulbright scholar (1981-1985) and a UB EE Research Assistant Professor before joining Bilkent. He is an IEEE Fellow and received IEEE's Third Millennium Medal (2000).



Ramesh Senthinathan



Gabriel Silberman



Ji Zhou



George Baggs



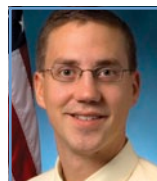
Hans Chalupsky



Wendy Chang



Mark Crovella



John Matyjas

Michael J. Roemer, BS EE '86, MS IE '88 PhD ME '91, is Director of Engineering at Impact Technologies (Rochester, NY) and an ME Adjunct Professor at Rochester Institute of Technology.

Ramesh Senthinathan, BS CompE '84, has been Senior Director of Engineering at Broadcom Corporation (San Francisco Bay Area, Cal.) since 2005.

Gabriel Gabby Silberman, MS '80, PhD '80 CS, is CA Lab's Director and Senior Vice President. He has been with CA Labs since 2005. Prior to joining CA, he was Director of IBM's Centers for Advanced Studies Program and worked on the Deep Blue chess project while at IBM's T.J. Watson Research Center.

Ji Ci Zhou, MS'82, PhD '85 ME, was elected President, Chinese Academy of Engineering, on of China's top honorary bodies that advises the government and industry on key scientific and technological issues. He served as China's Education Minister from 2003-2009.

1990s

George S. Baggs, BS '87 MS '92 EE, is Principal Engineering Professional at Reichert, Inc (Buffalo, NY). He had been an Engineering Team Leader at Carleton Technologies Inc.

Hans Chalupsky, PhD CS '96, is a project leader at the University of Southern California's Information Sciences Institute, where he leads the Loom Knowledge Representation, Reasoning and Discovery Group.

Wendy Chang, PhD EE '98, has been Southern Connecticut State University's (SCSU) Office of Information Technology Chief Information Officer since 2008. She had held positions at Indiana University (IU), and Rochester positions at IU East, D'Youville College, and Rochester Institute of Technology.

Mark Crovella, MS CS '91, is a Boston University Computer Science Professor (Mass.). From 1984-1994, he was at Calspan Corporation (Buffalo, NY). Crovella was ACM SIGCOMM chair, 2007-2009.

Rattan D'Souza, MS CE '96, is a Managing Director at Worthington Industries in the Worthington Integrated Building Systems International division, with a dual responsibility in Corporate Development.

Greg Hofmann, BS CIE '93, has been an MIS Analyst/Systems Administrator at M&T Bank since 2005.

John D. Matyjas, BS '98 MS '00 PhD '04 EE, is the Connectivity CTC Lead, Information Directorate, Air Force Research Laboratory (Rome, NY). Matyjas's awards include the 2009 Mohawk Valley Engineering Executive Council Engineer of the Year Award. (Please see Research section for more on Matyjas' research.)

Sondra M. Miller, BS CIE '96 MS EnvE '99, has been a CIE Assistant Professor at Boise State University since 2006. She has earned several awards including the 2010 Boise State University Provost's Excellence in Advising Award.

Kevin Perison, BS IE '93 MEng '94, is a Practice Management Consultant with 15 years of manufacturing management experience in the competitive automotive industry, including Continental Automotive Systems and Motorola.

Class Notes | *continued from pg 27*

Please visit www.eng.buffalo.edu to learn about School events.



Sondra Miller



Adam Bull



Jingnong Chen



Jeffrey Fick



Janine & Daniel Gajewski



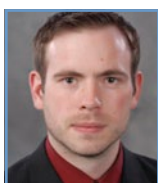
William Louisos



Trisha Miazga



Lucy Wilke



Justin Yates



Ken-Tye Yong

2000s

Timothy W. Baldwin, BS CompE '04, is an Associate Computer Applications Programmer at New York State Unified Court System.

Adam Bull, BS EE BS CSE '08, is now at General Dynamics Electric Boat, where he is the Principal Investigator for the Technology Exploration program.

Jingnong Chen, MS IE '05, is a utility company business analytics associate (Greensboro, N.C.). She recently completed an MS in Analytics at North Carolina State University.

Daan Liang, MS '99 PhD '01 CIE, is an Assistant Professor of Engineering Technology at Texas Tech University's Wind Science & Research Center.

Jeffrey M. Fick, BS CIE '01, a Trautman Associates structural engineer since 2003, is now a principal. Fick passed the US Green Building Council exam and achieved LEED-accredited professional designation.

Daniel Gajewski, BS ME '06, and **Janine Zielinski**, BS ME '06, were married. Daniel was a past Tau Beta Pi NY Nu (TBP) chapter President and Janine was a past TBP Vice President. In the wedding party were CSEE student **Kathleen Gajewski**, **Michael Zaccheo** (BS '07 ME), **Carolyn Zielinski** (BS ME '02), and **Stephen Zielinski** (BS ME '01).

William Louisos, BS ME '03, is a Lecturer at the University of Vermont (Burlington, Vt.), where he earned his MS and PhD in ME.

Trisha M. Miazga, BS CIE '09, recently passed the U.S. Green Building Council and achieved LEED accredited professional designation. Miazga is a structural engineer with Trautman Associates.

Lucy Boulatnikov Wilke, BS IE '02, has been a senior project engineer at GM (Honeoye Falls, NY) for six years. She works to set up processes to build and test the next generation of fuel cells.

Justin Yates, ISE PhD '08, now at Texas A&M, was recently awarded the Outstanding Professor Award from its Alpha Pi Mu honor society student chapter.

Ken-Tye Yong, BS '01 MEng '04 PhD '06 CE, is a Microelectronics Assistant Professor at Nanyang Technological University (Singapore). His post-doctoral work was at UB's Institute for Lasers, Photonics and Biophotonics (2006–2009). His many awards include the American Association for Cancer Research–Pancreatic Cancer Action Network Research Fellowship Award (2008).

Abbreviations Used in the Buffalo Engineer

Departments

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

Degrees

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

*denotes dues-paying Alumni Association members

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*Robert E. Barnes, Editor-in-Chief
 Debra Steckler, Editor

